

CULLMAN COUNTY, ALABAMA

NATURAL HAZARDS MITIGATION PLAN

2015

Prepared under the direction of the:

Cullman County EMA

and the

Cullman County Hazard Mitigation Planning Committee

By:



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Cullman County Natural Hazards Mitigation Plan

Table of Contents

SECTION 1: INTRODUCTION -----	17
Background-----	17
Cullman County Hazard Mitigation Plan-----	17
Authority-----	17
Funding -----	18
Scope -----	18
Purpose-----	18
 SECTION 2: THE PLANNING PROCESS-----	 19
Plan Update Process -----	19
Continued Public Participation -----	43
Interagency and Intergovernmental Coordination -----	44
Integration with Existing Plans-----	45
Plan Adoption-----	45
 SECTION 3: GENERAL CHARACTERISTICS-----	 49
Growth Trends -----	49
General Geology -----	59
 SECTION 4: RISK AND VULNERABILITY ASSESSMENT -----	 63
Risk Assessment-----	63
Hazard Profiles -----	101
Thunderstorms-----	101
Lightning -----	103
Hail-----	107
Tornados -----	111
Floods/Flash Floods -----	119

Drought/Extreme Heat -----	129
Winter Storms/Frost Freezes/Heavy Snows/Ice Storms/Winter Weather/ Extreme Cold-----	137
Hurricanes/Tropical Storms/Tropical Depressions/High Winds/ Strong Winds -----	141
Sinkholes/Expansive Soils -----	147
Landslides -----	155
Earthquakes -----	161
Wildfires -----	173
Dam Failures -----	177
General Risk-----	185
Socially Vulnerable Populations -----	186
Impacts of Development Trends on Vulnerability-----	199
 SECTION 5: MITIGATION STRATEGY -----	217
Mitigation Strategy -----	217
Hazard Mitigation Goals-----	217
Hazard Mitigation Actions -----	218
Mitigation Implementation -----	219
 SECTION 6: JURISDICTIONAL ASSESSMENTS -----	233
Town of Baileyton -----	235
Town of Colony -----	257
City of Cullman-----	279
Town of Dodge City -----	303
Town of Fairview -----	323
Town of Garden City -----	345
Town of Good Hope-----	369
City of Hanceville-----	391
Town of Holly Pond -----	417
Town of South Vinemont-----	439
Town of West Point-----	459
Cullman County Board of Education-----	479

Cullman City Schools -----	483
Dodge City Volunteer Fire Department -----	487
Water and Sewer Boards-----	491
SECTION 7: MITIGATION PLAN MAINTENANCE-----	497
Annual Review and Monitoring-----	499
Incorporation into Existing Planning Mechanisms -----	503
Continued Public Participation -----	504
SECTION 8: APPROVAL AND IMPLEMENTATION -----	505
Cullman County Emergency Management Agency -----	507
Cullman County -----	509
Town of Baileyton -----	511
Town of Colony -----	513
City of Cullman-----	515
Town of Dodge City-----	517
Town of Fairview -----	519
Town of Garden City -----	521
Town of Good Hope-----	523
City of Hanceville-----	525
Town of Holly Pond -----	527
Town of South Vinemont-----	529
Town of West Point-----	531
Cullman County Board of Education-----	533
Cullman City Schools -----	535
Hanceville Water and Sewer Board -----	537
Dodge City Volunteer Fire Department -----	539
East Cullman Water System -----	541
VAW Water System-----	543

APPENDIX I: LOCAL MITIGATION PLAN REVIEW TOOL -----545

Tables

2-1	Existing Plans by Jurisdiction -----	47
4-1	Hazard Probability of Future Occurrence-----	67
4-2	Hazard Identification by Jurisdiction-----	69
4-3	Prioritized Occurrence Threat by Jurisdiction Based on Past Events-----	71
4-4	Cullman County Thunderstorm Events -----	73
4-5	Cullman County Lightning Events -----	85
4-6	Cullman County Hail Events -----	86
4-7	Cullman County Tornado Events -----	91
4-8	Cullman County Flood/Flash Flood Events -----	92
4-9	Cullman County Drought/Extreme Heat Events-----	95
4-10	Cullman County Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/ Winter Weather/Extreme Cold Events -----	96
4-11	Cullman County Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events -----	98
4-12	Cullman County Sinkhole Events -----	98
4-13	Cullman County Landslide Events -----	99
4-14	Cullman County Earthquake Events -----	99
4-15	Cullman County Wildfire Events -----	99
4-16	Cullman County Dam/Levee Failure Events-----	99
4-17	Estimating Hail Size -----	108
4-18	Values Used for Monetary Conversion of Tornado Injuries and Deaths-----	112
4-19	Fujita Tornado Scales-----	117

4-20	Flood Risk to Cullman County Critical Facilities -----	121
4-21	Flood Probability Terms -----	123
4-22	National Flood Insurance Program Status by Jurisdiction -----	127
4-23	Drought Severity Classification-----	132
4-24	Heat Index/Heat Disorders-----	135
4-25	Saffir-Simpson Hurricane Wind Scale -----	142
4-26	Earthquake PGA, Magnitude and Intensity Comparison-----	163
4-27	Wildfires in Cullman County 2010-2013-----	175
4-28	Cullman County Dams -----	181
4-29	Cullman County Dam Risk Categories -----	184
4-30	Summary of Cullman County’s Annual Potential Loss Estimates for Specific Hazards -----	186
4-31	Cullman County Population Characteristics -----	189
4-32	Cullman County’s Population Growth -----	190
4-33	Geographical Rank of Cullman County-----	190
4-34	Cullman County Income Data-----	192
4-35	Cullman County Housing Characteristics -----	193
4-36	Cullman County Building Stock by General Occupancy -----	194
4-37	Cullman County Building Exposure -----	195
4-38	Cullman County Building Contents Exposure -----	196
4-39	Cullman County Vulnerability Summary-----	197
4-40	Cullman County’s Critical Facilities -----	211
4-41	Critical Roadways Vulnerable to Flooding and Landslide-----	215
5-1	Cullman County Mitigation Actions -----	221
6-1	Town of Baileyton Risk and Vulnerability Overview -----	237
6-2	Baileyton’s Thunderstorm Events -----	239
6-3	Baileyton’s Lightning Events -----	240
6-4	Baileyton’s Hail Events -----	241

6-5	Baileyton's Tornado Events -----	242
6-6	Baileyton's Flood/Flash Flood Events -----	242
6-7	Baileyton's Drought/Extreme Heat Events-----	243
6-8	Baileyton's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events -----	245
6-9	Baileyton's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events -----	246
6-10	Baileyton's Sinkhole Events -----	247
6-11	Baileyton's Landslide Events -----	247
6-12	Baileyton's Earthquake Events-----	247
6-13	Countywide Wildfire Events -----	247
6-14	Baileyton's Dam/Levee Failure Events -----	248
6-15	Baileyton's Hazard Probability Assessment -----	249
6-16	Baileyton's Critical Facilities -----	250
6-17	Baileyton's Estimated Loss Projections from Specified Hazards -----	251
6-18	Baileyton's Mitigation Actions -----	253
6-19	Town of Colony Risk and Vulnerability Overview -----	259
6-20	Colony's Thunderstorm Events -----	261
6-21	Colony's Lightning Events -----	262
6-22	Colony's Hail Events -----	263
6-23	Colony's Tornado Events -----	263
6-24	Colony's Flood/Flash Flood Events -----	264
6-25	Colony's Drought/Extreme Heat Events-----	265
6-26	Colony's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events -----	267
6-27	Colony's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events -----	269
6-28	Colony's Sinkhole Events -----	269
6-29	Colony's Landslide Events -----	269
6-30	Colony's Earthquake Events -----	270

6-31	Countywide Wildfire Events -----	270
6-32	Colony's Dam/Levee Failure Events -----	270
6-33	Colony's Hazard Probability Assessment -----	271
6-34	Colony's Critical Facilities -----	272
6-35	Colony's Estimated Loss Projections from Specified Hazards -----	273
6-36	Colony's Mitigation Actions -----	275
6-37	City of Cullman Risk and Vulnerability Overview -----	281
6-38	Cullman's Thunderstorm Events -----	283
6-39	Cullman's Lightning Events -----	285
6-40	Cullman's Hail Events -----	286
6-41	Cullman's Tornado Events -----	287
6-42	Cullman's Flood/Flash Flood Events -----	287
6-43	Cullman's Drought/Extreme Heat Events -----	288
6-44	Cullman's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events -----	289
6-45	Cullman's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events -----	291
6-46	Cullman's Sinkhole Events -----	291
6-47	Cullman's Landslide Events -----	292
6-48	Cullman's Earthquake Events -----	292
6-49	Countywide Wildfire Events -----	292
6-50	Cullman's Dam/Levee Failure Events -----	292
6-51	Cullman's Hazard Probability Assessment -----	293
6-52	Cullman's Critical Facilities -----	295
6-53	Cullman's Estimated Loss Projections from Specified Hazards -----	297
6-54	Cullman's Mitigation Actions -----	298
6-55	Town of Dodge City's Risk and Vulnerability Overview -----	305
6-56	Dodge City's Thunderstorm Events -----	307
6-57	Dodge City's Lightning Events -----	308
6-58	Dodge City's Hail Events -----	309

6-59	Dodge City's Tornado Events -----	309
6-60	Dodge City's Flood/Flash Flood Events -----	310
6-61	Dodge City's Drought/Extreme Heat Events -----	310
6-62	Dodge City's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/ Winter Weather/Extreme Cold Events -----	311
6-63	Dodge City's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events -----	313
6-64	Dodge City's Sinkhole Events -----	314
6-65	Dodge City's Landslide Events -----	314
6-66	Dodge City's Earthquake Events -----	314
6-67	Countywide Wildfire Events -----	314
6-68	Dodge City's Dam/Levee Failure Events -----	314
6-69	Dodge City's Hazard Probability Assessment -----	315
6-70	Dodge City's Critical Facilities -----	316
6-71	Dodge City's Estimated Loss Projections from Specified Hazards -----	317
6-72	Dodge City's Mitigation Actions -----	319
6-73	Town of Fairview Risk and Vulnerability Overview -----	325
6-74	Fairview's Thunderstorm Events -----	327
6-75	Fairview's Lightning Events -----	329
6-76	Fairview's Hail Events -----	329
6-77	Fairview's Tornado Events -----	330
6-78	Fairview's Flood/Flash Flood Events -----	330
6-79	Fairview's Drought/Extreme Heat Events -----	331
6-80	Fairview's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events -----	332
6-81	Fairview's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events -----	333
6-82	Fairview's Sinkhole Events -----	334
6-83	Fairview's Landslide Events -----	334
6-84	Fairview's Earthquake Events -----	334

6-85	Countywide Wildfire Events -----	334
6-86	Fairview's Dam/Levee Failure Events -----	334
6-87	Fairview's Hazard Probability Assessment -----	335
6-88	Fairview's Critical Facilities -----	336
6-89	Fairview's Estimated Loss Projections from Specified Hazards -----	337
6-90	Fairview's Mitigation Actions -----	339
6-91	Town of Garden City Risk and Vulnerability Overview -----	347
6-92	Garden City's Thunderstorm Events -----	349
6-93	Garden City's Lightning Events -----	350
6-94	Garden City's Hail Events -----	351
6-95	Garden City's Tornado Events -----	351
6-96	Garden City's Flood/Flash Flood Events -----	352
6-97	Garden City's Drought/Extreme Heat Events-----	352
6-98	Garden City's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/ Winter Weather/Extreme Cold Events -----	353
6-99	Garden City's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events -----	356
6-100	Garden City's Sinkhole Events -----	356
6-101	Garden City's Landslide Events -----	357
6-102	Garden City's Earthquake Events -----	357
6-103	Countywide Wildfire Events -----	357
6-104	Garden City's Dam/Levee Failure Events -----	357
6-105	Garden City's Hazard Probability Assessment -----	358
6-106	Garden City's Critical Facilities -----	359
6-107	Garden City's Estimated Loss Projections from Specified Hazards-----	360
6-108	Garden City's Mitigation Actions -----	361
6-109	Town of Good Hope Risk and Vulnerability Overview -----	371
6-110	Good Hope's Thunderstorm Events -----	373
6-111	Good Hope's Lightning Events -----	375
6-112	Good Hope's Hail Events -----	375

6-113	Good Hope's Tornado Events -----	376
6-114	Good Hope's Flood/Flash Flood Events -----	376
6-115	Good Hope's Drought/Extreme Heat Events -----	377
6-116	Good Hope's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/ Winter Weather/Extreme Cold Events -----	378
6-117	Good Hope's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events -----	380
6-118	Good Hope's Sinkhole Events -----	380
6-119	Good Hope's Landslide Events -----	381
6-120	Good Hope's Earthquake Events -----	381
6-121	Countywide Wildfire Events -----	381
6-122	Good Hope's Dam/Levee Failure Events -----	381
6-123	Good Hope's Hazard Probability Assessment -----	382
6-124	Good Hope's Critical Facilities -----	383
6-125	Good Hope's Estimated Loss Projections from Specified Hazards -----	384
6-126	Good Hope's Mitigation Actions -----	385
6-127	City of Hanceville Risk and Vulnerability Overview -----	393
6-128	Hanceville's Thunderstorm Events -----	395
6-129	Hanceville's Lightning Events -----	397
6-130	Hanceville's Hail Events -----	397
6-131	Hanceville's Tornado Events -----	398
6-132	Hanceville's Flood/Flash Flood Events -----	399
6-133	Hanceville's Drought/Extreme Heat Events -----	399
6-134	Hanceville's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/ Winter Weather/Extreme Cold Events -----	401
6-135	Hanceville's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events -----	402
6-136	Hanceville's Sinkhole Events -----	402
6-137	Hanceville's Landslide Events -----	402
6-138	Hanceville's Earthquake Events -----	402

6-139	Countywide Wildfire Events -----	403
6-140	Hanceville's Dam/Levee Failure Events-----	403
6-141	Hanceville's Hazard Probability Assessment -----	404
6-142	Hanceville's Critical Facilities -----	405
6-143	Hanceville's Estimated Loss Projections from Specified Hazards-----	407
6-144	Hanceville's Mitigation Actions -----	409
6-145	Town of Holly Pond Risk and Vulnerability Overview -----	419
6-146	Holly Pond's Thunderstorm Events -----	421
6-147	Holly Pond's Lightning Events -----	422
6-148	Holly Pond's Hail Events -----	423
6-149	Holly Pond's Tornado Events -----	424
6-150	Holly Pond's Flood/Flash Flood Events -----	424
6-151	Holly Pond's Drought/Extreme Heat Events-----	425
6-152	Holly Pond's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/ Winter Weather/Extreme Cold Events -----	426
6-153	Holly Pond's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events -----	428
6-154	Holly Pond's Sinkhole Events -----	428
6-155	Holly Pond's Landslide Events -----	429
6-156	Holly Pond's Earthquake Events-----	429
6-157	Countywide Wildfire Events -----	429
6-158	Holly Pond's Dam/Levee Failure Events -----	429
6-159	Holly Pond's Hazard Probability Assessment -----	430
6-160	Holly Pond's Critical Facilities -----	431
6-161	Holly Pond's Estimated Loss Projections from Specified Hazards-----	433
6-162	Holly Pond's Mitigation Actions -----	435
6-163	Town of South Vinemont Risk and Vulnerability Overview -----	441
6-164	South Vinemont's Thunderstorm Events -----	443
6-165	South Vinemont's Lightning Events -----	444
6-166	South Vinemont's Hail Events -----	445

6-167	South Vinemont's Tornado Events -----	445
6-168	South Vinemont's Flood/Flash Flood Events -----	446
6-169	South Vinemont's Drought/Extreme Heat Events-----	446
6-170	South Vinemont's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events-----	447
6-171	South Vinemont's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events -----	449
6-172	South Vinemont's Sinkhole Events -----	450
6-173	South Vinemont's Landslide Events -----	450
6-174	South Vinemont's Earthquake Events -----	450
6-175	Countywide Wildfire Events -----	450
6-176	South Vinemont's Dam/Levee Failure Events-----	450
6-177	South Vinemont's Hazard Probability Assessment -----	451
6-178	South Vinemont's Critical Facilities -----	452
6-179	South Vinemont's Estimated Loss Projections from Specified Hazards -----	453
6-180	South Vinemont's Mitigation Actions -----	455
6-181	Town of West Point Risk and Vulnerability Overview-----	461
6-182	West Point's Thunderstorm Events-----	463
6-183	West Point's Lightning Events -----	464
6-184	West Point's Hail Events-----	465
6-185	West Point's Tornado Events-----	465
6-186	West Point's Flood/Flash Flood Events -----	466
6-187	West Point's Drought/Extreme Heat Events -----	466
6-188	West Point's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/ Winter Weather/Extreme Cold Events -----	468
6-189	West Point's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events -----	469
6-190	West Point's Sinkhole Events -----	470
6-191	West Point's Landslide Events -----	470

6-192	West Point's Earthquake Events -----	470
6-193	Countywide Wildfire Events -----	470
6-194	West Point's Dam/Levee Failure Events -----	470
6-195	West Point's Hazard Probability Assessment-----	471
6-196	West Point's Critical Facilities -----	472
6-197	West Point's Estimated Loss Projections from Specified Hazards -----	473
6-198	West Point's Mitigation Actions -----	475
6-199	Cullman County BOE Mitigation Actions -----	482
6-200	Cullman City Schools Mitigation Actions-----	486
6-201	Dodge City VFD Mitigation Actions-----	490
6-202	Water and Sewer Boards Mitigation Actions -----	495

FIGURES

3-1	Geology of Alabama-----	61
4-1	Formation of Lightning-----	103
4-2	How Hail is Formed -----	107
4-3	Generalized Tornado Paths -----	114
4-4	Wind Zones in the United States-----	115
4-5	Water Level Decline -----	148
4-6	Sinkholes and Sinkhole Density Across Alabama -----	151
4-7	General Soils of Alabama-----	153
4-8	Landslide Incidences in Cullman County, Alabama -----	156
4-9	Photo of Landslide in Cullman County -----	159
4-10	Horizontal Shaking Having a 1-in-10 Chance of Being Exceeded in a 50-Year Period-----	165
4-11	Alabama's Seismic Hazard Map-----	166
4-12	Seismic Zones of the Southeastern United States -----	167
4-13	Faults and Epicenters in Alabama -----	168

4-14	Seismic Liquefaction Susceptibility -----	169
4-15	Earthquake Epicenter and Magnitude of Historical Earthquakes -----	170
4-16	Dam Locations in Cullman County-----	183
4-17	Cullman County Population Density -----	198
7-1	Annual Review and Monitoring Survey Form -----	499

SECTION 1: INTRODUCTION

Background

Cullman County Hazard Mitigation Plan

On October 30, 2000, the United States Congress passed the Disaster Mitigation Act of 2000, also known as DMA2K. Among its other features, DMA2K established a requirement that in order to remain eligible for federal disaster assistance and grant funds, localities must develop and adopt hazard mitigation plans as a condition of receiving mitigation project grants under the Pre-Disaster Mitigation (PDM) Program and the Post-Disaster Hazard Mitigation Program (HMGP). On February 26, 2002 (updated October 1, 2002 and October 28, 2003), the Federal Emergency Management Agency (FEMA) published an Interim Final Rule (IFR) updated to the Final Rule (FR) on October 1, 2013 that provides the guidance and regulations under which such plans must be developed. The Final Rule (FR) provides detailed descriptions of both the planning process that localities are required to observe, as well as the contents of the plan that emerges.

In 2005, Cullman County officially adopted the initial Cullman County Natural Hazard Mitigation Plan in response to the requirements of DMA2K and the Interim Final Rule (IFR) Section 201.6 (a). FEMA also approved this plan. In addition Section 201.6 (d) (3) mandates that a county update its plan every five years “to reflect changes in development, progress in local mitigation efforts, and changes in priorities.” The first update to the 2005 plan was approved in 2010. The 2015 version of this plan is the third plan revision in response to those requirements and the Final Rule (FR) Section 201.6.

Cullman County will continue to comply with all applicable federal and state statutes and regulations related to hazard mitigation planning. In addition, Cullman County will amend its plan whenever necessary to reflect changes in countywide hazard mitigation.

Authority

Section 409 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-228, as amended), Title 44 Code of Federal Regulations, as amended by Section 201 of the Disaster Mitigation Act of 2000 requires that all state and local governments

develop a Hazard Mitigation Plan as a condition of receiving federal disaster assistance.

Funding

Funding for this plan update was made available through the Hazard Mitigation Grant Program (HMGP). The grant's Period of Performance is November 18, 2013 through December 18, 2014. Cullman County entered into an agreement with Lee Helms Associates L.L.C. (LHA) to update the 2010 plan that was also revised by Lee Helms Associates L.L.C. (LHA) and expires on April 13, 2015.

Scope

The Cullman County Hazard Mitigation Plan includes all incorporated and unincorporated areas in Cullman County. The plan addresses all natural hazards that may affect Cullman County and its residents. Hazard mitigation strategies are discussed in terms of goals, objectives and mitigation actions. Responsibility for implementation of strategies is discussed and possible funding sources are identified.

Purpose

The purpose of the plan is to rationalize the process of identifying and implementing appropriate countywide hazard mitigation actions. The document includes a detailed characterization of natural hazards countywide; a risk assessment that describes potential losses to physical property, people, and operations; a set of goals, objectives, strategies and actions that will guide the county's mitigation activities, and a detailed plan for implementing and monitoring the required aspects of the plan.

SECTION 2: THE PLANNING PROCESS

Plan Update Process

As the 2015 process of updating the 2010 plan began, the Cullman County EMA (CCEMA) reappointed the Hazard Mitigation Planning Committee (HMPC) to participate in the process and reiterated the importance of the plan for the county. The Cullman County Commission delegated responsibility for overseeing the update of the plan to the CCEMA. The HMPC served as the core group responsible for all decisions about the planning process and content. The HMPC met two times and will meet once more following the FEMA status of an approvable plan pending adoption. The third and final meeting will be for jurisdictions to adopt the plan by resolution. An initial HMPC meeting was held on Thursday, February 20, 2014 at 10 a.m. in the Cullman County EMA's Emergency Operations Center located at 2020 Beech Ave. S.E. in Cullman. This meeting was the first of two public meetings held during the planning process. Advertisements for the meeting were placed in *The Community Shopper's Guide* and *The Cullman Times*. The second HMPC meeting was held on Thursday, March 27, 2014 at 10 a.m. in the Cullman County EMA's Emergency Operations Center located at 2020 Beech Ave. S.E. in Cullman. The final HMPC and public meeting will be held as stated above. Advertisements, agendas, sign in sheets and additional meeting informational documents are included in this section. Adoption Resolutions can be found in **Section 8**. All jurisdictions, planning committee members, the public, and neighboring communities actively participated by attending meetings and providing input by phone, fax, email, postal mail and one-on-one contacts made by the EMA Director/HMPC Chairperson.

The Cullman County EMA led the update of all sections of the plan. Subject matter experts on the HMPC were solicited for specific information regarding hazards, risks, capabilities and strategies. HMPC members were also asked to review/discuss statuses of mitigation strategies from the 2010 plan for which they were responsible and asked to provide new actions that they may pursue in the future.

The hazard mitigation planning update process began in January of 2014 after the Cullman County Emergency Management Agency (CCEMA) was awarded a planning grant from the Alabama Emergency Management Agency (AEMA). The CCEMA received 75

percent funding from the Federal Emergency Management Agency (FEMA). The remaining 25 percent was provided locally through in-kind services. The 2015 plan update reflects an updated more concise structure than the 2010 plan; however, all required information remains a part of the plan.

The Cullman County Hazard Mitigation Planning Committee's members serve for the entire five-year planning cycle of the Natural Hazards Mitigation Plan. The HMPC mission statement remained the same and is as follows:

To develop and oversee a comprehensive natural hazard mitigation planning process that:

- Facilitates coordination among local, state, and federal agencies
- Monitors and evaluates the potential risks of hazards to life and property
- Actively mobilizes all available community resources and measures to mitigate the threats of hazards
- Implement programmed actions with specific results

Cullman County EMA Director/HMPC Chairperson, Phyllis Little, devised a list of requirements and guidelines during the 2010 plan update that must be adhered to by each committee member in order for them to remain a part of the multi-jurisdictional plan. The HMPC approved these requirements and guidelines by vote during the first HMPC meeting. These requirements and guidelines remain the same for the 2015 plan update. Each HMPC member stated they fully understood and would abide by, the guidelines set forth by the Cullman County EMA. The requirements/guidelines remain the same and are as follows:

- Attendance by them, or a representative, at each of the HMPC meetings
- If unable to attend a meeting, follow up by communicating with the Cullman County EMA through personal visits, phone calls, correspondence, email or fax
- Timely submission of information necessary for the draft plan
- Full cooperation among the members of each municipality with the Cullman County EMA and the consultant. All jurisdictions, planning committee members, the public, and neighboring communities must actively participate by attending meetings and providing input by phone, fax, email, postal mail or one-on-one contacts made by the HMPC Chairperson.

The HMPC members listed below actively participated in this plan's update by attending

meetings and/or providing information via telephone, email, fax, postal mail, or through personal visits made by the HMPC Chairperson, Phyllis Little, or representatives of Lee Helms Associates:

Baileyton

Walker Mead, Baileyton Town Council

Colony

Vernon Fields, Town of Colony Mayor/LEPC

Cullman

Craig Green, Cullman Police Department, Assistant Police Chief

Edward Reinhardt, Cullman Fire Chief/LEPC

Kenny Culpepper, Cullman Police Department, Chief of Police/LEPC

Max Townson, City of Cullman Mayor/LEPC

Mike Manning, Cullman Power Board, General Manager

Rick Fulmer, City of Cullman Director of Building, Planning, Zoning/LEPC

Tim Sartin, Cullman EMS

Cullman City Schools

Dr. Doreen Griffeth, Cullman City Schools, Superintendent/LEPC

Sharon Wilson, Cullman City Schools, Executive Secretary

Cullman County

Ashley Graves, Cullman County Economic Development Project Coordinator

Cherrie Haney, Cullman County Economic Development Director

Gary Zeichmiller, Cullman County Commission, Administrator

Heath Meherg, Cullman County

Jon Brunner, Cullman County Engineer/LEPC

Kelly Allen, Cullman County EMA, Assistant Director

M. Bartlett, Cullman County Sheriff's Office, Chief Deputy
Matt Kinsland, Cullman County Economic Development Project Coordinator
Phyllis Little, Cullman County EMA/HMPC Chairperson
Randall Waldrep, Cullman County Water Manager/LEPC

Cullman County BOE

Becki Klein, Cullman County BOE, Maintenance Department Administrative Assistant
Billy Coleman, Cullman County BOE Superintendent
Jeff Harper, Cullman County BOE

Dodge City

Tawana Canada, Dodge City Mayor/LEPC

Dodge City VFD

Joe Golden, Cullman County Association of VFD's, President/LEPC

East Cullman Water System

Keith Henry, East Cullman Water System Superintendent

Fairview

Dale Seals, Fairview Mayor/LEPC

Garden City

Pam Leslie, Town of Garden City, Clerk/Treasurer
Tim Eskew, Town of Garden City Mayor/LEPC

Good Hope

Corey Harbison, City of Good Hope Mayor/LEPC

Hanceville

Kenneth Nail, City of Hanceville Mayor/LEPC

Nathan Finley, Hanceville Water and Sewer Board, Manager/LEPC

Hanceville Water and Sewer Board

Tina Alexander, Hanceville Water

Holly Pond

Herman Nail, Holly Pond Mayor/LEPC

VAW Water System

Donna Gossett, VAW Water System/LEPC

Vinemont

Mike Graves, Town of South Vinemont Public Works/LEPC

West Point

Kenneth Kilgo, Town of West Point Mayor/LEPC

Others

James D. Burnett, Winston EMA Director

Lee Helms, Lee Helms Associates, L. L. C., Consultant

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INITIAL MEETING AGENDA

2015 CULLMAN COUNTY HAZARD MITIGATION PLAN UPDATE

Thursday, February 20, 2014 @ 10 a.m.
Cullman Co. EMA EOC, 2020 Beech Ave., S. E., Cullman

1. Introductions
 - Sign-in sheets – please print and make sure your email is on the form
2. Project Background
 - 2010 plan update was prepared by Lee Helms Associates, L. L.C. under the direction of the Cullman County Emergency Management Agency and the Hazard Mitigation Planning Committee and adopted by:
 - Cullman County – Unincorporated
 - Baileyton – Town
 - Colony – Town
 - Cullman – City
 - Dodge City – Town
 - Fairview – Town
 - Garden City – Town
 - Good Hope – Town
 - Hanceville – City
 - Holly Pond - Town
 - South Vinemont - Town
 - West Point - Town
 - Cullman County BOE
 - Cullman City Schools – School District
 - 2015 plan update will be prepared by Lee Helms Associates, L. L.C. under the direction of the Cullman County Emergency Management Agency and the Hazard Mitigation Planning Committee
3. Project Participation
 - Identify opportunities for public input into the 2015 plan update
 - Identify potential plan meeting participants that are not present today (municipalities, school boards, engineers, hospitals, surrounding county EMAs, fire departments, etc.)
 - PNP's are their own applicant
4. Project Schedule
 - 2010 plan update expires April 13, 2015
 - Period of Performance for the grant is November 18, 2013 – December 18, 2014
 - Goal date for draft plan to be submitted in order to be approved before the POP ends: Wednesday, August 6, 2014
 - AEMA/Local Review = 30 days; Local response to a request for information (RFI) = 30 days; AEMA review of local response to RFI = 30 days; FEMA Review = 45 days (allowing 135 days at the least for plan approval)
 - There will be an initial, mid-term, and final meeting. Committee members will be made aware of the meetings via email unless other means is requested. Information may be sent to LHA by fax 205-280-0543 or email to renee@leehelmsllc.com. If you have any questions or need assistance, call LHA at 205-280-3027.
5. Project Tasks for this Meeting
 - All general public attendees are to complete the form titled: "Citizen Input on Hazard Mitigation Planning" and leave completed form with LHA representative
 - Local EMA Director is to complete Questionnaire #1 and return by Thursday, Feb.27, 2014
 - Local EMA Director is to provide LHA with a copy of the media release for this meeting and documentation from the past five years of annual reviews
 - Update 2010 plan information and return to LHA within the next two weeks – see handouts (for all ongoing and new actions: we need to know if they were completed and if not, why [lack of funds, etc.]; if they were not completed, will they be continued/ongoing; if they are to be deleted, why)
 - Discuss in-kind contributions for local match to this planning grant
 - Set date and location for next meeting

CULLMAN COUNTY

Thursday, February 20, 2014 at 10 a.m. – Cullman Co. EMA EOC, 2020 Beech Ave. SE, Cullman
INITIAL HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
Tim Sartin	Agency: Cullman Ems Job Title: Paramedic Supervisor	Phone: 256-709-0042 Fax:	tsartin@yahoo.com
Tawana Canade	Agency: Dodge City Job Title: Mayor	Phone: 256-287-0364 Fax: 0164	dcmayor@bellsouth.net
Rick Zulver	Agency: CITY Cullman Job Title: DIRECTOR BLDG PLAN-ZONING	Phone: 256-775-7206 Fax: 256-739-9351	BI1@ CULLMANCITY.ORG
Ashley Graves	Agency: CCED Job Title: project coordinator	Phone: 256-775-4696 Fax:	agraves@co.cullman. al.us
Cherrrie Haney	Agency: CCED Job Title: Director	Phone: 256-475-2906 Fax:	cherrrie.haney@bellsouth.net
MJB	Agency: CCSO Job Title: Chief Deputy	Phone: 256-734-0342 Fax: 256-737-9868	mbartlett@cullmanshield.org



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(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
Edward Reinhardt	Agency: Fire Job Title: Chief	Phone: 256-375-7186 Fax:	JReinhardt@cullmancity.org
James D. Burgett	Agency: Winston EMA Job Title: Dir	Phone: 205-489-3747 Fax:	winstoncountypercenturget.net
Timothy Eskew	Agency: Garden City Job Title: Mayor	Phone: 256-590 3767 Fax:	eskew7@bellsouth.net
HERMAN MAIL	Agency: Holly Pond Job Title: MAYOR	Phone: 256-796-6180 Fax: 256-796-1306	
Dale Seals	Agency: Fairview Job Title: Mayor	Phone: 205-613-0832 Fax:	dseals@entabjacks.com
Tina Alexander	Agency: Hanceville Water Job Title:	Phone: 256-352-9329 Fax: 256 352-1316	TinaWks@Hiway.net



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INITIAL HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
Kenneth Nail	Agency: City of Hanceville Job Title: Mayor	Phone: 256-352-9830 Fax: 352-1200	LTKNAIL@hcoo.com
KENNETH KILBO	Agency: Town of West Point Job Title: Mayor	Phone: 256-734-0006 Fax: 734-0282	K-Kilbo@wp-ho.com
Cory Harrison	Agency: City of Good Hope Job Title: Mayor	Phone: 256-385-5510 Fax: 256-739-5310	mayor@goodhopeal.com
Mayor A. Johnson	Agency: Cullman, AL Job Title: MAYOR	Phone: 256-775-7102 Fax:	
MIKE GRAVOS	Agency: Town of South View Job Title: PUBLIC WORKS	Phone: 256-737-5411 Fax: 256-737-5411	mgravos302@bellsouth.net
Kenneth Fields	Agency: Town of Colony Job Title: Mayor	Phone: 256-287-1192 Fax:	



CULLMAN COUNTY

Thursday, February 20, 2014 at 10 a.m. – Cullman Co. EMA EOC, 2020 Beech Ave. SE, Cullman

INITIAL HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
Phyllis Little	Agency: CCEMA Job Title: Director	Phone: 256-739-5410 Fax: 256-737-0876	plittle@cullmanema.org
Craig Green	Agency: Cullman Police Dept Job Title: Asst. Police Chief	Phone: 256-775-7100 Fax:	cgreen@cullmanpolice.com
Mike Manning	Agency: Cullman Power Board Job Title: General Manager	Phone: 256-736-5606 Fax: 256-775-2534	mikemanning@cullmanpowerboard.com
Jon Brunner	Agency: County Road Job Title: Co Engineer	Phone: 256-796-1336 Fax: 256-796-7031	jbrunner@co.cullman.al.us
Becki Klein	Agency: CCBOE Job Title: Maint. Dept. Admin. Assist.	Phone: 256-736-2441 Fax: 256-736-2491	bklein@ccboe.org
Walker May	Agency: Bailey Town Job Title: Council	Phone: 256-796-6447 Fax:	



CULLMAN COUNTY

Thursday, February 20, 2014 at 10 a.m. – Cullman Co. EMA EOC, 2020 Beech Ave. SE, Cullman

INITIAL HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
Billy Coleman	Agency: Cullman Co Schools Job Title: Superintendent	Phone: 256-736-2403 Fax:	bcoleman@cckoe.org
LEE HELMS	Agency: LHA Job Title: OWNER	Phone: 205-280-3027 Fax: 205-280-0543	lee@leehelmsllc.com
	Agency: Job Title:	Phone: Fax:	
	Agency: Job Title:	Phone: Fax:	
	Agency: Job Title:	Phone: Fax:	
	Agency: Job Title:	Phone: Fax:	



OLYMPIC HEALTH CLUB



Ask About Our 10-Week P.T. Program

CALL NOW 256-775-2496 Across from City Parking Deck.

TONY JACKSON AUTO
body & collision work, quality
at reasonable prices. Insurance
is welcome. 256-734-6001.

APARTMENT FOR RENT
ve. Garden City. 2 bedrooms, 1
bath. 256-242-4103.

FOR SALE
Leupold Vain-3, 3.5-10X40
Riflescope, \$150. Warren Sweat Light
Climber Tree stand, \$50. Amraiker
Climbing Tree stand, \$50. Sportsman
Guide, New Climbing Tree stand, \$50.
256-796-6027.



NORTHSIDE VETERINARY HOSPITAL

TOM WILLIAMSON, D.V.M.
JUSTIN DICKERSON, D.V.M.
SUSIE DICKERSON, D.V.M.

SMALL ANIMAL MEDICINE AND SURGERY

PHONE 256-734-5557
EMERGENCIES 256-734-5557

1933 ST. JOSEPH DRIVE N.W.
CULLMAN, ALABAMA 35055

Fixer Upper DW

24x52 as is
\$3,000

256-734-1930



256-775-8030 Ext 299 1-65

SALES & SERVICE
BIG SELECTION OF RVs
RV PARTS IN STOCK

MOBILE HOME FOR RENT
14 x 70, 2 BR, 2 full BA, nice. CH&A.
\$400 month, \$300 deposit. Stove,
refrigerator, water, garbage and lawn
service provided. No pets. References.
Springhill, West Point School District.
256-734-7036.

FOR RENT
2BR, 1 large bath, front & back porch,
utility room, dining room, kitchen,
living room, large all purpose room.
Large yard and garden spot. 2340
Hwy. 69N, East Point area. 256-736-
4732 or 256-739-5970.

LEG & VEIN CLINICS

Do You
Suffer
From...

- Varicose Veins
- Spider Veins
- Leg Swelling
- Leg Ulcers
- Leg Pain & Cramps
- Restless Leg Syndrome

Community Notes...

A free community service available
to churches, schools, and civic
organizations on a space
available basis. Send your
announcements to:

Community Notes
219 First Ave. SW
Cullman, AL 35055

All Community Notes must be in by 12:30 p.m. on Monday in order
to be in that Wednesday's edition. We reserve the right to edit copy.

LITTLE MISS FAIRALA

Pageant will be held in the FHS
Auditorium on March 22. Open to
girls from any community. 4 division
from ages 0-5. Forms may be
picked up at local pageant dress
shops or call Sherri, 256-339-1914.
Proceeds will benefit school
projects through Fairview PTO.

\$10,000 DRAW DOWN

The Fairview Alumni Assoc. and
The Fairview Band Boosters are
sponsoring a \$10,000 Draw Down
on March 15 in the Fairview High
School lunchroom. Dinner, 6:00
p.m. Draw Down, 7:00 p.m. Tickets
are \$100 donation and includes
dinner for 2. For tickets call
Barbara, 256-734-3189, Felicia,
256-796-2931 or Sherry, 256-339-
2202 or email
feliciacarden@yahoo.com

VENDORS WANTED

Hanceville Elementary PTO is
sponsoring a "Little Paws Arts and
Craft Fair" that will be held indoors
March 14 & 15. If interested contact
Tonya, 256-507-3858.

MISSIONS FUNDRAISER

By Christians Living Proof
Ministries is pre-selling Boston
Butts for \$27. Pick up date, Feb. 22
from 12-2 at City Outreach Center,
402 5th Ave. SW. Call Karen, 256-
924-4663 for more info.

FEBRUARY 12-16

Revival at Harmony Word of Life
Church, 420 Co. Rd. 1204,
Vinemont, with The Sloan Family.
Wednesday-Saturday, 7:00 p.m.
Sunday, 10:00 a.m. Call 256-739-
2956 or 339-2372 for more info.

FEBRUARY 13

Film Screening and Q&A with
Filmmaker Joel Fendelman will be
held at the Burrow Center Recital
Hall at Wallace State College, 6:00
p.m. Free admission.
Heartland Quilt Guild to meet at
Christ Covenant Church, 1310 St.
Joseph Dr NE, 6:30 p.m. Call
Porsia, 256-737-7557 for more info.
Natural Mothering Class will be
held at North Alabama Agriplex
Heritage Center, 6:00-8:00 p.m.

FEBRUARY 17

**Bosom Buddies Breast Cancer
Support Group** to meet at 6:00
p.m. in CRMC's POB II in the Depot
Room. Speaker: Robin Sandlin.
Call Mary, 256-734-8729 for more
info.

**11th Annual Empty Bowls Chili
Dinner** will be held in the Hearin
Hall of First United Methodist
Church in Cullman, 4:00-6:30 p.m.
\$10 tickets are available at Cullman
Caring For Kids, First United
Methodist Church, St. John's
Evangelical Church. Carryouts
available. Silent Auction will be
held. Southern Gospel Music by
The Revelations, The Potentials,
Enell Baker. Proceeds benefit
Cullman Caring For Kid's Food
Bank. To make a donation or for
more info call 256-739-1111 or 256-
734-6690.

FEBRUARY 18

Free Meal will be served at
Cullman Church of Christ in the
Multi-Purpose Room, 4345
Alabama, Hwy. 157, Cullman, AL.
11:30 a.m. Enter the building
through the west side carport
doorway. For more info call Rodger
Walling, 256-734-8235.
Alzheimer's Caregivers Meeting
will be held at Westminster
Assisted Living, 1020 Olive St. SW,
Cullman, 5:30 p.m. Call Toni, 256-
737-2643 or email
tonigeddings@cmchospital.com

FEBRUARY 19

**Heritage Homeschool
Propagation** at North Alabama
Agriplex Heritage Center, 9:00-
11:00. \$9 per child. Call to register,
256-297-1044 or email
cullmanag@gmail.com

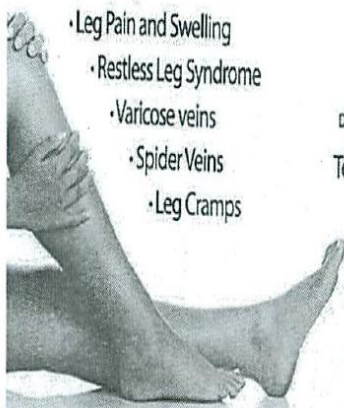
FEBRUARY 20

**Southwest Cullman County
Historical Society meeting** will be
held at Brushy Pond Community
Center, 2729 Co. Rd. 143, Bremen,
6:00 p.m. Call Joan, 256-747-3144.
**Cullman Co. Hazard Mitigation
Planning Committee** to meet at
10:00 a.m. at the Cullman Co. EMA
Office as required by FEMA to
begin revision of the plan.

Vein Clinic

1st and 3rd Thursday of the month
12:00 - 3:00 p.m.

- Leg Pain and Swelling
- Restless Leg Syndrome
- Varicose veins
- Spider Veins
- Leg Cramps



James H. Isobe, M.D.
Board Certified, General Surgeon, and
Diplomate, American College of Phlebology
To make an appointment,
call 205-949-9289

Treatment from Cullman's only
board certified phlebologist.

Cullman Regional Medical Center
POB III, Suite 302
BaptistVeinCenter.org

Baptistvein center
at cullman

you would like
to make a
donation to the
family of
by Speegle for
neral expenses,
I Kelly Holmes
56-615-5742



AFFORDABLE TWO & THREE
Bedroom mobile homes for rent,
CH&A, Vinemont, Cullman area
on Hwy. 31 North close to I-65. We
furnish water, sewage & garbage.
Telephone and cable available. For
more info call 256-734-5588.

3 BR, 1 BATH HOUSE
For rent in Blountsville area, \$430
rent, \$350 security deposit. No inside
pets. 256-338-6545.

GARAGE SALE
Lots of freebies!! Friday, February
21, 8-5. Saturday, February 22, 8-2.
Cash only. Everything must go. 1
block north of CHS, follow signs.

MAD OPTICAL

The Community Shopper's Guide

LEGAL NOTICES

**NOTICE OF
ABANDONED VEHICLE**
1989 Lincoln Mercury
Vin#1LNBM93E8KY743241
This vehicle will be sold for
towing and storage unless
claimed. This vehicle will be sold
March 21, 2014 at 12 noon. Call
Kenneth Thomas 256-796-
6312. Feb. 19

**NOTICE OF
ABANDONED VEHICLE**
2005 Ford Explorer
Vin#1FMZU73E2SUB71131
1993 Ford F150
Vin#1FTEX15N1PKC03179
Vehicle to be sold on 4/1/14 for
towing and/or repairs.
Wilson's Towing, 256-734-3157.
Feb. 26

MOBILE HOME FOR RENT
16 x 80, 3 BR, 2 full BA, nice. CH&A,
\$500 month, \$400 deposit. Stove,
refrigerator, water, garbage and
lawn service provided. No pets.
References: Springhill, West Point
School District. 256-734-7036.

FOR RENT
In city, small 2 BR house, CH&A,
appliances, garage, no pets, ref.,
credit ck., rent \$500, dep. \$400.
256-734-7634, 256-339-1657, 256-
339-6698.

Work Wanted

All Types of Repairs: Decks,
Metal Roofs, Vinyl Siding,
Plumbing, Insurance Jobs & more.
Semi-retired Contractor
Over 40 Years Experience
Work Guaranteed &
Priced Reasonable.
Alabama State License
256-385-2068

I FIX LEAKS

Any kind of roof leak, around
chimneys, pipes, vents etc. Also
mobile home leaks. Free estimate.
"Dan" 256-736-4425.

FOR SALE
2004 Kia Optima, \$2000. 1988 K5

Wednesday, February 19, 2014

Community Notes...



A free community service available
to churches, schools, and civic
organizations on a space
available basis. Send your
announcements to:

Community Notes
219 First Ave. SW
Cullman, AL 35055

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benefit school projects through
Fairview PTO.

\$10,000 DRAW DOWN

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School lunchroom. Dinner, 6:00
p.m. Draw Down, 7:00 p.m. Tickets
are \$100 donation and includes
dinner for 2. For tickets call
Barbara, 256-734-3189, Felicia,
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2202 or email
feliciacarden@yahoo.com

VENDORS WANTED

Hanceville Elementary PTO is
sponsoring a "Little Paws Arts and
Craft Fair" that will be held indoors
March 14 & 15. If interested contact
Tonya, 256-507-3858.

FEBRUARY 20

NAMI Cullman to meet at Mental
Healthcare, Bldg. #2, 1909
Commerce Ave. NW, 6:30 p.m.
Guest Speaker: Edward Potter.
Holly Pond Historical Society to
meet at 6:30 p.m. at the Guy Hunt
Library Conference Room, 60 Lions
Park Road, Holly Pond. Speaker:
Bob Davis. Call Brenda, 256-796-
5806.

Southwest Cullman County
Historical Society meeting will be
held at Brushy Pond Community
Center, 2729 Co. Rd. 143, Bremen,
6:00 p.m. Call Joan, 256-747-3144.

Cullman Co. Hazard Mitigation
Planning Committee to meet at
10:00 a.m. at the Cullman Co. EMA
Office as required by FEMA to begin
revision of the plan.

FEBRUARY 20 & 24

Overeaters Anonymous meets in
the Conference Room at 12:00 p.m.

FEBRUARY 26

NACPED 2014 Regional Career
Fair at The Marriott Hotel, 5
Tranquility Base, Huntsville, 1:00-
4:00 p.m. Employers from many
professions will be available to
meet, accept resumes and limited
employers may interview on the
spot. Open to the public. Contact
Susan Peek, 256-352-7839 or
susan.peek@wallacestate.edu

FEBRUARY 27

Adult Diabetes Support Group
meets at CRMC's Ave Maria Room
in POB 2, 6:00-8:00 p.m. Call 256-
737-2025 for more info.

NOW ACCEPTING APPLICATIONS!

At Harmony Pre-K and Headstart
for the 2014-2015 school year. For
more info or an appointment call
256-747-8502 or 256-747-8503.

REGISTRATION BEGINS

March 3rd for Little Lambs
Preschool for 2014-2015 school
year. Ages 18 mo.-4 yrs. Located at
St. John's Evangelical Protestant
Church, 512 2nd Ave. SE. Call 256-
736-2290 for more info.
www.sjpec.com

MARCH 1

Farm Kid's Club-Chick Time at
North Alabama Agriplex Heritage
Center, 9:00-10:30 a.m. Ages 5 and
up with an adult. \$5 per child. To
register call 256-297-1044 or
cullmanag@gmail.com

Antique Car and Tractor Show
sponsored by New Life God's
Church, 9:00 a.m.-2:00 p.m. at Tin
Top Variety, 2999 Hwy. 31, South
Hartselle. \$20 entrance free. Rain
date, Sat. March 8th. Call Tony, 256-
758-4785, Chris, 256-303 1285 or
Phillip, 256-318-0799.

MARCH 5

Dripping Springs Chapter DAR
Luncheon, 11:30 at Cullman
County Museum. Program:
Celebrating Women Power Point
from National Museum.

LOCAL BRIEFS

Student Investment Dinner

West Point High School graduate, Brian Nesmith, will share his success story at 6 p.m. (5:30 p.m. registration/silent auction) Friday, Feb. 28, at Stone Bridge Farms, 281 County Road 717, Cullman. Tickets are \$25. To sponsor a table or purchase tickets, contact T.J. Franey at 256-590-4803, or call Doris Patterson at 256-734-6192.

Smart Driving class

A Smart Driving class will be held at 8:30 a.m. Feb. 25, at First Baptist Church, 501 2nd Ave. SW, Cullman 35055. The class is six hours, plus time for lunch. Cost is \$20 for non-AARP members and \$15 for AARP members.

To register, contact Richard Gurley at 256-739-9883 or lstrgurley@gmail.com.

Boston Butt sale

Christians' Living Proof Ministries will sell Boston Butts for pickup Saturday, Feb. 22. Contact Karen Cook to order at 256-924-4663. Cost is \$27, with all proceeds going to the church's missions fund. Make checks payable to Johnny's Barbecue Mobile.

Pickup will be from noon to 2 p.m. Feb. 22, at the City Outreach Center, 402 5th Ave. SW, Cullman. Unclaimed items after pickup time will be donated.

Ham/fish dinner

The Cullman Lions will hold a

ham/fish dinner from 11 a.m. to 6 p.m. Feb. 22, at Cullman Middle School. Cost is \$10/plate; eat in or carry out. All proceeds to benefit Cullman Lions Club projects.

Unsung Heroes

The Cullman Times is seeking the community's nominations for our annual list of Unsung Heroes that will be published in our 2014 Profile edition.

Do you know someone who deserves recognition for civic or church work, community service or dedication to an activity or organization? If so, please nominate them as an Unsung Hero.

We're seeking the people who display unselfish acts of kindness, courage or generosity that make Cullman County a better place to live and work.

To nominate someone for the recognition, write us a note that describes what the person does or did that is so special. You cannot nominate yourself. We will choose six to eight for publication in Profile 2014, which is scheduled for March.

Mail your suggestion to: Editor, 300 Fourth Ave. SE, Cullman, AL 35055 Attn: Unsung Heroes; or e-mail to dpalmer@cullmantimes.com; or fax them to 256-736-2972. You can also drop off your suggestion at the newspaper weekdays between 7:30 a.m. and 5 p.m. to Sallee Chandler. Include your daytime phone number, as well as that of the nominee. All nominations are due in The Times office by 5 p.m. Feb. 28, 2014.

TODAY
Americold dutch luncheon
The Americold Quarterly Dutch Luncheon will be at 11:15 a.m. at Brandin' Iron restaurant, 87 County Road 1242, Cullman. For former employees, spouses and friends.

THURSDAY
CCLC
The Cullman Community Lions Club will meet at 11:30 a.m. at Westminster Assisted Living Facility, 1020, Olive St. SW, Cullman. Guest speaker will be Keller Johnson-Thompson, great-great-niece of Helen Keller. Members urged to attend. Info: Patty Miller at 256-734-0131.

CCMGAI
The Cullman County Master Gardeners Association Inc., will meet at 10 a.m. at the Cullman County Extension Office, 402 Arnold St. NE, Cullman. All members and interns encouraged to attend. Topic: Plant propagation.

Historical society
The Southwest Cullman Historical Society will meet

at 6 p.m. at Brushy Pond Community Center, 2729 County Road 143, Bremen. Info: Joan Calvert at 256-747-3144.

HMPC to meet
The Cullman County Hazard Mitigation Planning Committee will meet at 10 a.m. at the Cullman County EMA office, 2020 Beech Ave. SE, Cullman. This meeting is required by FEMA to revise the current Natural Hazards Mitigation Plan.

Iris/Daylily Society
The Cullman Iris and Daylily Society will meet at 1 p.m. at the Alabama Cooperative

Extension Office, 402 Arnold St., Cullman.

NAMI
The National Alliance on Mental Illness will meet at 6:30 p.m. at the Mental Health Facility (Bldg. 2), 1909 Commerce St. SW, Cullman. Speaker: Edward Potter of the Sheriff's Office and winner of RESPECT award from the AL Dept. of Mental Health.

Overeaters Anonymous
Overeaters Anonymous will meet at 4:45 p.m. in the Carriage House at Grace Episcopal Church. Info: 724-376-2124 or 256-352-1143.

30-80% OFF PRESCRIPTION DRUGS

Drug Name	Qty (pills)	Price*	Drug Name	Qty (pills)	Price*
Plavix 75mg	90	\$ 89.99	Dabigex 200mg	100	\$ 89.99
Combivent 18/103mcg 600 doses	\$ 74.99		Effexor XR 150mg	90	\$ 99.99
Viagra 100mg	16	\$ 79.99	Xifaxan 200mg	100	\$124.99
Zetia 10mg	100	\$ 94.99	Cymbalta 30mg	100	\$ 99.99
Calis 20mg	16	\$ 79.99	Tricor 145mg	90	\$104.99
Nexium 40mg	90	\$ 94.99			
Acovair 250/50mcg	160 doses	\$169.99			
Spiriva 18mcg	90	\$154.99			
Actos 30mg	100	\$104.99			
Levitra 20mg	30	\$ 94.99			

*We accept Visa, MasterCard, Personal Check or Money Order. *Prices shown are for the equivalent generic drug if available.

Ph: 1-800-267-2688
Fax: 1-800-563-3822

Mailing Address: PO BOX 121 STN L, WINNIPEG MANITOBA, R3H 0Z4 CANADA
www.TotalCareMart.com



sue McClurkin, R-Indian Springs, told a legislative committee.

Alabama is the latest state to consider tough restrictions, as abortion opponents seek to make a dent in the Supreme Court's 1973 Roe v. Wade ruling that legalized abortion. North Dakota approved a similar heartbeat bill last year, but a federal judge put the law on hold while the legal fight plays out in court. Proponents of the McClurkin's bill said it would protect the unborn, while opponents called it blatantly unconstitutional and destined to be enjoined by the courts.

The two sides squared off in a public hearing

seven weeks. A fetal heartbeat can generally be detected earliest using a vaginal ultrasound, although McClurkin's bill does not specify a method for detection.

"If safe, legal abortions are not available, and women and girls do not view them as a possibility, we do return to the rusty knives and coat hangers and things that many of us can remember," retired law professor Martha Morgan told committee members.

Unlike past debates over clinic regulations and more incremental restrictions, this debate was directly aimed over whether abortion should be legal.

"You are protecting the

court in the hopes of getting the court to revisit Roe v. Wade. Although, Johnston, who helped write the bill, said he thought they faced long odds to get before the high court.

"If there's a small possibility, then it may be worthwhile," Johnston said.

Three other bills seek to put new limits on abortion.

Current Alabama law requires women to receive information about abortion alternatives and possible adverse outcomes 24 hours before scheduling an abortion. One of the Alabama proposals would increase the waiting period to 48 hours.

having an abortion.

"These bills imply that we are stupid. That we don't understand and we can't make informed, mature decisions regarding our own bodies. That we need politicians to coddle us and say, 'Now honey, are you sure?'" Watson said

A third bill would require women seeking an abortion because of lethal fetal anomalies to be advised of the availability of perinatal hospice services. A fourth bill would require parents to submit a birth certificate, or other proof of parenthood, when giving consent for their daughter to have an abortion

CALENDAR

TODAY

Historical society

The Southwest Cullman Historical Society will meet at 6 p.m. at Brushy Pond Community Center, 2729 County Road 143, Bremen 35033. Info: Joan Calvert at 256-747-3144.

HMPC to meet

The Cullman County Hazard Mitigation Planning Committee will meet at 10 a.m. at the Cullman County EMA office, 2020 Beech Ave. SE, Cullman 35056. This meeting is required by FEMA to revise the current Natural Hazards Mitigation Plan.

Iris/Daylily Society

The Cullman Iris and Daylily Society will meet at 1 p.m. at the Alabama Cooperative Extension Office, 402 Arnold St., Cullman 35055.

NAMI

The National Alliance on Mental Illness will meet at 6:30 p.m. at the Mental Health Facility (Bldg. 2), 1909 Commerce St. SW, Cullman 35055. Speaker: Edward Potter of the Sheriff's Office and winner

SW, Cullman 35055.

Program: Hazel Heinze/CCC. Bring something to share at lunch. Info: Linda Estes at 256-739-4653.

Overeaters Anonymous

Overeaters Anonymous will meet at 4:45 p.m. in the Carriage House at Grace Episcopal Church. Info: 724-376-2124 or 256-352-1143.

SATURDAY

Brunswick stew sale

Falkville Church of God, 87 West 3rd St., Falkville 35622, will sell Brunswick Stew at 11 a.m. for \$20/gallon or \$10/half gallon. All proceeds to benefit the church building fund. Call in orders to Pastor Bennett at 256-739-2849; Becky Hogan at 256-303-7903; or Brenda James at 256-784-5233.

Fish/ham dinner

The Cullman Lions Club's fish and ham dinner will be from 11 a.m. to 6 p.m. at Cullman Middle School lunchroom. Eat in or carry out. \$10/plate. All proceeds to go to Lions Club's projects.

LOCAL BRIEFS

CACC Open house

Cullman Area Career Center will have open house from 5 to 7 p.m. Feb. 27, at 17640 Highway 31 N, Cullman 35058. Local business and industry, parents, students, and the community are invited. Refreshments provided.

Micc Sweatheart

be in by noon Feb. 22. Late photos will not be accepted. For People's Choice award, audience will pay \$1 per vote for their favorite pageant contestant. The People's Choice Winner will be crowned at the end of the pageant with a large crown.

Those who'd like to attend the pageant as a spectator (part of the

Saturday, Feb. 22. Contact Karen Cook to order at 256-924-4663. Cost is \$27, with all proceeds going to the church's missions fund. Make checks payable to Johnny's Barbecue Mobile.

Pickup will be from noon to 2 p.m. Feb. 22, at the City Outreach Center, 402 5th Ave. SW, Cullman 35055. Unclaimed items after pickup time will be

benefit Cullman Lions Club projects.

Student Investment Dinner

West Point High School graduate, Brian Nesmith, will share his success story at 6 p.m. (5:30 p.m. registration/silent auc-

SECOND MEETING AGENDA

2014 CULLMAN COUNTY HAZARD MITIGATION PLAN UPDATE

Thursday, March 27, 2014 @ 10 a.m.

Cullman Co. EMA EOC, 2020 Beech Ave., S. E., Cullman

1. Introductions

- Sign-in sheets – please print and make sure your email is on the form.

2. Project Schedule Reminder

- 2010 plan update expires April 13, 2015
- Period of Performance for the grant is November 18, 2013 – December 18, 2014
- Goal date for draft plan to be submitted in order to be approved before current plan expires: Wednesday, August 6, 2014
 - AEMA/Local Review = 30 days; Local response to a request for information (RFI) = 30 days; AEMA review of local response to RFI = 30 days; FEMA Review = 45 days (allowing 135 days at the least for plan approval)
- There will be an initial, mid-term, and final meeting. Committee members will be made aware of the meetings via email unless other means is requested. Information may be sent to LHA by fax 205-280-0543 or email to renee@leehelmsllc.com. If you have any questions or need assistance, call LHA at 205-280-3027.

3. Project Tasks for this Meeting

- All general public attendees are to complete the form titled: “Citizen Input on Hazard Mitigation Planning” and leave completed form with LHA representative
- Local EMA Director is to provide LHA with a copy of the media release for this meeting if applicable
- Update 2010 plan information – see handouts Discuss in-kind contributions for local match to this planning grant
- Set date and location for next meeting



CULLMAN COUNTY

Thursday, March 27, 2014 at 10 a.m. – Cullman Co. EMA EOC, 2020 Beech Ave. SE, Cullman

SECOND HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
Ashley Graves	Agency: Cullman Co. Eco. Dev. Job Title: Project Coordinator	Phone: 256-775-4696 Fax:	agraves@co.cullman.al.us
Matt Kinsland	Agency: CLED Job Title: Project Coordinator	Phone: 256-599-2255 Fax:	matkinsland.matt@gmail.com
MIKE GRAVES	Agency: Town of South Vinnet Job Title: Public Works	Phone: 256-595-0707 Fax:	MGraves@townofsouthvinnet.com
Edward Reinhardt	Agency: Cullman Fire Rescue Job Title: Chief	Phone: 256-775-7185 Fax:	JReinhardt@cullmancity.org
Gary Leichner	Agency: Commission Job Title: Administrator	Phone: 256-702-4820 Fax: -	galy@co.cullman.al.us
Heath Mehner	Agency: Cullman Co. Job Title:	Phone: 256-338-2620 Fax:	hmehner@co.cullman.al.us



CULLMAN COUNTY

Thursday, March 27, 2014 at 10 a.m. – Cullman Co. EMA EOC, 2020 Beech Ave. SE, Cullman

SECOND HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
Pam Leslie	Agency: Town of Garden City Job Title: Clerk/Treasurer	Phone: 256-352-5108 Fax: 256-352-4102	gardenctytownhall@gmail.com
Ronell Walden	Agency: Cullman County Water Job Title: Manager	Phone: 256-595-4189 Fax:	rwalden@cullmanwater.com
Jeff Harper	Agency: Cullman Board of Ed Job Title:	Phone: 256-307-1511 Fax:	jeffharper64@gmail.com
Kelly Allen	Agency: CCEMA Job Title: Asst. Dir	Phone: 256-737-5410 Fax: 256-737-0876	Kallen@cullmanema.org
Dale Seals	Agency: Town of Fairview Job Title: Mayor	Phone: 205-613-0832 Fax:	dseals@eatajax.com
Phyllis Little	Agency: CCEMA Job Title: Dir	Phone: 256-739-5410 Fax: 256-737-0876	plittle@cullmanema.org

Lee Helms

LHA
Owner



205-280-3027
205-280-0543

lee@leehelmsllc.com

CULLMAN COUNTY

Thursday, March 27, 2014 at 10 a.m. – Cullman Co. EMA EOC, 2020 Beech Ave. SE, Cullman

SECOND HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
	Agency: Tina Alexander Job Title:	Phone: 256-352-9229 Fax: 256-352-1207	Tina.Wks@Hiwaay.net
Nathan Filly	Agency: Hanceville Water & Sewer Board Job Title: Manager	Phone: 256 334-5966 Fax: 256 352 1216	nathanf@hiwaay.net
Joe Gulden	Agency: Cullman Co. Assoc. of VFD's Job Title: President	Phone: 256-339-8529 Fax: 256-796-2332	firemanjoe@yahee.com
Kenny Culpapper	Agency: Cullman Police Dept Job Title: Chief of Police	Phone: 256-795-7160 Fax:	cullmanpl@culmanpolice.com
Tim Eskew	Agency: Town of Garden City Job Title: Mayor	Phone: 256-352-5408 Fax:	eskewt@bellouth.net
Billy Coleman	Agency: Cullman Co Bd of Ed Job Title: Superintendent	Phone: 256-796-2403 Fax:	bcoleman@ccboe.org



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A Citizen Input on Hazard Mitigation Planning Form was available at all HMPC meetings for use by HMPC members to provide to citizens and for citizens in attendance to complete. Twelve forms were submitted during this planning update period. Comments and information gathered from the Citizen Input forms were considered when choosing and prioritizing mitigation action items, as well as in future planning. The consolidation of these forms is below:

**CITIZEN INPUT ON HAZARD MITIGATION PLANNING
(12 forms submitted)**

Where in the county do you live (Which city or township?)	Breman; Phelan; Cullman; New Canaan; Dodge City
What is your zip code at home?	35033; 35077; 35055; 35016
Do you work with Law Enforcement, Fire Service, Emergency Medical Services, Public Health, or Emergency Management? (Yes or No)	4 out of 12

Which of these emergency events have occurred at your home or in your neighborhood during the past ten years?

	EVENT	YES	NO
A	Brush or grass fire?	2	10
B	Building fire?	4	8
C	Severe thunderstorm?	12	0
D	Tornado?	12	0
E	Winter Weather?	12	0
F	Terrorism?	0	12
G	Drought?	6	6
H	Hazardous material spill or release from pipelines, trucks, trains, or aircraft?	2	10
I	Hazardous material spill or release from a facility?	0	12
J	Power failure for more than two or three hours?	12	0
K	Earthquake	0	12

Did you have to leave your home because of any of these events?

If so, which ones? List by letter designation: J

Did you lose time from work or school because of any of these events?

If so, which ones? List by letter designation: D, E, J

Which of the following events are you concerned about in the next 12 months?

	EVENT	YES	NO
A	Brush or grass fire?	2	10
B	Building fire?	2	10
C	Severe thunderstorm?	10	2
D	Tornado?	12	0
E	Winter Weather?	10	2
F	Terrorism?	0	12
G	Drought?	2	10
H	Hazardous material spill or release from pipelines, trucks, trains, or aircraft?	4	8
I	Hazardous material spill or release from a facility?	0	12
J	Power failure for more than two or three hours?	8	4
K	Earthquake	0	12

Of the concerns listed in question eight, please list the ones that you think are most likely to happen. List in priority by letter designation: C, D, E, G

Of the concerns that you think are most likely to happen from question 9, which one do you think would affect most of the population of your County? D, E, C

Of the concerns listed in question eight, please list the ones you think are least likely to happen. List by letter designation: E, F, K, H

Do you own a NOAA weather radio? YES 8 NO 4

If yes, is it on right now? YES 6 NO 4

Are you familiar with the Emergency Alert System YES 10 NO 2

Do you have a device that can sound an alarm to alert you to emergencies? YES 8 NO 1

Can you receive emergency warning information on your pager, cell phone, or wireless messaging devices? YES 10 NO 2 If no, would you like to? YES 0 NO 0

Do you have a family emergency plan for events such as a home fire? YES 12 NO 14

Do you have a safe place for shelter in or around your home? YES 10 NO 2

Are there emergency plans at your place of employment? YES 8 NO 4

If you are willing to, please provide your name, address, and a telephone number so that the County Emergency Management or the community representative may contact you if further input is needed:

Name	
Mailing Address	
Contact Number	
E-Mail	

Questions?

Continued Public Participation

After the initial plan was completed in 2005, it was made available for ongoing public view and comment at the Cullman County EMA. Additional opportunities for comment were provided at meetings (HMPC; LEPC; others) held by the Cullman County EMA each year.

In the future, the County EMA will strive to gain more public participation in the maintenance and updates of the county's hazard mitigation plan by encouraging Parent Teacher Organizations, Senior Citizens Clubs, Chamber of Commerce, Kiwanis Club, etc. by mail, telephone, and personal contacts. In addition, the County EMA will encourage the county and municipalities with websites to place the 2015 plan on their site and offer the public a place to comment on the plan. Jurisdictions having websites are: Cullman County EMA – www.cullmanema.org; Cullman County - www.co.cullman.al.us; Baileyton - www.co.cullman.al.us/municipalities/baileyton.html; Colony - www.co.cullman.al.us/municipalities/colony.html; Cullman- www.cullmancity.org; Dodge City - www.dodgecitytown.com; Fairview - www.co.cullman.al.us/municipalities/fairview.html; Garden City - www.co.cullman.al.us/municipalities/gardencity.html; Good Hope – www.goodhopeal.com; Hanceville – www.cityofhanceville.net; Holly Pond – www.townofhollypond.com; Vinemont - www.co.cullman.al.us/municipalities/vinemont.html; West Point - www.co.cullman.al.us/municipalities/westpoint.html; Cullman County BOE –

www.ccboe.org; and the Cullman City Schools – www.cullmancats.net. The Hanceville Water and Sewer Board do not have a website.

Interagency and Intergovernmental Coordination

Interagency and intergovernmental coordination also played a vital part in the update of this plan. Each of the agencies listed below were contacted via mail, email, fax, or telephone requesting the best available data that they could contribute to the 2015 plan update. All information provided was beneficial in completing risk and vulnerability assessments.

Federal Agencies

- National Weather Service provided storm event data
- United States Geological Survey provided information on general geology, earthquakes, sinkholes, land subsidence, and landslides
- U.S. Army Corp of Engineers and HAZUS-MH 2.1 provided information on dams
- Federal Emergency Management Agency provided information throughout the plan, including the National Flood Insurance Program information
- U.S. Department of Transportation's Hazardous Material Information System provided event data
- U.S. Census – provided population and demographic information
- U.S. Department of Agriculture – Census of Agriculture provided land value per acre
- HAZUS-MH 2.1 (2011) provided critical facility information, dam information, estimation information on potential damage, economic loss, and social impacts from natural disasters, etc.

State Agencies

- Alabama Emergency Management Agency provided hazard information throughout the plan
- Geological Survey of Alabama provided information on general geology, earthquakes, sinkholes, and landslides
- Alabama Department of Economic and Community Affairs provided the “Alabama Drought Management Plan,” National Flood Insurance Program information and FEMA

flood map update information

- Forestry Commission provided information regarding wildfires

Regional Agencies

- North Central Alabama Regional Council of Governments provided area planning and development and transportation planning information, as well as maps pertaining to plan information

Local Agencies

- Cullman County Emergency Management Agency provided assistance in gathering data

Academia

- University of Alabama - Department of Geology

Miscellaneous

- Easidemographics.com – provided population and demographic information
- USA.com – provided population and demographic information

Integration with Existing Plans

Careful attention was taken when updating the plan so that it would not contradict or conflict with any existing local subdivision regulations, zoning ordinances, comprehensive plans, or standard building codes. Integration with existing plans of the local EMA and regional planning commission was taken. **Table 2-1** provides a list of the existing plans by jurisdiction.

Plan Adoption

All jurisdictions in Cullman County, along with the Cullman County Board of Education and Cullman City Schools, actively participated in the planning process. Representatives from each local government attended the HMPC meetings or by other means listed previously in this plan, provided information vital to the update of this plan. Upon completion of the plan each of the eleven municipalities (Baileyton, Colony, Cullman, Dodge City, Fairview, Garden City, Good Hope, Hanceville, Holly Pond, South Vinemont, and West Point) along with the Cullman County Commission, Cullman City Schools, Cullman County BOE, Dodge City VFD, Hanceville Water and Sewer, VAW Water System, and East Cullman Water System passed a formal resolution adopting the plan. By adopting this multi-jurisdictional hazard mitigation plan

the listed participants will be eligible applicants for mitigation grant funds through the Pre-Disaster Mitigation Program, Hazard Mitigation Grant Program, and Flood Mitigation Assistance Program. Adopting Resolutions can be found in **Section 8**.

Table 2-1 indicates existing plans by jurisdictions. Abilities to expand on and improve these existing policies and programs include cross referencing of all current plans and identification of potential mitigation projects that will involve more specific opportunities to reduce the effects of future disasters. This includes probable tax increase considerations and coordinated review of each jurisdiction's budgets.

**Table 2-1: Cullman County
Existing Plans by Jurisdiction**

PLAN/ POLICY	Baileyton	Colony	Cullman	Dodge City	Fairview	Garden City	Good Hope	Hanceville	Holly Pond	South Vinemont	West Point	Unincorporated County
Comprehensive Plan	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Subdivision Regulations	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Growth Management Plan	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Capital Improvement Plan	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Zoning Ordinance	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Building Code	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Floodplain Management Plan	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Elevation Certificates	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Drainage Ordinance	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Emergency Management Plan	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Critical Facilities Map	N	N	N	N	N	N	N	N	N	N	N	Y
Existing Land Use Map	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
State Plan	N	N	N	N	N	N	N	N	N	N	N	Y
Hazard Mitigation	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Strategic National Stockpile Plan	N	N	N	N	N	N	N	N	N	N	N	Y
<i>Other</i>	N	N	N	N	Disaster Recovery Initiative	N	School Traffic Flow Map	N	N	Sports Complex Way-finding Map	N	Debris Plan

Source: Participating Jurisdictions, 2014

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SECTION 3: GENERAL CHARACTERISTICS

Growth Trends

Growth trends for Cullman County has remained the same as stated in the 2010 plan revision; therefore, this section has not changed. This section was reviewed by the HMPC and according to the 2010 Census, there was a 3.77% population growth since the year 2000; therefore, no changes in this section are needed.

Development trends, particularly population shifts and land use changes created by major economic development expansions and infrastructure improvements of countywide significance, are important considerations to effective mitigation planning. These trends must be continually monitored and analyzed to keep abreast of changing vulnerabilities of jurisdictions and the increasing exposure of growing populations, new buildings, and enlarged infrastructure to natural hazards. As growth and development patterns change over time, the risks to property damage and lives also change. This section examines the projected growth trends and other impacts of countywide significance that are expected to affect the location and extent of natural hazards vulnerability over time.

Cullman County is mostly a rural county. The county government relies on the North-Central Alabama Regional Council of Governments (NARCOG) for assistance in land use development. The following is acreage usage in order of most use to least use in Cullman County: Forest, Agriculture, Transportation, Residential, Public, Industrial, and Commercial.

Open and minimally encumbered land exists which must be capitalized on. Abundant electric power and natural gas embrace the area. Existing and planned City and County water and wastewater systems serve extensively as the foundation for extension and interconnection to accommodate development. A population shift is occurring. The tourism industry in Cullman County offers historic attractions which can be cumulatively leveraged as a destination attraction.

Industry offers extensive employment with good paying jobs and is a major driver in support and growth of retail development. Retail development is typically community oriented whereas major industrial development is best maximized through regional county teamwork. Cullman is visibly on the move. Success stories are numerous. Cullman's Industrial Park is a

model example of what can be accomplished through leadership, vision and teamwork. Teamwork and unity through coalition of governing bodies presents a compelling case for federal and state financial support and sends a reverberating message throughout industry.

Land area is still predominantly undeveloped. Most of Cullman County is drained by the Black Warrior River. In southwestern Cullman County, a 21,000 acre man-made lake (Smith Lake) is now a predominant natural feature. Also, in Cullman County, most of the eastern boundary is formed by the Mulberry Fork of the Warrior River.

The topography varies from a fertile river valley to gently rolling pasture and timberlands, to hilly and mountainous. Elevations range from 556 feet above sea level at the Tennessee River to 300 feet above sea level in southern Cullman County. Future developments in areas characterized by slopes, ranging from 15 percent to 45 percent will be significantly limited as the result of difficulties with drainage, erosion, access, increased cost of development, and safety hazards. Lands with slopes ranging from two percent to six percent are generally well suited for residential, industrial, and commercial development. Lands within the 6 percent to 15 percent slope range have moderate site development problems with regard to drainage and road alignment. Erosion potential is defined as land, which has a slope of six percent or more and is covered by forest or woodlands. Two classes of erosion potential are given ---moderate and severe. Clear cutting of timber should be prohibited on lands rated as having severe erosion potential. Cutting of timber on lands rated as having moderate erosion potential should be limited and exercised with planned thoughtfulness.

The extent and nature of Cullman County's natural resources provide the basis for the development capacity as the county progresses and develops. Cullman County is beginning to use its natural resources to develop an industrial base and provide jobs for the future. Forests are valuable resources that provide wildlife habitats, recreation and outdoor opportunities and raw materials for industry. The natural vegetation throughout the county is predominantly deciduous/hardwood, to include one or more species of pine, oak, hickory, and other types. Forest lands exercise a balancing effect on water resources by diminishing erosion, sedimentation, and flooding. The scenic value of woodlands is apparent. In addition, they provide a habitat for wild game and high recreational potential.

The county has a wide variety of mineral deposits with considerable potential. These

are limestone, clay, sandstone, sand, and gravel. Potential uses for this clay material are brick, tile, and pottery. Sandstone is abundant over the entire County of Cullman. The potential uses for this stone are abrasive, silica brick, and lightweight concrete block. Limestone is found in a strip along the Mulberry River on the southern border of Cullman County. It has potential for agricultural lime and mixing stone for steel production. Sand and gravel is very abundant in the county. Sand and gravel has an excellent commercial value. Coal is found in the southwest portion of Cullman County. The coal mined in this area is used primarily for industrial use. The major soil group is called the Appalachian Plateau. All of Cullman County is situated in the Appalachian Plateau.

Extreme northern Cullman County drains north into the Tennessee River. The remainder of Cullman County drains south into the Sipsey and Mulberry Forks of the Black Warrior River.

The Region's major roads and highways are adequate for current transportation needs. Throughout the system, however, there are numerous segments where improvements in alignment and road surfaces are needed. Also, many of the bridges serving the major roads are too narrow for acceptable safety standards. As the county grows and experiences further development, new routes and improvements to existing highways will be needed. Rail Service is provided to the Region by Norfolk Southern Railway (east/west) and CSX Transportation (north/south). Air transportation is provided to Cullman County by the Huntsville International Airport. This facility is the newest, most modern and largest of its type in the State of Alabama. Additionally, Folsom Field in Cullman is a smaller non-commercial airport. Cullman County is served by carrier companies, motor freight terminal, UPS, Federal Express and Airborne Express. At present, two major bus lines serve the North Central Alabama Region. Greyhound provides commercial bus service to the North and South, with six northbound and seven southbound buses traversing the Region daily, and Continental Trailways buses make two eastbound and three westbound runs daily.

Water and sewer service has been a major funding priority for projects. Potable water may be the most basic of all infrastructures and good water and sewer systems is imperative for economic growth and industrial development. Presently, only Cullman, Hanceville, and Dodge City offer public sanitary sewage within the county. On-site sewage disposal systems present a

variety of problems and should be considered only a tolerable minimum at best. Due to physiographical limitations throughout much of the county, there is a danger of ground water contamination and stream pollution, even when on-site systems appear to be functioning properly.

The source of electric power is from the Tennessee Valley Authority. The power is distributed through several local Electric Departments, and power companies operating within the county's rural areas. Natural gas is furnished by Cullman-Jefferson Counties Gas District, Northwest Alabama Gas District, and Wheeler Basin Natural Gas. In addition to the above-mentioned systems several L.P. gas companies operate within the county, supplying areas not reached by natural gas. Solid waste service is provided by both local municipal collection and private collectors.

The NARCOG Region has some 26 industrial parks. The total available acreage is approximately 1,937 acres in Cullman County. Cullman County is part of a multi-level network of economic markets, ranging from small local markets, through regional markets to World Export Trade. Natural resources, geographic advantages, and the location of port facilities, banking and trade facilities have thus far provided necessary basis for economic growth and development. The new and expanded industrial development provides new opportunities for employment, potential market development services, manufacturing and supply within the county.

Key to the information below provided by the North-Central Alabama Regional Council of Governments – 2007 CEDS:

Strengths – Anything that allows or encourages the economic development potential of the region.

Weakness – Anything that restricts or limits the economic development potential of the region.

Opportunity – A possibility due to a favorable combination of circumstances within the region.

Threat– Any circumstance or event with the potential to adversely impact the economic development potential of the region.

Transportation

Strengths

- A multi-modal transportation network, which is adequate to support industrial and commercial growth.
- An East-West rail network (Norfolk Southern), which is adequate to support industrial growth and expansion.
- Access to Interstate 65 and major 4 lane highways.
- Adequate Bridges

Weaknesses

- Lack of funding to address problems in a timely manner.
- Substandard bridges in rural area.
- Lack of funding to replace substandard bridges.
- An inadequate statewide rail network to support industrial growth and expansion, particularly north-south (CSX).
- Concern that the railroad's current level of service may diminish for Cullman.
- Railway transportation system underutilized.

Opportunities

- Expand capacity of the Railway system.
- Widen Interstate 65 to six-lanes from Cullman/Jefferson County line to Tennessee

Natural Gas

Strength

- Availability of natural gas, primarily in incorporated areas, for economic development.

Weaknesses

- Lack of natural gas in rural areas.

Water

Strengths

- Most of the region has adequate water supply and storage capacity.

- Water supply is adequate to support industrial development.

Weaknesses

- Rural areas need water line upgrade to larger line size.
- Rural areas need more fire hydrants.
- Lack of water in un-served areas of the region.
- Additional water sources for future use.

Sewer

Strengths

- Wastewater sewers are primarily available in cities and towns.
- Wastewater treatment facility at Mallard Fox West Industrial Park (working on EPA stag grant for rest of project w/County Commission)

Weaknesses

- The lack of wastewater treatment facilities in the rural portions of the region.

Economic Development

Strengths

- Excellent location for markets and suppliers.
- Excellent workforce with a good work ethic, which is trainable and available.
- Access to additional untrained entry-level workforce.
- Excellent workforce development training available for new manufacturing facilities.
- Good prevailing wages.
- Access to high-tech workers from adjacent areas.
- Development of industrial park sites.
- A growing local governmental interest and participation in economic development on a region wide basis.
- A strong industrial base in Cullman.

Weaknesses

- Inadequate speculative buildings to attract a diversity of industries.
- Lack of a local program to provide small businesses with export assistance.
- Lack of a program to bring small rural areas up to prepared cities status.
- Lack of small business incubators throughout region.

Tourism, Leisure, Culture & Recreation

Strengths

- An abundance of recreation opportunities available.
- Excellent, tourism, museums, and cultural attraction.
- Good parks and recreation departments.
- Economic benefits of recreation.

Weaknesses

- Need for additional recreation facilities for rural portions of the county.
- Funding for recreation projects.
- More organized recreation and tourism on the river.
- Lack of funding for museums, cultural centers and activities.
- Lack of the development of a Regional Recreation Plan.

Education & Workforce

Strengths

- A strong, educated, and trainable workforce.
- Good work ethic.
- Proximity to educational institutions.
- Cullman Area Workforce Solutions (CAWS).
- Education outreach programs and night class offerings.
- Availability of skill training opportunities.
- Excellent training available for new manufacturing.

- Access to high-tech workers.
- Increasing education attainment levels.
- Good access to additional labor supply of untrained and entry-level workers.
- Strong collaboration between high schools, community colleges and universities to meet workforce needs.
- Strong emphasis on workforce development in the community colleges.

Weaknesses

- The out migration of educated young adults.
- Lack of comprehensive training in many rural high schools.
- The rural high school graduation rate should be increased.
- Lack of parent and student understanding of career opportunities in advanced manufacturing.

Quality of Life

Strengths

- Excellent health facilities are available.
- Low crime rate.
- Excellent rural and urban fire protection.
- High quality of life in Cullman.

Weaknesses

- Lack of coordination between agencies.

Environmental & Natural Resources

Strengths

- The county is distinguished with its abundant amount of prime farmland, forest and others outside opportunities.
- The aesthetics, for example the rolling topography, enhances the quality of life by leading to region-wide pride in cultural traditions.

- An adequate supply of energy is available.
- An adequate supply of water.
- Adequate supply of timber, minerals, sand, gravel, and other resources to support expansion of industry.

Weaknesses

- The sensitivity of the Tennessee River and its special considerations.
- Illegal dumping and groundwater pollution.
- Lack of programs to help prevent conversion of prime farmland to non-agricultural uses.
- The lack of proper land use management.
- The competition for use of forestland by agricultural and urban development.
- Lack of zoning in rural areas of the county.

Government & Finance

Strengths

- Citizens' desire for good and effective government.
- Commitment to work with existing structure of local governments.

Weaknesses

- Lack of communication between the county and its municipalities.
- Lack of effective and well-defined and measurable goals.
- Turf wars and concerns only with the local area without any regard for more general or wider issues.
- Citizen's not willing to pay more for services.

Opportunities

- Maximize tourism potential through a comprehensive plan of advertising and joint cooperation of local governments.
- Growth in tourism at lakes, especially Smith Lake.
- Countywide Land Use Planning.
- Conference/Civic Facilities.

- Hotel at Smith Lake.
- Legalize sale of alcoholic beverages.
- Enhance Existing Recreation Facilities to attract new industry.
- Upgrade water lines and systems in rural areas.
- Agriculture Center/Museum.
- Cleanup illegal dumps.
- Litter control.
- Construction of Speculative Buildings.
- Increase recreational opportunities for youths.
- Develop and/or identify more grant programs (funding) for existing industries (retention).
- Establish a Scenic Byway on US 31 (exit 287) in Blount and Cullman County (Blount Springs/Blue Hole Community, Shrine, Rickwood Caverns, Old Drennan House, Bangor Caves, Top Hat BBQ Sulfur Springs, and Garden City to Blountsville).
- Develop stronger relationships with local representatives for funding local projects.
- Expand existing tech-prep programs in schools/colleges.
- Create a partnership between education and industry.
- Develop a unified legislative agenda.
- Plan a Comprehensive Tour of the Region as a tourist/visitor attraction
- Economic Region 76- “Dream It. Do It” Campaign VIA-WIRED

Threats

- Maintaining existing industrial base.
- Lack of rural planning.
- Limited rural wastewater systems.
- Sale of alcoholic beverages prohibited.
- Complacency in current educational systems.
- Lack of infrastructure, water upgrade in rural areas.
- Failure to upgrade and repair roads and bridges.
- Inadequate rural fire protection.
- Lack of Cooperation and Teamwork.

- Pollution (agriculture and industrial).
- Illegal dumps and litter.
- Lack of Hotel at Smith Lake.
- Inability to support expanding automotive and aerospace industries and the emerging biotechnology industry with an available skilled workforce.

This plan fully recognizes that changes in development for jurisdictions in hazard prone areas are on-going issues that must be constantly monitored and addressed in the local planning process. Changing development trends and the on-going growth and shift of population can increase levels of vulnerability. The potential impacts of these changes can have adverse impacts, such as those noted here:

- Increasing demands for developable land area to accommodate new growth can push new development to previously undeveloped flood plains.
- New development and associated parking, roads, and other impermeable surfaces can increase urban runoff, exacerbating flooding hazards.
- New construction in previously rural areas can push the wildland-urban interface, increasing exposure to wildfires.
- New housing may be constructed inadequately to withstand the damaging wind threats of high winds and tornadoes.
- Increased population can stretch the demand for limited water resources in times of drought.
- More development in widespread areas subject to sinkholes can increase the probability of property and infrastructure damages.

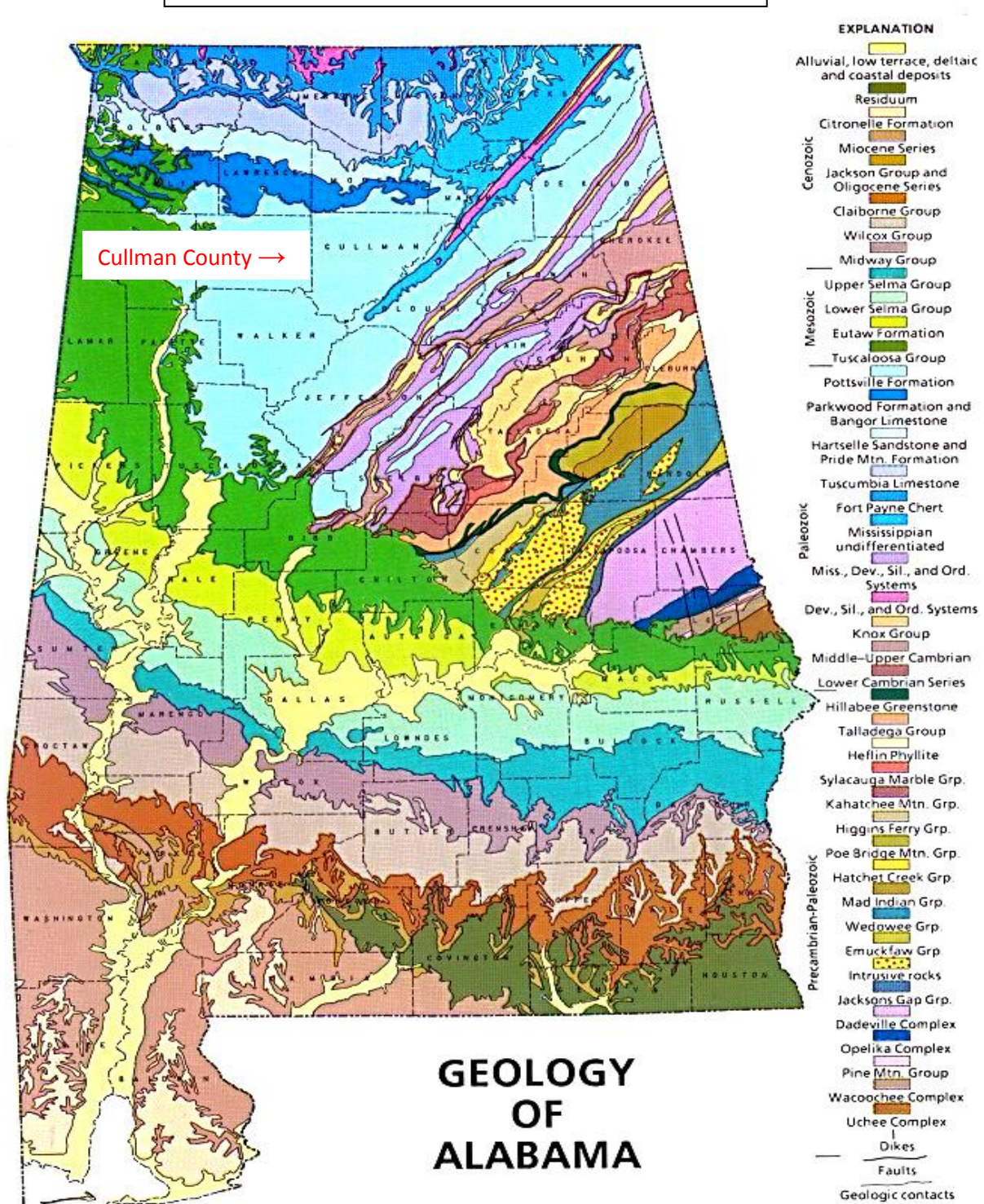
General Geology

(Source: U. S. Department of the Interior/U. S. Geological Survey)

The geologic unit in Cullman County is the Pottsville Formation (upper part) – interbedded dark-gray shale, siltstone, medium-gray sandstone, and coal in cyclic sequences. In descending order the members include: Razburg, Sandstone Member, Camp Branch Sandstone Member, Lick Creek Sandstone Member, and the Bremen Sandstone Member. The primary rock

type is shale – a laminate, indurated rock having more than 67% clay-sized minerals. The secondary rock type is siltstone – an indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt-sized particles predominate over clay-sized particles. Other rock types are sandstone – a medium grained clastic sedimentary rock composed of abundant sand-sized fragments, which may have a finer-grained matrix (silt or clay), and which is more or less indurated by a cementing material; and, coal – a readily combustible rock containing more than 50% by weight and more than 70% by volume carbonaceous material, formed by compaction and induration of variously altered plant remains.

Figure 3-1: Geology of Alabama
 (Source: University of AL – Geology Department)



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SECTION 4: RISK AND VULNERABILITY ASSESSMENT

Risk Assessment

The risk assessment process is necessary to identify those natural hazards that pose a threat to Cullman County, its municipal jurisdictions, the Cullman City Schools, and the Cullman County BOE. This process used information provided by members of the Cullman County Hazard Mitigation Planning Committee to identify these hazards.

Table 4-1 summarizes the county's Hazard Probability Assessment. A zero denotes no data is available to determine the probability or affected area. Each jurisdiction has an individual hazard probability assessment shown in **Section 6** of the plan.

Table 4-2 shows the hazards that pose a threat to each jurisdiction. Each jurisdiction was responsible for identifying the hazards that pose a threat to their community.

Table 4-3 provides the prioritized occurrence threat by jurisdiction based on past events. Occurrence prioritizations were based on the National Oceanic and Atmospheric Administration (NOAA)-National Climatic Data Center (NCDC) reports of occurrences. Hazards are prioritized highest to least threat designating the hazard with the highest threat of occurrence as number one.

Table 4-4 through Table 4-16 is the cornerstone for the hazard profiles that follow in this section. This table contains data from the NOAA NCDC for a defined ten-year study period of January 1, 2003 – December 31, 2013. The table shows events for all hazard types and provides the location, date, type, magnitude, deaths and injuries, dollar amounts for property and crop damages, and total damages.

As FEMA guidelines request that detailed event data be provided, the Hazard Mitigation Committee agreed upon the new ten-year study period as a means of establishing a corrected historical reference that utilized verifiable sources. The award for this grant was made in 2013; therefore, the study period of 2003 – 2013 was chosen for this plan's update.

Event locations in the table labeled as "countywide" refer to an event that affected the entire county, including all municipalities within. If there is an associated amount of damages, they are assumed to be countywide. Countywide events are also listed in each municipality's

event table in the individual Jurisdiction Assessment located in **Section 6**. There are events labeled for specific unincorporated areas of the county that were identified as affected. Such events will not be repeated in the individual jurisdiction tables since the location was site specific and did not affect an incorporated jurisdiction.

Some events provided by the NOAA/NCDC are reported as statewide occurrences. Hurricanes, droughts, and winter storms often have this type of far-reaching impact. In cases such as this, the event is shown as a countywide event that affected all municipalities. The county's extent and probability of a hazard will be listed under each event description.

The extent of the hazard provides the range of magnitude or severity that could be experienced by the county if such an event occurred. The hazard is classified using terms of major, minor, and minimum based on the probability of future damage estimates providing information on the range of magnitude or severity the county can anticipate from potential hazardous events. A major ranking requires continuous action and participation from the entire community and has a 100% or greater chance of an annual occurrence. A minor ranking involves fewer people, effort, and area of community and has a 50% - 99% chance of an annual occurrence. A minimum ranking involves a small number of people and plans for a specific action and has a 49% or less chance of an annual occurrence. In addition to extent rankings and whenever possible, the worst case scenarios of hazard events are provided as documentation of the extent the particular hazard has on Cullman County.

Probability is the likelihood that events of particular severities will occur. The ability of scientists and engineers to calculate probability varies considerably depending on the hazard in question. In many areas, flood studies of various kinds can provide reasonably accurate estimates of how often water will reach particular places and elevations. On the other hand, tornadoes and earthquakes are nearly impossible to predict, except in the most general sense. The probability (frequency) of the various hazards is drawn from a combination of sources, expertise, and the NCDC Storm Event Database for Alabama.

For the 2015 plan update, the probability (%) that an identified hazard will occur on an annual basis was determined using the following formula:

Number of historical or reported events in a time period divided by the number of years the incidents occurred within = Probability of Future Annual Event Occurrences

Example: 13 Extreme Temperature events experienced divided by a 6 year period; $13 \div 6 = >100\%$

A similar formula was used to determine an estimate of the expected damages from each event:

Total amount of damages (in dollars) for each historical or reported event divided by the number of damage causing events within the time period = Estimate of expected future damages

Example: \$172,000 total reported hail damage from 2003-2013 with 21 of those being reported as damage causing; $\$172,000/21=\$8,190$

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**Table 4-1: Cullman County
Hazard Probability of Future Occurrence**

Natural Hazards	Number of Occurrences Between 2003-2013	Probability of Future Occurrence	Area Affected
Thunderstorm	178	>100%	Countywide
Lightning	10	100%	Countywide
Hail	99	>100%	Countywide
Tornado	26	>100%	Countywide
Flood/Flash Flood	51	>100%	Countywide
Droughts/Extreme Heat	23	>100%	Countywide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	28	>100%	Countywide
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	8	80%	Countywide
Sinkhole/Expansive Soil	0	0%	Countywide
Landslide	1	10%	Countywide
Earthquake	0	0%	Countywide
Wildfire (3 year study period – 2010-2013)	82	>100%	Countywide
Dam/Levee Failure	0	0%	
<i>Sources: NOAA NCDC Storm Events Database; Alabama Forestry Commission; Alabama Geological Survey; 2015</i>			
Methodology: Probability of Future Occurrences was expressed by dividing the total number of occurrences by the ten-year study period, with the exception of wildfire being a 3-year study period. Zero denotes no data available to determine the probability of future occurrence or areas affected.			

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**Table 4-2: Cullman County
Hazard Identification by Jurisdiction**

Natural Hazards	Baileyton	Colony	Cullman	Dodge City	Fairview	Garden City	Good Hope	Hanceville	Holly Pond	South Vinemont	West Point	Un- incorporated County
Thunderstorm	X	X	X	X	X	X	X	X	X	X	X	X
Lightning	X	X	X	X	X	X	X	X	X	X	X	X
Hail	X	X	X	X	X	X	X	X	X	X	X	X
Tornado	X	X	X	X	X	X	X	X	X	X	X	X
Flood/Flash Flood	X	X	X	X	X	X	X	X	X	X	X	X
Drought/Extreme Heat	X	X	X	X	X	X	X	X	X	X	X	X
Winter Storm/Frost Freeze/Heavy Snow/ Ice Storm/Winter Weather/Extreme Cold	X	X	X	X	X	X	X	X	X	X	X	X
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	X	X	X	X	X	X	X	X	X	X	X	X
Sinkhole/Expansive Soil	X	X	X	X	X	X	X	X	X	X	X	X
Landslide	X	X	X	X	X	X	X	X	X	X	X	X
Earthquake	X	X	X	X	X	X	X	X	X	X	X	X
Wildfire	X	X	X	X	X	X	X	X	X	X	X	X
Dam/Levee Failure	X	X	X	X	X	X	X	X	X	X	X	X

Source: Participating Jurisdictions; 2014

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**Table 4-3: Cullman County
Prioritized Occurrence Threat by Jurisdiction Based on Past Events**

Natural Hazards	Baileyton	Colony	Cullman	Dodge City	Fairview	Garden City	Good Hope	Hanceville	Holly Pond	South Vinemont	West Point	Cullman County
Thunderstorm	3	4	2	4	3	3	3	2	2	3	3	1
Lightning	8	8	9	8	8	8	9	9	4	8	9	8
Hail	5	6	5	6	5	7	6	5	4	4	5	2
Tornado	7	7	8	7	7	6	8	7	6	6	8	6
Flood/Flash Flood	7	7	6	7	7	7	7	8	7	7	7	4
Drought/Extreme Heat	4	3	4	3	4	4	4	4	3	3	4	7
Winter Storm/Frost Freeze/ Heavy Snow/ Ice Storm/ Winter Weather/Extreme Cold	2	2	3	2	2	2	2	3	2	2	2	5
Hurricane/Tropical Storm/ Tropical Depression/High Wind/Strong Wind	6	5	7	5	6	5	5	6	5	5	6	9
Sinkhole/Expansive Soil	9	9	11	9	9	9	10	10	8	9	10	11
Landslide	9	9	10	9	9	9	10	10	8	9	10	10
Earthquake	9	9	11	9	9	9	10	10	8	9	10	11
Wildfire	1	1	1	1	1	1	1	1	1	1	1	3
Dam/Levee Failure	9	9	11	9	9	9	10	10	8	9	10	11

Sources: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey; 2014

Hazards are prioritized with the highest threat of occurrence assigned number one based on hazardous events that have occurred within each jurisdiction over the past ten years, with the exception of wildfires that were based on events that have occurred over the past three years. Some natural hazards have equal threats to a jurisdiction; therefore, their threat number will be the same.

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2003-2013 CULLMAN COUNTY HAZARD EVENT OCCURRENCES

Table 4-4: Thunderstorm Events

178 Thunderstorm Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database; Accessed 2015)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
VINEMONT	CULLMAN CO.	AL	05/05/2003	12:15	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	05/05/2003	12:42	CST	Thunderstorm Wind	50 kts. ES	0	0	2.00K	0.00K
COUNTYWIDE	CULLMAN CO.	AL	06/11/2003	14:00	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
CRANE HILL	CULLMAN CO.	AL	11/18/2003	12:42	CST	Thunderstorm Wind	60 kts. ES	0	0	10.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	02/05/2004	19:35	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	07/04/2004	16:30	CST	Thunderstorm Wind	50 kts. ES	0	0	0.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	12/07/2004	05:55	CST	Thunderstorm Wind	60 kts. ES	0	0	5.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	12/09/2004	07:50	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	01/13/2005	10:00	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
BREMEN	CULLMAN CO.	AL	04/30/2005	02:30	CST	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	04/30/2005	02:40	CST	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	05/19/2005	17:45	CST	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
BREMEN	CULLMAN	AL	05/20/2005	13:15	CST	Thunderstorm	50 kts.	0	0	0.00K	0.00K

	CO.					Wind	EG				
JOPPA	CULLMAN CO.	AL	06/20/2005	18:38	CST	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	06/27/2005	15:30	CST	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	06/27/2005	15:30	CST	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	08/06/2005	00:10	CST	Thunderstorm Wind	50 kts. EG	0	0	50.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	08/21/2005	15:30	CST	Thunderstorm Wind	55 kts. EG	0	0	40.00K	0.00K
BREMEN	CULLMAN CO.	AL	08/22/2005	12:30	CST	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	08/22/2005	12:50	CST	Thunderstorm Wind	50 kts. EG	0	0	25.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	11/15/2005	21:20	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	11/28/2005	13:54	CST	Thunderstorm Wind	70 kts. ES	0	0	0.00K	0.00K
BERLIN	CULLMAN CO.	AL	11/28/2005	14:09	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	03/09/2006	17:00	CST	Thunderstorm Wind	70 kts. EG	0	0	0.50K	0.00K
ARKADELPHIA	CULLMAN CO.	AL	03/13/2006	18:15	CST	Thunderstorm Wind	60 kts. EG	0	0	0.00K	0.00K
BAILEYTON	CULLMAN CO.	AL	06/01/2006	16:40	CST	Thunderstorm Wind	60 kts. EG	0	0	15.00K	0.00K
CULLMAN	CULLMAN CO.	AL	06/04/2006	16:03	CST	Thunderstorm Wind	50 kts. ES	0	0	0.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	07/19/2006	13:33	CST	Thunderstorm Wind	60 kts. EG	0	0	0.00K	0.00K

CULLMAN	CULLMAN CO.	AL	08/05/2006	17:30	CST	Thunderstorm Wind	70 kts. EG	0	0	200.00K	0.00K
BREMEN	CULLMAN CO.	AL	06/24/2007	15:50	CST-6	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
CORINTH	CULLMAN CO.	AL	06/28/2007	14:20	CST-6	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
JOPPA	CULLMAN CO.	AL	06/28/2007	15:20	CST-6	Thunderstorm Wind	65 kts. EG	0	0	10.00K	0.00K
VINEMONT	CULLMAN CO.	AL	06/30/2007	14:30	CST-6	Thunderstorm Wind	56 kts. EG	0	0	5.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	07/01/2007	13:30	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
BAILEYTON	CULLMAN CO.	AL	07/01/2007	13:32	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
BROOKLYN	CULLMAN CO.	AL	07/09/2007	14:15	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
COUNTY LINE	CULLMAN CO.	AL	08/10/2007	11:55	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	08/10/2007	12:20	CST-6	Thunderstorm Wind	52 kts. EG	0	0	20.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	08/17/2007	13:05	CST-6	Thunderstorm Wind	55 kts. EG	0	0	1.000M	0.00K
CULLMAN	CULLMAN CO.	AL	08/17/2007	16:14	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	08/17/2007	16:14	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
BAILEYTON	CULLMAN CO.	AL	08/17/2007	16:38	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	08/17/2007	17:01	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
GARDEN CITY	CULLMAN	AL	08/24/2007	13:05	CST-	Thunderstorm	50 kts.	0	0	1.000M	0.00K

	CO.				6	Wind	EG				
LORETTO	CULLMAN CO.	AL	01/10/2008	16:20	CST-6	Thunderstorm Wind	52 kts. EG	0	0	3.00K	0.00K
GOLD RIDGE	CULLMAN CO.	AL	03/15/2008	14:25	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/04/2008	10:13	CST-6	Thunderstorm Wind	96 kts. EG	0	1	0.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	04/11/2008	12:32	CST-6	Thunderstorm Wind	56 kts. EG	0	0	3.00K	0.00K
TRIMBLE	CULLMAN CO.	AL	04/11/2008	14:22	CST-6	Thunderstorm Wind	56 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:18	CST-6	Thunderstorm Wind	56 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Thunderstorm Wind	61 kts. EG	0	0	3.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	52 kts. EG	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	61 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:45	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:05	CST-6	Thunderstorm Wind	56 kts. EG	0	0	1.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:08	CST-6	Thunderstorm Wind	70 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:10	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
CULLMAN	CULLMAN CO.	AL	07/22/2008	12:50	CST-6	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K

JONES CHAPEL	CULLMAN CO.	AL	07/23/2008	14:30	CST-6	Thunderstorm Wind	56 kts. EG	0	0	4.00K	0.00K
WILBURN	CULLMAN CO.	AL	07/25/2008	19:45	CST-6	Thunderstorm Wind	52 kts. EG	0	0	3.00K	0.00K
COUNTY LINE	CULLMAN CO.	AL	07/31/2008	14:55	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
CENTERVILLE	CULLMAN CO.	AL	12/10/2008	00:31	CST-6	Thunderstorm Wind	56 kts. EG	0	0	1.00K	0.00K
BETHEL	CULLMAN CO.	AL	12/10/2008	00:35	CST-6	Thunderstorm Wind	56 kts. EG	0	0	1.00K	0.00K
COLD SPGS	CULLMAN CO.	AL	12/10/2008	00:38	CST-6	Thunderstorm Wind	56 kts. EG	0	0	1.00K	0.00K
BREMEN	CULLMAN CO.	AL	12/10/2008	00:40	CST-6	Thunderstorm Wind	52 kts. EG	0	0	1.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	12/10/2008	00:43	CST-6	Thunderstorm Wind	52 kts. EG	0	0	1.00K	0.00K
CORINTH	CULLMAN CO.	AL	04/02/2009	19:55	CST-6	Thunderstorm Wind	61 kts. EG	0	2	0.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	04/10/2009	13:53	CST-6	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K
TRIMBLE	CULLMAN CO.	AL	04/10/2009	14:38	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	05/01/2009	20:55	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
WILBURN	CULLMAN CO.	AL	05/06/2009	08:25	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
WELTI	CULLMAN CO.	AL	06/02/2009	17:13	CST-6	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	06/12/2009	18:31	CST-6	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K
BREMEN	CULLMAN	AL	06/12/2009	19:35	CST-	Thunderstorm	52 kts.	0	0	2.00K	0.00K

	CO.				6	Wind	EG				
LOGAN	CULLMAN CO.	AL	06/14/2009	10:02	CST-6	Thunderstorm Wind	47 kts. MG	0	0	3.00K	0.00K
WEST PT	CULLMAN CO.	AL	06/14/2009	10:02	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
VINEMONT	CULLMAN CO.	AL	06/14/2009	10:04	CST-6	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	06/14/2009	10:05	CST-6	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
COLD SPGS	CULLMAN CO.	AL	06/14/2009	10:06	CST-6	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K
CENTERVILLE	CULLMAN CO.	AL	06/14/2009	10:06	CST-6	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K
MT VIEW	CULLMAN CO.	AL	06/14/2009	10:20	CST-6	Thunderstorm Wind	61 kts. EG	0	0	30.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	06/15/2009	19:15	CST-6	Thunderstorm Wind	56 kts. EG	0	0	14.00K	0.00K
BAILEYTON	CULLMAN CO.	AL	06/15/2009	19:25	CST-6	Thunderstorm Wind	56 kts. EG	0	0	14.00K	0.00K
JEPPA	CULLMAN CO.	AL	06/15/2009	19:35	CST-6	Thunderstorm Wind	52 kts. EG	0	0	4.00K	0.00K
JOPPA	CULLMAN CO.	AL	06/15/2009	19:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
BREMEN	CULLMAN CO.	AL	06/28/2009	15:15	CST-6	Thunderstorm Wind	56 kts. EG	0	0	1.00K	0.00K
ARKADELPHIA	CULLMAN CO.	AL	07/30/2009	17:30	CST-6	Thunderstorm Wind	52 kts. EG	0	0	25.00K	0.00K
BETHEL	CULLMAN CO.	AL	10/09/2009	15:12	CST-6	Thunderstorm Wind	52 kts. EG	0	0	6.00K	0.00K
WHEAT	CULLMAN CO.	AL	12/08/2009	22:10	CST-6	Thunderstorm Wind	52 kts. EG	0	0	3.00K	0.00K

HOLLY POND	CULLMAN CO.	AL	12/08/2009	22:10	CST-6	Thunderstorm Wind	52 kts. EG	0	0	8.00K	0.00K
CRANE HILL	CULLMAN CO.	AL	12/08/2009	22:10	CST-6	Thunderstorm Wind	52 kts. EG	0	0	8.00K	0.00K
TRADE	CULLMAN CO.	AL	12/08/2009	22:10	CST-6	Thunderstorm Wind	52 kts. EG	0	0	8.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	12/08/2009	22:10	CST-6	Thunderstorm Wind	52 kts. EG	0	0	8.00K	0.00K
BOLTE	CULLMAN CO.	AL	12/08/2009	22:10	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
BREMEN	CULLMAN CO.	AL	12/08/2009	22:10	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
BREMEN	CULLMAN CO.	AL	12/08/2009	22:10	CST-6	Thunderstorm Wind	52 kts. EG	0	0	3.00K	0.00K
LORETTO	CULLMAN CO.	AL	12/08/2009	22:10	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CRANE HILL	CULLMAN CO.	AL	12/08/2009	22:10	CST-6	Thunderstorm Wind	52 kts. EG	0	0	3.00K	0.00K
BREMEN	CULLMAN CO.	AL	12/08/2009	22:10	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
BREMEN	CULLMAN CO.	AL	12/08/2009	22:10	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CRANE HILL	CULLMAN CO.	AL	12/08/2009	22:10	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	05/02/2010	09:53	CST-6	Thunderstorm Wind	43 kts. EG	0	0	3.00K	0.00K
CULLMAN	CULLMAN CO.	AL	05/24/2010	19:01	CST-6	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	05/24/2010	19:06	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.20K	0.00K
TRIMBLE	CULLMAN	AL	05/28/2010	15:37	CST-	Thunderstorm	52 kts.	0	0	20.00K	0.00K

	CO.				6	Wind	EG				
LOGAN	CULLMAN CO.	AL	05/28/2010	15:38	CST-6	Thunderstorm Wind	56 kts. EG	0	0	35.00K	0.00K
CORINTH	CULLMAN CO.	AL	06/15/2010	11:35	CST-6	Thunderstorm Wind	56 kts. EG	0	0	15.00K	0.00K
BATTLEGROUND	CULLMAN CO.	AL	06/15/2010	11:40	CST-6	Thunderstorm Wind	52 kts. EG	0	0	30.00K	0.00K
CULLMAN	CULLMAN CO.	AL	06/17/2010	14:50	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
WELTI	CULLMAN CO.	AL	06/25/2010	12:12	CST-6	Thunderstorm Wind	43 kts. EG	0	0	1.00K	0.00K
CULLMAN	CULLMAN CO.	AL	08/03/2010	12:59	CST-6	Thunderstorm Wind	39 kts. EG	0	0	1.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	08/13/2010	14:35	CST-6	Thunderstorm Wind	52 kts. EG	0	0	8.00K	0.00K
WHEAT	CULLMAN CO.	AL	08/13/2010	14:55	CST-6	Thunderstorm Wind	56 kts. EG	0	0	5.00K	0.00K
WELTI	CULLMAN CO.	AL	08/27/2010	17:30	CST-6	Thunderstorm Wind	39 kts. EG	0	0	0.10K	0.00K
CULLMAN	CULLMAN CO.	AL	10/25/2010	01:57	CST-6	Thunderstorm Wind	70 kts. EG	0	0	200.00K	0.00K
JOPPA	CULLMAN CO.	AL	10/25/2010	02:18	CST-6	Thunderstorm Wind	52 kts. EG	0	0	12.00K	0.00K
CULLMAN	CULLMAN CO.	AL	02/24/2011	23:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
CULLMAN	CULLMAN CO.	AL	02/24/2011	23:20	CST-6	Thunderstorm Wind	44 kts. EG	0	0	0.50K	0.00K
CULLMAN	CULLMAN CO.	AL	02/24/2011	23:30	CST-6	Thunderstorm Wind	53 kts. MG	0	0	0.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	04/04/2011	17:33	CST-6	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K

GARDEN CITY	CULLMAN CO.	AL	04/04/2011	17:35	CST-6	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K
LOGAN	CULLMAN CO.	AL	04/11/2011	17:46	CST-6	Thunderstorm Wind	52 kts. EG	0	0	0.50K	0.00K
GOLD RIDGE	CULLMAN CO.	AL	04/11/2011	18:00	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	04/11/2011	18:00	CST-6	Thunderstorm Wind	60 kts. EG	0	0	5.00K	0.00K
GOLD RIDGE	CULLMAN CO.	AL	04/11/2011	18:00	CST-6	Thunderstorm Wind	60 kts. EG	0	0	5.00K	0.00K
GOLD RIDGE	CULLMAN CO.	AL	04/11/2011	18:40	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/20/2011	04:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
BROOKLYN	CULLMAN CO.	AL	04/20/2011	04:28	CST-6	Thunderstorm Wind	50 kts. EG	0	1	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/20/2011	22:05	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
WALTER	CULLMAN CO.	AL	04/20/2011	22:10	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
WELTI	CULLMAN CO.	AL	04/20/2011	22:10	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	04/20/2011	22:15	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
HANCEVILLE	CULLMAN CO.	AL	05/13/2011	09:48	CST-6	Thunderstorm Wind	50 kts. EG	0	0	50.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:30	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN	AL	06/21/2011	14:58	CST-	Thunderstorm	52 kts.	0	0	15.00K	0.00K

	CO.				6	Wind	EG				
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	58 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:50	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	56 kts. EG	0	0	15.00K	0.00K
JEPPA	CULLMAN CO.	AL	07/04/2011	15:45	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
WEST PT	CULLMAN CO.	AL	08/03/2011	23:55	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	08/08/2011	13:28	CST-6	Thunderstorm Wind	60 kts. EG	0	0	5.00K	0.00K
BAILEYTON	CULLMAN CO.	AL	01/11/2012	04:55	CST-6	Thunderstorm Wind	61 kts. EG	0	0	20.00K	0.00K
CENTERVILLE	CULLMAN CO.	AL	03/08/2012	19:28	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.10K	0.00K
CRANE HILL	CULLMAN CO.	AL	06/11/2012	18:32	CST-6	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
CRANE HILL	CULLMAN CO.	AL	06/11/2012	18:32	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
BREMEN	CULLMAN CO.	AL	06/11/2012	18:35	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
WALTER	CULLMAN CO.	AL	06/11/2012	18:50	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K

HANCEVILLE	CULLMAN CO.	AL	06/11/2012	18:55	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	08/02/2012	13:10	CST-6	Thunderstorm Wind	35 kts. EG	0	1	10.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	09/02/2012	17:56	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
WALTER	CULLMAN CO.	AL	09/02/2012	20:48	CST-6	Thunderstorm Wind	43 kts. EG	0	0	5.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	01/30/2013	06:10	CST-6	Thunderstorm Wind	52 kts. EG	0	0	0.50K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	01/30/2013	06:27	CST-6	Thunderstorm Wind	52 kts. EG	0	0	0.50K	0.00K
CULLMAN	CULLMAN CO.	AL	01/30/2013	06:30	CST-6	Thunderstorm Wind	52 kts. EG	0	0	4.00K	0.00K
EBENEZER	CULLMAN CO.	AL	01/30/2013	06:30	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	03/18/2013	13:55	CST-6	Thunderstorm Wind	43 kts. EG	0	0	5.00K	0.00K
COLD SPGS	CULLMAN CO.	AL	03/18/2013	13:56	CST-6	Thunderstorm Wind	87 kts. EG	0	0	0.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	03/18/2013	14:04	CST-6	Thunderstorm Wind	87 kts. EG	0	0	0.00K	0.00K
WHEAT	CULLMAN CO.	AL	03/18/2013	14:06	CST-6	Thunderstorm Wind	87 kts. EG	0	0	0.00K	0.00K
LOGAN	CULLMAN CO.	AL	03/18/2013	14:07	CST-6	Thunderstorm Wind	87 kts. EG	0	0	0.00K	0.00K
PHELAN	CULLMAN CO.	AL	03/18/2013	14:07	CST-6	Thunderstorm Wind	53 kts. EG	0	0	0.00K	0.00K
CENTER HALL	CULLMAN CO.	AL	03/18/2013	14:09	CST-6	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
MIDWAY	CULLMAN	AL	03/18/2013	14:09	CST-	Thunderstorm	61 kts.	0	0	0.00K	0.00K

	CO.				6	Wind	EG				
HANCEVILLE	CULLMAN CO.	AL	03/18/2013	14:14	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CRANE HILL	CULLMAN CO.	AL	04/11/2013	14:30	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	04/11/2013	14:30	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
COLD SPGS	CULLMAN CO.	AL	04/19/2013	00:28	CST-6	Thunderstorm Wind	52 kts. EG	0	0	1.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	04/19/2013	00:28	CST-6	Thunderstorm Wind	52 kts. EG	0	0	0.50K	0.00K
ARKADELPHIA	CULLMAN CO.	AL	04/19/2013	00:31	CST-6	Thunderstorm Wind	52 kts. EG	0	0	0.50K	0.00K
BERLIN	CULLMAN CO.	AL	04/19/2013	00:52	CST-6	Thunderstorm Wind	52 kts. EG	0	0	0.50K	0.00K
WALTER	CULLMAN CO.	AL	04/19/2013	00:52	CST-6	Thunderstorm Wind	52 kts. EG	0	0	0.50K	0.00K
MT VIEW	CULLMAN CO.	AL	04/19/2013	00:52	CST-6	Thunderstorm Wind	52 kts. EG	0	0	0.50K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/17/2013	11:10	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
Totals:								0	5	3.361M	0.00K

Table 4-5: Lightning Events

10 Lightning Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN	CULLMAN CO.	AL	04/03/2006	02:54	CST	Lightning		0	0	2.00K	0.00K
COUNTY LINE	CULLMAN CO.	AL	06/13/2008	16:45	CST-6	Lightning		0	0	0.50K	0.00K
FAIRVIEW	CULLMAN CO.	AL	05/15/2009	19:20	CST-6	Lightning		0	1	0.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	05/15/2009	19:50	CST-6	Lightning		0	1	0.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	07/16/2010	14:17	CST-6	Lightning		0	1	0.00K	0.00K
LORETTO	CULLMAN CO.	AL	04/04/2011	17:43	CST-6	Lightning		0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/24/2011	15:25	CST-6	Lightning		0	0	1.00K	0.00K
PHELAN	CULLMAN CO.	AL	01/11/2012	01:55	CST-6	Lightning		0	0	40.00K	0.00K
PHELAN	CULLMAN CO.	AL	07/30/2012	23:33	CST-6	Lightning		0	0	1.00K	0.00K
EBENEZER	CULLMAN CO.	AL	08/02/2012	12:45	CST-6	Lightning		0	0	100.00K	0.00K
Totals:								0	3	149.50K	0.00K

Table 4-6: Hail Events**99 Hail Events – 01/01/2003 thru 12/31/2013 (4018 days)***(Source: NOAA NCDC Storm Events Database)*

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
JOPPA	CULLMAN CO.	AL	05/02/2003	13:20	CST	Hail	0.75 in.	0	0	0.00K	0.00K
BAILEYTON	CULLMAN CO.	AL	05/02/2003	13:25	CST	Hail	2.50 in.	0	0	0.00K	0.00K
JOPPA	CULLMAN CO.	AL	05/02/2003	13:50	CST	Hail	1.75 in.	0	0	0.00K	0.00K
BATTLEGROUND	CULLMAN CO.	AL	05/02/2003	15:42	CST	Hail	1.75 in.	0	0	0.00K	0.00K
BREMEN	CULLMAN CO.	AL	05/02/2003	16:15	CST	Hail	1.00 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	05/02/2003	16:15	CST	Hail	0.75 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	05/02/2003	16:17	CST	Hail	1.00 in.	0	0	0.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	05/02/2003	16:18	CST	Hail	1.75 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	05/02/2003	16:20	CST	Hail	0.75 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	05/02/2003	16:20	CST	Hail	1.75 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	03/30/2004	13:30	CST	Hail	0.75 in.	0	0	0.00K	0.00K
VINEMONT	CULLMAN CO.	AL	07/07/2004	15:15	CST	Hail	0.75 in.	0	0	0.00K	0.00K
VINEMONT	CULLMAN CO.	AL	07/07/2004	15:35	CST	Hail	0.75 in.	0	0	0.00K	0.00K
BATTLEGROUND	CULLMAN CO.	AL	02/21/2005	19:15	CST	Hail	0.75 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	02/21/2005	19:33	CST	Hail	0.88 in.	0	0	0.00K	0.00K
BAILEYTON	CULLMAN CO.	AL	02/21/2005	19:43	CST	Hail	0.75 in.	0	0	0.00K	0.00K
PHELAN	CULLMAN CO.	AL	03/13/2005	19:00	CST	Hail	0.88 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	03/13/2005	19:15	CST	Hail	0.75 in.	0	0	0.00K	0.00K

HANCEVILLE	CULLMAN CO.	AL	03/13/2005	19:20	CST	Hail	1.75 in.	0	0	0.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	03/13/2005	21:16	CST	Hail	0.75 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/21/2005	16:30	CST	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/21/2005	16:34	CST	Hail	0.88 in.	0	0	0.00K	0.00K
CRANE HILL	CULLMAN CO.	AL	05/20/2005	13:05	CST	Hail	0.88 in.	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	08/22/2005	12:45	CST	Hail	0.75 in.	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	08/22/2005	12:50	CST	Hail	1.00 in.	0	0	0.00K	0.00K
CRANE HILL	CULLMAN CO.	AL	11/15/2005	20:30	CST	Hail	1.00 in.	0	0	0.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	03/09/2006	16:50	CST	Hail	0.75 in.	0	0	0.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	04/07/2006	22:32	CST	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/07/2006	22:51	CST	Hail	1.75 in.	0	0	30.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/19/2006	15:34	CST	Hail	1.00 in.	0	0	0.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	04/19/2006	15:45	CST	Hail	0.75 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	04/19/2006	16:18	CST	Hail	1.00 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	04/19/2006	16:41	CST	Hail	0.88 in.	0	0	0.00K	0.00K
ARKADELPHIA	CULLMAN CO.	AL	04/19/2006	18:15	CST	Hail	0.88 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	04/19/2006	19:09	CST	Hail	0.75 in.	0	0	0.00K	0.00K
BREMEN	CULLMAN CO.	AL	04/19/2006	20:03	CST	Hail	0.88 in.	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	04/20/2006	16:36	CST	Hail	1.00 in.	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	04/20/2006	16:48	CST	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/20/2006	17:11	CST	Hail	1.75 in.	0	0	0.00K	0.00K

WALTER	CULLMAN CO.	AL	04/21/2006	02:10	CST	Hail	1.75 in.	0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	05/03/2006	13:10	CST	Hail	0.88 in.	0	0	0.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	05/03/2006	13:40	CST	Hail	0.88 in.	0	0	0.00K	0.00K
LOGAN	CULLMAN CO.	AL	05/03/2006	13:55	CST	Hail	0.75 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	03/01/2007	04:40	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/03/2007	10:37	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	04/03/2007	11:15	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	08/17/2007	17:01	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
LOGAN	CULLMAN CO.	AL	03/15/2008	01:20	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
CRANE HILL	CULLMAN CO.	AL	04/11/2008	12:30	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN FOLSOM ARPT	CULLMAN CO.	AL	04/11/2008	12:45	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:50	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	08/02/2008	16:00	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	08/02/2008	16:05	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
BAILEYTON	CULLMAN CO.	AL	08/02/2008	16:05	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
BAILEYTON	CULLMAN CO.	AL	08/02/2008	16:10	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CRANE HILL	CULLMAN CO.	AL	04/10/2009	04:10	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
BATTLEGROUND	CULLMAN CO.	AL	04/10/2009	13:57	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
BATTLEGROUND	CULLMAN CO.	AL	04/10/2009	14:01	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
VINEMONT	CULLMAN CO.	AL	04/10/2009	14:03	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K

NORTH VINEMONT	CULLMAN CO.	AL	04/10/2009	14:06	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
JEPPA	CULLMAN CO.	AL	04/10/2009	14:22	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	04/10/2009	14:45	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/10/2009	14:46	CST-6	Hail	1.25 in.	0	0	0.00K	0.00K
BROOKLYN	CULLMAN CO.	AL	04/10/2009	14:58	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	04/19/2009	17:52	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	04/19/2009	18:53	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
BREMEN	CULLMAN CO.	AL	05/06/2009	08:27	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	05/15/2009	19:02	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	06/15/2009	19:17	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	03/12/2010	04:58	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	03/12/2010	05:24	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
TRIMBLE	CULLMAN CO.	AL	03/12/2010	05:25	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	03/12/2010	05:43	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	03/12/2010	06:05	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
COUNTY LINE	CULLMAN CO.	AL	03/12/2010	06:11	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
BATTLEGROUND	CULLMAN CO.	AL	03/25/2010	17:08	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
BREMEN	CULLMAN CO.	AL	04/24/2010	08:00	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
TRIMBLE	CULLMAN CO.	AL	05/28/2010	15:37	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	07/13/2010	11:48	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	10/24/2010	21:56	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K

WEST PT	CULLMAN CO.	AL	10/24/2010	22:10	CST-6	Hail	1.50 in.	0	0	0.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	02/28/2011	14:39	CST-6	Hail	1.75 in.	0	0	1.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	03/26/2011	19:55	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CRANE HILL	CULLMAN CO.	AL	03/26/2011	20:38	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	04/27/2011	18:58	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:24	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:56	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CRANE HILL	CULLMAN CO.	AL	07/03/2011	18:30	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
WHEAT	CULLMAN CO.	AL	07/03/2011	18:45	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	08/07/2011	18:45	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
BREMEN	CULLMAN CO.	AL	03/02/2012	18:00	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
BETHEL	CULLMAN CO.	AL	03/02/2012	18:19	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
TRIMBLE	CULLMAN CO.	AL	03/31/2012	16:33	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
TRIMBLE	CULLMAN CO.	AL	03/31/2012	17:54	CST-6	Hail	2.50 in.	0	0	0.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	04/05/2012	17:56	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	07/01/2012	17:20	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	07/30/2012	23:14	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/30/2013	18:42	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
Totals:								0	0	31.00K	0.00K

Table 4-7: Tornado Events**26 Tornado Events** – 01/01/2003 thru 12/31/2013 (4018 days)*(Source: NOAA NCDC Storm Events Database)*

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
WEST PT	CULLMAN CO.	AL	05/06/2003	10:16	CST	Tornado	F0	0	0	0.00K	0.00K
CRANE HILL	CULLMAN CO.	AL	11/15/2005	20:30	CST	Tornado	F0	0	0	35.00K	0.00K
ARKADELPHIA	CULLMAN CO.	AL	03/13/2006	17:56	CST	Tornado	F0	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	03/13/2006	18:45	CST	Tornado	F0	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	03/13/2006	18:47	CST	Tornado	F0	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	03/13/2006	18:50	CST	Tornado	F0	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/07/2006	22:50	CST	Tornado	F1	0	0	125.00K	0.00K
CRANE HILL	CULLMAN CO.	AL	03/01/2007	15:55	CST-6	Tornado	EF1	0	0	0.00K	0.00K
LORETTO	CULLMAN CO.	AL	02/06/2008	04:00	CST-6	Tornado	EF0	0	0	0.00K	0.00K
VINEMONT	CULLMAN CO.	AL	04/11/2008	12:46	CST-6	Tornado	EF0	0	0	2.000M	0.00K
CULLMAN FOLSOM ARPT	CULLMAN CO.	AL	04/11/2008	14:05	CST-6	Tornado	EF0	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:06	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:20	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Tornado	EF1	0	0	50.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:41	CST-6	Tornado	EF2	0	0	150.00K	0.00K
MIDWAY	CULLMAN CO.	AL	04/24/2010	17:57	CST-6	Tornado	EF2	0	0	0.00K	0.00K
BATTLEGROUND	CULLMAN CO.	AL	02/24/2011	23:10	CST-6	Tornado	EF0	0	0	0.00K	0.00K
WILBURN	CULLMAN CO.	AL	04/27/2011	04:48	CST-6	Tornado	EF2	1	0	0.00K	0.00K

JOPPA	CULLMAN CO.	AL	04/27/2011	05:20	CST-6	Tornado	EF0	0	0	0.00K	0.00K
CRANE HILL	CULLMAN CO.	AL	04/27/2011	13:40	CST-6	Tornado	EF4	1	0	0.00K	0.00K
ARKADELPHIA	CULLMAN CO.	AL	04/27/2011	16:05	CST-6	Tornado	EF4	0	0	20.000M	0.00K
ARKADELPHIA	CULLMAN CO.	AL	04/27/2011	16:15	CST-6	Tornado	EF1	0	0	0.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	04/27/2011	16:19	CST-6	Tornado	EF1	0	0	0.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	04/27/2011	16:22	CST-6	Tornado	EF1	0	0	0.00K	0.00K
CENTERVILLE	CULLMAN CO.	AL	04/27/2011	18:09	CST-6	Tornado	EF0	0	0	0.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	01/30/2013	06:04	CST-6	Tornado	EF1	0	0	50.00K	0.00K
Totals:								2	0	22.455M	0.00K

Table 4-8: Flood/Flash Flood Events

51 Flood/Flash Flood Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/05/2004	20:30	CST	Flood		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/05/2004	23:15	CST	Flood		0	0	0.00K	0.00K
COUNTY LINE	CULLMAN CO.	AL	01/06/2009	08:16	CST-6	Flood		0	0	300.00K	0.00K
CORINTH	CULLMAN CO.	AL	03/09/2011	05:05	CST-6	Flood		0	0	0.00K	0.00K
VINEMONT	CULLMAN CO.	AL	09/18/2012	02:00	CST-6	Flood		0	0	10.00K	0.00K
WEST PT	CULLMAN CO.	AL	07/04/2013	18:00	CST-6	Flood		0	0	0.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	05/16/2003	15:45	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	03/05/2004	23:05	CST	Flash Flood		0	0	0.00K	0.00K

COUNTYWIDE	CULLMAN CO.	AL	09/16/2004	15:30	CST	Flash Flood		0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	10/19/2004	09:40	CST	Flash Flood		0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	10/19/2004	09:40	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	10/19/2004	10:45	CST	Flash Flood		0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	12/09/2004	07:15	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	12/09/2004	09:30	CST	Flash Flood		0	0	0.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	07/14/2005	17:00	CST	Flash Flood		0	0	20.00K	0.00K
JONES CHAPEL	CULLMAN CO.	AL	07/14/2005	18:50	CST	Flash Flood		0	0	0.00K	0.00K
WILBURN	CULLMAN CO.	AL	07/14/2005	19:50	CST	Flash Flood		0	0	0.00K	0.00K
WILBURN	CULLMAN CO.	AL	07/14/2005	19:50	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	09/25/2005	22:50	CST	Flash Flood		0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	04/19/2006	20:37	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/27/2008	13:50	CST-6	Flash Flood		0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	07/10/2008	16:55	CST-6	Flash Flood		0	0	0.00K	0.00K
ARKADELPHIA	CULLMAN CO.	AL	02/27/2009	15:17	CST-6	Flash Flood		0	0	0.00K	0.00K
HOLMES GAP	CULLMAN CO.	AL	05/03/2009	13:40	CST-6	Flash Flood		0	0	0.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	05/06/2009	04:15	CST-6	Flash Flood		0	0	0.00K	0.00K
TRIMBLE	CULLMAN CO.	AL	08/20/2009	16:05	CST-6	Flash Flood		0	0	0.00K	0.00K
LORETTO	CULLMAN CO.	AL	12/09/2009	01:10	CST-6	Flash Flood		0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	12/09/2009	01:10	CST-6	Flash Flood		0	0	0.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	12/09/2009	01:10	CST-6	Flash Flood		0	0	0.00K	0.00K

WHITE CITY	CULLMAN CO.	AL	01/24/2010	06:36	CST-6	Flash Flood		0	0	0.00K	0.00K
MIDWAY	CULLMAN CO.	AL	04/24/2010	22:00	CST-6	Flash Flood		0	0	0.00K	0.00K
WHITE CITY	CULLMAN CO.	AL	05/03/2010	00:00	CST-6	Flash Flood		0	0	0.00K	0.00K
GOLD RIDGE	CULLMAN CO.	AL	05/03/2010	00:00	CST-6	Flash Flood		0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	05/03/2010	00:00	CST-6	Flash Flood		0	0	0.00K	0.00K
PHELAN	CULLMAN CO.	AL	05/03/2010	00:00	CST-6	Flash Flood		0	0	0.00K	0.00K
BROOKLYN	CULLMAN CO.	AL	05/03/2010	00:00	CST-6	Flash Flood		0	0	0.00K	0.00K
BROOKLYN	CULLMAN CO.	AL	05/03/2010	00:00	CST-6	Flash Flood		0	0	0.00K	0.00K
GOLD RIDGE	CULLMAN CO.	AL	05/03/2010	00:00	CST-6	Flash Flood		0	0	0.00K	0.00K
MT VIEW	CULLMAN CO.	AL	05/03/2010	00:00	CST-6	Flash Flood		0	0	0.00K	0.00K
LORETTO	CULLMAN CO.	AL	07/16/2010	15:00	CST-6	Flash Flood		0	0	0.00K	0.00K
PHELAN	CULLMAN CO.	AL	08/01/2010	14:55	CST-6	Flash Flood		0	0	10.00K	0.00K
PHELAN	CULLMAN CO.	AL	01/01/2011	04:45	CST-6	Flash Flood		0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	04/15/2011	15:16	CST-6	Flash Flood		0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/20/2011	22:34	CST-6	Flash Flood		0	0	0.00K	0.00K
CRANE HILL	CULLMAN CO.	AL	09/05/2011	09:30	CST-6	Flash Flood		0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	01/13/2013	18:04	CST-6	Flash Flood		0	0	0.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	01/13/2013	18:20	CST-6	Flash Flood		0	0	0.00K	0.00K
CORINTH	CULLMAN CO.	AL	07/04/2013	12:30	CST-6	Flash Flood		0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	07/31/2013	05:10	CST-6	Flash Flood		0	0	0.00K	0.00K
JEPPA	CULLMAN CO.	AL	07/31/2013	22:30	CST-6	Flash Flood		0	0	0.00K	0.00K

JEPPA	CULLMAN CO.	AL	08/01/2013	00:00	CST-6	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	340.00K	0.00K

Table 4-9: Drought/Extreme Heat Events

23 Drought/Extreme Heat Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/27/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/28/2009	10:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/15/2010	00:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 4-10: Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events

28 Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2007	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/15/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/16/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/28/2008	22:24	CST-6	Frost/freeze		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2009	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2009	02:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/30/2011	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2012	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/31/2012	01:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/26/2013	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2009	02:20	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/02/2010	03:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/25/2010	05:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/09/2011	16:45	CST-6	Heavy Snow		0	0	0.10K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/17/2013	11:15	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2008	01:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/23/2008	08:25	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/04/2009	23:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/07/2010	05:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2010	09:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/12/2010	07:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/15/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/12/2010	08:01	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/15/2010	09:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/26/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/03/2011	14:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/09/2011	18:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 4-11: Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events

8 Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events –
01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/29/2005	20:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/16/2004	11:50	CST	High Wind	50 kts. ES	0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2008	20:00	CST-6	High Wind	39 kts. ES	0	0	10.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/11/2009	12:45	CST-6	High Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2009	23:05	CST-6	High Wind	55 kts. EG	0	0	600.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/24/2009	16:00	CST-6	High Wind	35 kts. ES	0	0	20.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/20/2007	15:10	CST-6	Strong Wind	39 kts. EG	0	0	1.000M	0.00K
Totals:								0	0	1.645M	0.00K

Table 4-12: Sinkhole Events

0 Sinkhole Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: (Source: NOAA NCDC Storm Events Database/U.S. and AL Geological Survey)
No sinkhole events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 4-13: Landslide Events

1 Landslide Event – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: Local)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	Southwest Cullman (Smith Lake Area)- Co. Road 950 that runs parallel to the lake	AL				Landslide		0	0	25.00K	0.00K
Totals:								0	0	25.00K	0.00K

No landslide events were reported to NOAA NCDC or U. S./AL Geological Survey during 01/01/2003 thru 12/31/2013.

Table 4-14: Earthquake Events

0 Earthquake Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)

No earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 4-15: Wildfire Events

82 Wildfire Events – 2010 thru 2013

(Source: Alabama Forestry Commission)

County	Total # of Fires 2010-2013	Average # of Fires Per Year	Total Acres Burned 2010-2013	Average Acres Burned Per Year	Average Fire Size in Acres
Cullman	82	27.33	1,958.65	652.88	23.88

Source: Alabama Forestry Commission

Table 4-16: Dam/Levee Failure Events

0 Dam/Levee Failure Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/Local Input)

No dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

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Hazard Profiles

This section provides: a general description of each hazard; background information about previous occurrences; nature of the hazard to include the extent (or severity) of each hazard; and, the probability and loss estimates of future occurrences of each hazard. The primary effects and hazardous results are considered for all identified hazards. Each hazard was further reviewed to identify the impacts on the county and its jurisdictions. Impact in terms of dollar value for past hazard occurrences are shown for the county in **Table 4-4 through Table 4-16** and for each jurisdiction in their individual Hazard Event table in **Section 6** of this plan. Events occurring within this plan's study period were discussed to demonstrate the severity of the hazard to Cullman County.

I. Thunderstorms

A thunderstorm is a convective cloud that often produces heavy rain, wind gusts, thunder, lightning, and hail. Cullman County experiences many thunderstorms each year. The county is most susceptible to thunderstorms during the spring, summer, and late fall. Most of the damage caused by thunderstorms results from straight-line winds, lightning, flash flooding, and hail. Occasionally, thunderstorms will spawn tornados. **Table 4-4** shows the historical occurrences of thunderstorms during the study period. Damage from thunderstorms can have a wide range of severity. Each jurisdiction is at risk for thunderstorm events.

On August 5, 2006, a thunderstorm microburst produced damaging winds up to 80 miles per hour within the historic warehouse district of downtown Cullman. A tin roof on the north side of one building was peeled off. Several bricks were blown off of a retaining wall of another building. The thunderstorm also blew out several windows, damaged signage along Highway 31 and a garage door at an area business. Property damages of \$200,000 resulted.

On August 24, 2007, Cullman County experienced a thunderstorm event that resulted in \$1 million in property damages. A slow moving cold front pushed into unstable, tropical air overnight producing wind damage and flash flooding in many areas of the county. As the front continued pushing southeast during the day on August 25, 2007, thunderstorms ahead of the front produced isolated large hail as well as damaging winds.

On October 25, 2010, a thunderstorm event in Cullman County resulted in \$200,000 of

property damages. Significant building and roof damage occurred in downtown Cullman. Windows and some walls were blown out. Power lines were knocked down and numerous power outages were reported. At the Sports Center on Highway 31 North, Seadoos and four-wheelers were flipped over. Large trees were also blown down near the Catholic Church.

Cullman County experienced 178 thunderstorm events in a 10 year period resulting in a greater than 100% probability that a thunderstorm event will occur on an annual basis. The total amount of damages for the 178 thunderstorm events was \$3,361,000 with 131 thunderstorm events causing damage resulting in an estimated \$25,657 of expected annual damages from future events. The referenced thunderstorm event(s) are the ones that resulted in the most damages, deaths, and injuries during the past ten year period and serves as the extent/range of magnitude or severity that could be experienced by Cullman County due to a thunderstorm event; the ranking is minor to major.

Primary effects from thunderstorms in Cullman County would include:

1. Straight-line Winds
2. Lightning
3. Flooding
4. Hail
5. Spawning Tornados

Hazardous results from significant thunderstorms in Cullman County would include:

1. High winds can cause downed trees and electrical lines resulting in loss of power.
2. Severe storms are capable of producing intense lightning that poses many threats to people and infrastructure and can ignite fires.
3. Heavy rains can produce severe storm water run-off in developed areas and cause bodies of water to breach their banks.
4. Large hail can injure people and livestock and damage crops.
5. Severe thunderstorms can produce tornados that destroy anything in its path, resulting in loss of power, shelter, and potential loss of life.

II. Lightning

Lightning is a natural phenomenon associated with all thunderstorms but can occur in the absence of a storm. Lightning typically occurs as a by-product of a thunderstorm and can cause substantial property damage and loss of human lives. Each jurisdiction is at risk for lightning events. Lightning strikes can cause power outages, fires, electrocution, and disruptions to communication systems. The NOAA NCDC reported ten lightning events during the ten-year study period of 2003-2013, resulting in three injuries and \$149,500 in property damages. **Table 4-5** shows the historical occurrences of lightning during the study period. The State of Alabama has experienced 11-20 deaths as a result of lightning strikes during 2003 – 2013. In 2012, a lightning event was recorded in Cullman County that resulted in \$100,000 of property damages.

The action of rising and descending air in a thunderstorm separates positive and negative charges, with lightning the result of the buildup and discharge of energy between positive and negative charge areas.

Water and ice particles may also affect the distribution of the electrical charge. In only a few millionths of a second, the air near a lightning strike is heated to 50,000°F, a temperature hotter than the surface of the sun. Thunder is the result of the very rapid heating and cooling of air near the lightning that causes a shock wave.

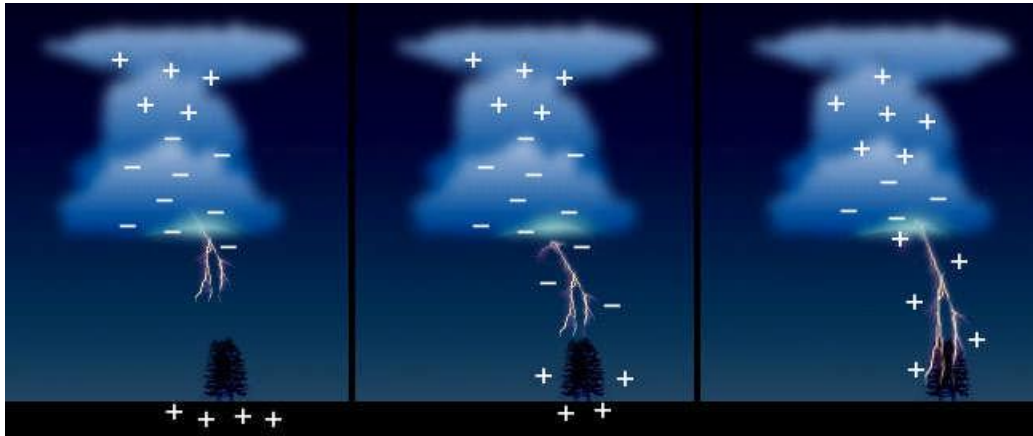


Figure 4-1: Formation of Lightning

Source: University Corporation for Atmospheric Research (UCAR)

The hazard posed by lightning is significantly underrated. High winds, rainfall, and a darkening cloud cover are the warning signs for possible cloud-to-ground lightning strikes. While many lightning casualties happen at the beginning of an approaching storm, more than half of lightning deaths occur after a thunderstorm has passed. The lightning threat diminishes after the last sound of thunder, but may persist for more than 30 minutes. When thunderstorms are in the area, but not overhead, the lightning threat can exist when skies are clear. Lightning has been known to strike more than 10 miles from the storm in an area with clear sky above.

According to the National Oceanic and Atmospheric Administration (NOAA), an average of 20 million cloud-to-ground flashes has been detected every year in the continental United States. About half of all flashes have more than one ground strike point, so at least 30 million points on the ground is struck on the average each year. In addition, there are roughly 5 to 10 times as many cloud-to-cloud flashes as there are to cloud-to-ground flashes (NOAA, July 7, 2003).

Cloud-to-ground lightning can kill or injure people by either direct or indirect means. The lightning current can branch off to strike a person from a tree, fence, pole, or other tall object. It is not known if all people are killed who are directly struck by the flash itself. In addition, electrical current may be conducted through the ground to a person after lightning strikes a nearby tree, antenna, or other tall object. The current also may travel through power lines, telephone lines, or plumbing pipes to a person who is in contact with an electric appliance, telephone, or plumbing fixture. Lightning may use similar processes to damage property or cause fires.

The probability of a lightning strike causing damage somewhere in Cullman County is high. However, because the impacts are so localized, the site-specific incidence of a lightning strike occurring is considered very low.

A lightning event on August 2, 2012 resulted in \$100,000 property damages near Ebenezer. No deaths, injuries, or crop damages were reported for this lightning event. On July 16, 2010 in Jones Chapel, one injury was reported due to a lightning event; May 15, 2009 one injury in Good Hope and one injury in Fairview were reported due to a lightning event.

Cullman County experienced 10 lightning events in a 10 year period resulting in an 100% probability that a lightning event will occur on an annual basis. The total amount of damages for

the 10 lightning events was \$149,500 with 7 lightning events causing damage resulting in an estimated \$21,357 of expected annual damages from future events. The referenced lightning event(s) are the ones that resulted in the most damages, deaths, and injuries during the past ten year period and serves as the extent/range of magnitude or severity that could be experienced by Cullman County due to a lightning event; the ranking is minimum to minor. Cullman County is at a moderate risk of lightning incidences.

Primary effects from lightning in Cullman County would include:

1. Power Outages
2. Wild Fires
3. Electrocution
4. Disruption of Communication Waves

Hazardous results from significant lightning in Cullman County would include:

1. Power outages result in tremendous losses for food distributors and individuals due to loss of refrigeration as well as disruptions to routine business operations.
2. Fires destroy most everything it comes in contact with and also can be detrimental to the health of any living organism due to the massive smoke cloud it produces.
3. Electrocution of electronic device such as water and sewer pumps can cause disruption in service leading to unsanitary conditions and lack of potable water.
4. Disrupted communications from electrical storms can result in inability to communicate with other agencies, making preparation or recovery from a storm nearly impossible.

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III. Hail

Cullman County is at a severe risk of experiencing hail which has ranged from dime/penny size to tennis ball size in some areas of the county. Hail is an outgrowth of severe thunderstorms and develops within a low-pressure front as warm air rises rapidly in to the upper atmosphere and is subsequently cooled, as shown in **Figure 4-2**, leading to the formation of ice crystals. These are bounced about by high-velocity updraft winds and accumulate into frozen droplets, falling as precipitation after developing enough weight (FEMA, 1997).

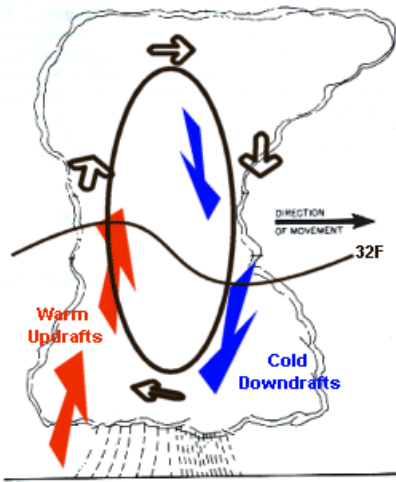


Figure 4-2

How Hail Is Formed

Source: NWS, January 10, 2003

The National Weather Service (NWS) defines severe thunderstorms as those with downdraft winds in excess of 58 miles an hour and/or hail at least 3/4 inches in diameter. While only about 10 percent of thunderstorms are classified as severe, all thunderstorms are dangerous because they produce numerous dangerous conditions, including one or more of the following: hail, strong winds, lightning, tornadoes, and flash flooding (National Weather Service – Flagstaff). The size of hailstones varies and is related to the severity and size of the thunderstorm that produced it. The higher the temperatures at the Earth’s surface, the greater the strength of the updrafts, and the greater the amount of time the hailstones are suspended, giving the hailstones more time to increase in size. Hailstones vary widely in size, as shown in **Table 4-17**. Note that

penny size (3/4 inches in diameter) or larger hail is considered severe.

Table 4-17: Estimating Hail Size

Size	Inches in Diameter
Pea	¼ inch
Marble/mothball	½ inch
Dime/Penny	¾ inch
Nickel	7/8 inch
Quarter	1 inch
Ping-Pong Ball	1 ½ inch
Golf Ball	1 ¾ inch
Tennis Ball	2 ½ inch
Baseball	2 ¾ inch
Tea Cup	3 inches
Grapefruit	4 inches
Softball	4 ½ inches
<i>Source: NWS, January 10, 2003</i>	

Hailstorms occur most frequently during the late spring and early summer, when the jet stream moves northward across the Great Plains. During this period, extreme temperature changes occur from the surface up to the jet stream, resulting in the strong updrafts required for hail formation. Hailstorms occur in some form or fashion on a very regular basis in Cullman County. The annual probability of hail occurring somewhere in the county is clearly quite high; however, the site-specific incidence of hail is considered low because of the localized nature of the hazard.

During 2003-2013, approximately 19 events were reported having hail up to 1.75 inches (golf ball size) throughout the county. On February 28, 2011, golf ball size hail was reported near Antioch that resulted in \$1,000 property damage. Ninety-nine hail storm events caused approximately \$31,000 in property damages in Cullman County. This damage was caused by severe hail storm events having hail with a diameter of .75 inches up to 2.50 inches. No deaths, injuries, or crop damages were reported due to hail storms. **Table 4-6** shows pertinent information relating to the 99 hail events in Cullman County.

On May 2, 2003 and March 31, 2012, hail up to 2.50 inches (tennis ball size) was reported in the areas of Baileyton and Trimble. No deaths, injuries, crop or property damage was caused by these hail storm events. On April 7, 2006, golf ball size hail was reported at the Intersection of U.S. Highway 278 and Interstate 65 Interchange that resulted in \$30,000 property damage. The hail produced slight to moderate damage to several vehicles and to roofs of five homes in this vicinity.

Cullman County experienced 99 hail events in a 10 year period resulting in a greater than 100% probability that a hail event will occur on an annual basis. The total amount of damages for the 99 hail events was \$31,000 with 2 hail events causing damage resulting in an estimated \$15,500 of expected annual damages from future events. The referenced hail event(s) are the ones that resulted in the most damages, deaths, and injuries during the past ten year period and serves as the extent/range of magnitude or severity that could be experienced by Cullman County due to a hail event; the ranking is minor to major.

Primary Effects from hail in Cullman County would include:

1. Property Damage
2. Crop Damage
3. Communication equipment damage
4. Livestock loss and injury

Hazardous results from significant hail in Cullman County would include:

1. Any size hail can damage exposed real and personal property. Hail is a major problem for car dealerships, as the unprotected lots of cars receive major damage.
2. Heavy hail is capable of destroying entire crop yields. Farmers of above ground crops are especially concerned with hail as it is extremely detrimental to the crop.
3. Communication equipment, such as receivers, is susceptible to large hail. These instruments can be seriously damaged or destroyed by large hail.
4. Large hail is a danger to livestock of all sorts and is a threat farmers must consider. Hundreds of thousands of dollars are invested in these animals which may be injured or killed in a hailstorm.

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IV. Tornadoes

A tornado is a rapidly rotating funnel (or vortex) of air that extends toward the ground from a cumulonimbus cloud. Most tornadoes do not touch the ground, but when the lower tip of a tornado touches the earth, it can cause extensive damage. Tornadoes often form in convective cells such as thunderstorms or at the front of hurricanes. Tornadoes are rotating columns of air extending downward to the ground with recorded winds in excess of 300 miles per hour. Most tornadoes last less than 30 minutes, but can exist for more than an hour. In Alabama the typical tornado season extends from March through early June, with April and June being peak months for tornado activity. Additionally, Alabama experiences a secondary tornado season from November through December. **Figure 4-3** shows the general paths of tornados across the United States.

Figure 4-4 shows the FEMA designated wind zones in the United States. Cullman County is located in Zone IV. Zone IV has witnessed a higher frequency of tornados than any other zone. Zone IV has also witnessed some of the deadliest tornados in history. The impacts of tornados can be far-reaching. Life, property, and personal items are at risk. Tornados do not follow a definite path; all jurisdictions are vulnerable to tornado events. Property damage, injury, and death can result from the weakest tornados. Interruption of electrical services, communications, and other utilities may occur. Transportation corridors may be blocked or even destroyed. Debris removal can take time and can be costly. Residents may suffer from post-traumatic stress disorder, depression, anxiety, and grief for lost loved ones. Longer response times results from having limited emergency personnel.

A total of 26 tornados occurred in Cullman County according to NOAA NCDC during 2003 - 2013. An estimated \$22,455,000 in property damage and two deaths occurred as a result of the reported tornados. **Table 4-18** lists the figures used by FEMA for the valuation of deaths and injuries. These figures are approximations and are based on FEMA guidance used in benefit-cost analysis of hazard mitigation measures.

Table 4-18: Values Used for Monetary Conversion of Tornado Injuries and Deaths

Damage Category	Value for Monetary Conversion
Injury (blended major and minor)	\$23,175
Death	\$3,666,003

(Source: FEMA Guidance)

FEMA uses statistical values of \$5.8 - \$6.6 million per person for deaths, \$1.08 million for major injuries, and \$90 thousand for minor injuries. These figures used for valuation of deaths and injuries are approximations based on FEMA guidance used in benefit-cost analysis of hazard mitigation measures. Major and minor injuries are combined in the NOAA data, so it was necessary to use a blended number in the valuation. The county damage, injury and casualty data were then projected to a 30-year horizon and discounted using a 7% discount rate, in accordance with OMB guidance (Circular No. A - 94). The resulting data was subsequently disaggregated to separate damages related to injuries and deaths from other damages. This was done because deaths cause a strong bias in the outcome due to their extremely high value.

Areas with higher population densities pose the greatest potential for property damage, injury, and death. The Cities of Cullman and Hanceville are the most densely populated areas in the county. Communities with a high concentration of mobile homes are extremely vulnerable to tornados. Mobile homes are not capable of withstanding the strong winds associated with tornados. Cullman County has a total of 7,366 mobile homes countywide, 19.89% of the total housing stock. The greatest concentration of mobile homes in a municipality is in the Town of Colony where 45.26% of the units are mobile homes.

The most significant event during the study period occurred in the area of Arkadelphia on April 27, 2011 with an EF4 tornado, 4.42 miles in length and 440 yards wide. A powerful storm system crossed the Southeast United States on Wednesday, resulting in a large and deadly tornado outbreak. This epic event broke the record for number of tornadoes in a day for the State of Alabama, becoming the most significant tornado outbreak in the state's history. North Alabama had three waves of severe weather that day. The third wave was the most devastating and occurred during the afternoon hours. The City of Cullman experienced extensive damages to

buildings in the downtown area and to the Town of Fairview. A large violent tornado tracked across the very southern tip of Cullman County, from about 3 miles southwest of Arkadelphia to just over 2 miles ESE of Arkadelphia. A wide swath of pine and hardwood trees was found snapped at the bases or splintered several feet off the ground, with some debarking of trees. South of Hwy 91 along Washington Loop, several homes were damaged or destroyed. A mobile home was obliterated and the frame was found at least 200 yards to the east up a hill. A cinder block home was wiped out, with the contents landing across the road, while the cars nearby were tossed. A truck landed in a nearby hollow at least 50 yards away while a sedan was smashed as it landed about 130 yards away. Farming equipment in a barn was displaced into the hollow, including a hay baler and a tractor. The storm shelter by the residence was partially lifted and damaged. The person inside the shelter received minor injuries. Additional homes and buildings nearby were destroyed and only a few trees were left standing or not debarked. The main damage path was fairly well confined, as a well built home just at the edge of the track only sustained minor roof damage. A 20-year old male in a vehicle/towed trailer passed away in Wilburn and a 68-year old male in a permanent residence passed away in Crane Hill. Most of the violent tornadoes from this day were captured on video by a number of people, including storm spotters and chasers, as well as numerous television news crews and remotely controlled web-enabled video cameras. This allowed unprecedented coverage and viewing of this historic event in real time from people worldwide. (*Source: NCDC NOAA*)

The entire county is vulnerable to high winds caused by tornadoes. The location of Cullman County in Wind Zone IV, past occurrences of tornados, and the potential for future occurrences to cause damage, death, and injuries leaves Cullman County vulnerable to and at risk for tornados.

Cullman County experienced 26 tornado events in a 10 year period resulting in a greater than 100% probability that a tornado event will occur on an annual basis. The total amount of damages for the 26 tornado events was \$22,455,000 with 10 tornado events causing damage resulting in an estimated \$2,245,500 of expected annual damages from future events. The referenced tornado event(s) are the ones that resulted in the most damages, deaths, and injuries during the past ten year period and serves as the extent/range of magnitude or severity that could be experienced by Cullman County due to a tornado event; the ranking is minor to major.

Primary effects from Tornadoes in Cullman County would include:

1. Loss of life
2. Property damage
3. Infrastructure destruction and damage
4. Sanitation and water delivery interruption

Hazardous results from significant Tornadoes in Cullman County would include:

1. Collapse of structures can leave people homeless.
2. Roadways may become blocked by debris. Damage may destroy automobiles, creating additional hardships to individuals and families and business operations.
3. High wind speeds associated with a tornado can destroy anything in its path. Power poles topple, communication receivers are destroyed, and water sanitation and treatment plants are offline.
4. Due to destruction, sanitation crews are unable to remove massive amounts of waste, and water delivery is disrupted. This can lead to an increase in disease-carrying insects and lack of potable water.

Figure 4-3: Generalized Tornado Paths

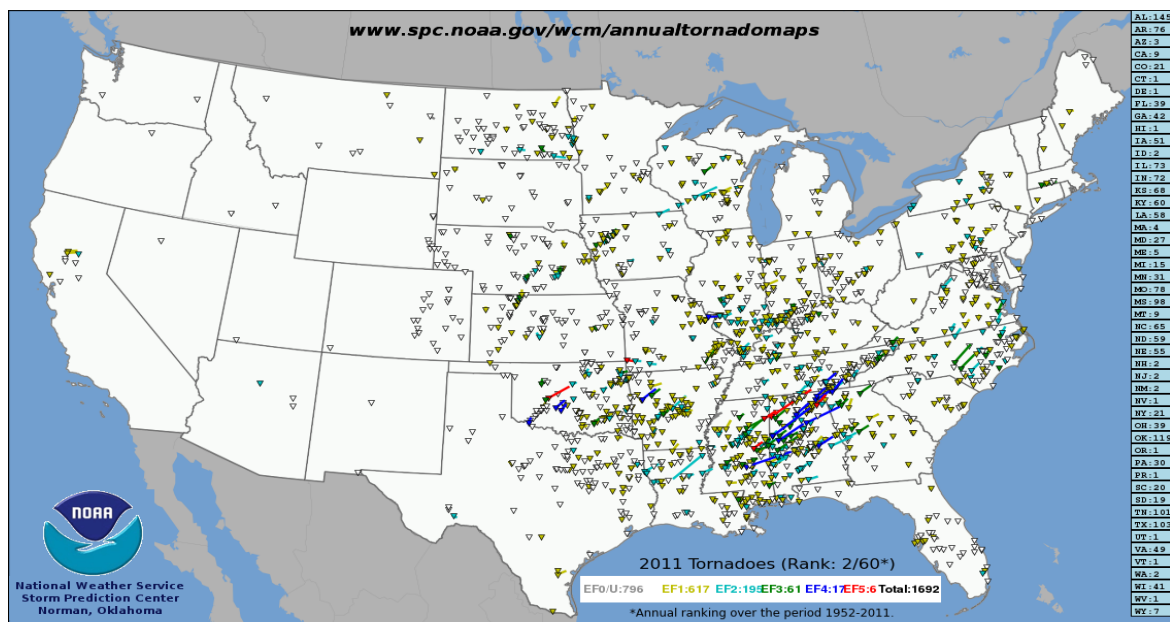
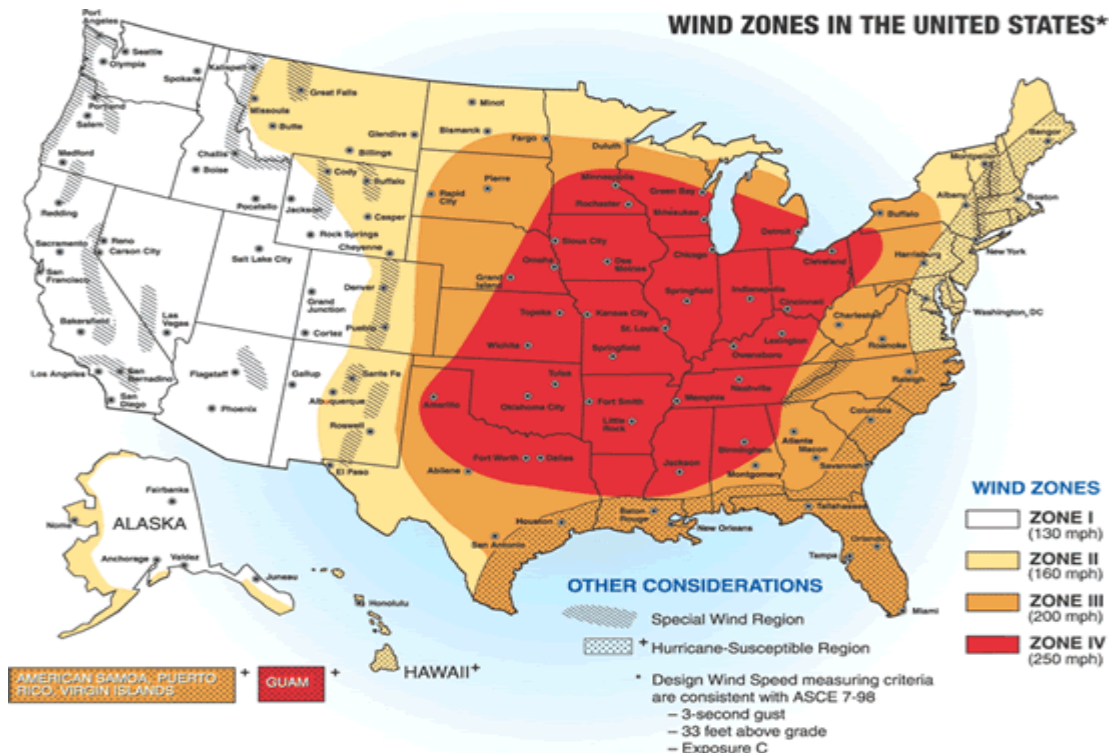


Figure 4-4: Wind Zones in the United States



Source: www.fema.gov

Figure 4-4 shows the different wind zones throughout the State of Alabama used by the American Society of Civil Engineers (ASCE) for determining design wind speeds. Design wind speeds are used by engineers to determine what type of winds (i.e. how strong) a building should be designed to withstand. According to **Figure 4-4**, the U. S. Wind Zone map, Cullman County is located in Zone IV. This map shows the frequency and strength of extreme windstorms across the U. S. The map is based on 40 years of tornado history and more than 100 years of hurricane history. Zone IV has experienced both frequent and strong tornadoes, with wind speeds reaching 250 mph.

Tornadoes are now measured using the new Enhanced Fujita Tornado Scale by examining the damage caused by the tornado after it passes over man-made structures and vegetation. The new scale was put into use in February of 2007. Due to the study period of the plan, this goes from 2003-2013 events shown in **Table 4-7** express the magnitude of tornadoes using the original

Fujita scale and the enhanced Fujita scale. Below is a table comparing the estimated winds in the original F-scale and the operational EF-scale that is currently in use by the National Weather Service, as well as damage descriptions of each category. Like the original Fujita scale, there are six categories from zero to five that represent damage in increasing degrees. The new scale incorporates the use of 28 Damage Indicators and 8 Degrees of Damage to assign a rating. The new scale takes into account quality of construction and standardizes different kinds of structures. The only differences between the Fujita Scale and the Enhanced Fujita Scale is adjusted wind speeds, measurements of which weren't used in previous ratings, and refined damage descriptors; to standardize ratings and to make it easier to rate tornadoes which strike few structures.

Table 4-19: Fujita Tornado Scales

Fujita Tornado Scale

Category	Wind Speed	Description of Damage
F0	40-72 mph	Light damage. Some damage to chimneys; break branches off trees; push over shallow-rooted trees; damage to sign boards.
F1	73-112 mph	Moderate damage. The lower limit is the beginning of hurricane speed. Roof surfaces peeled off; mobile homes pushed off foundations or overturned; moving autos pushed off roads.
F2	113-157 mph	Considerable damage. Roofs torn off frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light-object missiles generated.
F3	158-206 mph	Severe damage. Roofs and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted; cars lifted off ground and thrown.
F4	207-260 mph	Devastating damage. Well-constructed houses leveled; structures with weak foundations blown off some distance; cars thrown and large missiles generated.
F5	261-318 mph	Incredible damage. Strong frame houses lifted off foundations and carried considerable distance to disintegrate; automobile-sized missiles fly through the air in excess of 100-yards; trees debarked.

Source: FEMA, 1997.

Enhanced Fujita Tornado Scale

Category	Wind Speed	Description of Damage
EF0	65-85 mph	Light damage. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over.
EF1	86-110 mph	Moderate damage. Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	111-135 mph	Considerable damage. Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF3	136-165 mph	Severe damage. Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
EF4	166-200 mph	Devastating damage. Well-constructed houses and whole frame houses completely leveled; cars thrown and small missiles generated.
EF5	>200 mph	Incredible damage. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 m (109 yd); high-rise buildings have significant structural deformation; incredible phenomena will occur. So far only one EF5 tornado has been recorded since the Enhanced Fujita Scale was introduced on February 1, 2007.

Source: NOAA, NWS, Storm Prediction Center, 2007

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V. Floods/Flash Floods

Flooding is the accumulation of water within a water body (e.g., stream, river, lake, or reservoir) and the overflow of excess water onto adjacent floodplains. Floodplains are usually lowlands adjacent to water bodies that are subject to recurring floods.

Floods are natural events that are considered hazards only when people and property are affected. Nationwide, hundreds of floods occur each year, making them one of the most common hazards in the U.S. (FEMA, 1997). There are a number of categories of floods that have affected or could affect Cullman County, Alabama, including the following:

- Riverine flooding, including overflow from a river channel, flash floods, ice-jam floods and dam break floods
- Local drainage or high groundwater levels
- Fluctuating lake levels
- Debris flows
- Subsidence

While there is no sharp distinction between riverine floods, flash floods, alluvial fan floods, ice jam floods, and dam-break floods, these types of floods are widely recognized and may be helpful in considering the range of flood risk and appropriate responses.

The most common kind of flooding event is riverine flooding, also known as overbank flooding. Riverine floodplains range from narrow, confined channels in the steep valleys of mountainous and hilly regions, to wide, flat areas in plains and coastal regions. The amount of water in the floodplain is a function of the size and topography of the contributing watershed, the regional and local climate, and land use characteristics. In steep valleys, flooding is usually rapid and deep, but of short duration, while flooding in flat areas is typically slow, relatively shallow, and may last for long periods of time.

Flash floods involve a rapid rise in water level, high velocity, and large amounts of debris, which can lead to significant damage that includes the tearing out of trees, undermining of buildings and bridges, and scouring new channels. The intensity of flash flooding is a function of the intensity and duration of rainfall, steepness of the watershed, stream gradients, watershed vegetation, natural and artificial flood storage areas, and configuration of the streambed and

floodplain. Dam failure and ice jams may also lead to flash flooding.

Alluvial fan floods occur in the deposits of rock and soil that have eroded from mountainsides and accumulated on valley floors in the pattern of a fan. Alluvial fan floods often cause greater damage than overbank flooding due to the high velocity of the flow, amount of debris, and broad area affected. Human activities may exacerbate flooding and erosion on alluvial fans via increased velocity along roadway acting as temporary drainage channels or changes to natural drainage channels from fill, grading, and structures.

Ice jam floods are primarily a function of the weather and are most likely to occur where the channel slope naturally decreases, culverts freeze solid, reservoir headwaters, natural channel constructions (e.g., bends and bridges), and along shallows.

Dam-break floods may occur due to structural failures (e.g., progressive erosion), overtopping or breach from flooding, or earthquakes.

Local drainage floods may occur outside of recognized drainage channels or delineated floodplains for a variety of reasons, including concentrated local precipitation, a lack of infiltration, inadequate facilities for drainage and storm water conveyance, and/or increased surface runoff. Such events often occur in flat areas, particularly during winter and spring in areas with frozen ground, and also in urbanized areas with large impermeable surfaces. High groundwater flooding is a seasonal occurrence in some areas, but may occur in other areas after prolonged periods of above-average precipitation.

Flooding/flash flooding caused by rainfall occurs to some extent almost every year in almost every part of Cullman County. Flooding occurs most frequently between November and April, with a peak from February through April. Flash flooding has the potential to affect every jurisdiction in Cullman County. Riverine flooding can potentially create minor to moderate property damage and a slight risk of casualties throughout areas of the county adjacent to rivers and creeks. Flash flooding can potentially create extensive property damage and casualties to the entire county. Riverine and flash flooding can also affect accessibility for emergency services. **Table 4-20** shows the flood risk in dollar amount to critical facilities in Cullman County based on FEMA HAZUS-MH 2011.

**Table 4-20: Flood Risk to Cullman County Critical Facilities
based on FEMA HAZUS Data**

County	Police	Schools	Fire	EOCs	Total
Cullman	\$6,300,000	\$133,254,000	\$28,980,000	\$900,000	\$169,434,000

(Source: HAZUS MH 2.- 2011; Developed in 2014)

Dam and levee failures are flood risks. According to HAZUS-MH 2011, Cullman County has 20 High Density Polyethylene (HPDE - Earth) Dams, 1 HPDG (Concrete Gravity) and 1 HPDZ (Miscellaneous) dam. According to reports from the Corps of Engineers for the years 1978-1980, Lake Catoma Dam, Wallace Hathcock Dam, and Eva Road Lake Dam are considered high hazard dams. Lake George Dam and Sportsman Lake Dam are considered unsafe dams. Contrasting this information is the National Oceanographic and Atmospheric Administration (1997) stating Cullman County has six high hazard dams. A copy of the Dam Safety Emergency Plan for Lake George Dam, Sportsman Lake, and Lewis Smith Dam is located in the Cullman County EMA Office. In the event of a flood or significant earthquake in Cullman County, the possibility for an emergency situation could exist at these three dams. The CCEMA is prepared to coordinate efforts if an event arises at these dams. No historical records are available of dam/levee failures in Cullman County. When a dam fails, a large quantity of water is suddenly released downstream, destroying anything in its path. The area impacted by the water emitted by dam failure would encounter the same risks as those in a flood zone during periods of flooding. The area directly affected by the water released during a dam failure is not county wide.

The Duck River Dam is under construction to establish a water reservoir just outside the Cullman City Limits. The dam is to be completed within the next five years, possibly in one to two years. The CCEMA Director is working to acquire pertinent data on this dam, to include the estimated flood potential. A plan will have to be developed to address a catastrophic failure with flooding downstream.

Flooding can occur along the banks of the creeks and streams that flow throughout the county and where development has encroached in the floodplain. Flash flooding can occur anywhere in the county due to inadequate or clogged drainage systems and excessive rainfall.

Unpaved dirt roads, common in the rural areas, are particularly vulnerable. Impacts in developed areas include street flooding and water backing up into homes and buildings. In addition to damaging homes, flooding can adversely impact crops, water and sewer systems, and dams and levees. All jurisdictions are vulnerable to flood events.

On July 14, 2005, flash flooding washed out a bridge on County Road 985, four miles southwest of Jones Chapel and resulted in \$20,000 property damage. On January 8, 2009, an area of low pressure developed along a stalled frontal boundary across Northeastern Alabama. Heavy rainfall and thunderstorms developed along and behind the front as the low moved northeast. Heavy rainfall caused area creeks and streams to flood numerous roads. Some bridges and road were damaged or destroyed by flood waters including: a wooden bridge on County Road 1651 and bridges on County Road 1427 and County Road 310. Particularly hard hit areas were Baileyton, Holly Pond, and Fairview. This storm resulted in \$300,000 property damage. (*Source: NOAA NCDC*)

The probability of future occurrences of dam/levee failure events cannot be characterized on a countywide basis because of the lack of information available. The qualitative probability is rated low because the overall area affected is low and impacts are localized. This rating is intended only for general comparison to other hazards that are being considered.

Local drainage floods may occur outside of recognized drainage channels or delineated flood plains for a variety of reasons, including concentrated local precipitation, a lack of infiltration, inadequate facilities for drainage and storm water conveyance, and/or increased surface runoff. Such events often occur in flat areas, particularly during winter and spring in areas with frozen ground, and also in urbanized areas with large impermeable surfaces. High groundwater flooding is a seasonal occurrence in some areas, but may occur in other areas after prolonged periods of above-average precipitation.

Floods are described in terms of their extent (including the horizontal area affected and the vertical depth of floodwaters) and the related probability of occurrence. During this plan's study period, flooding occurred to the extent of 18 inches of water in businesses and 12 inches of water on roadways (*Source: NCDC Storm Events*). Flood studies use historical records to determine the probability of occurrence for different extents of flooding. The probability of occurrence is expressed in percentages as the chance of a flood of a specific extent occurring in

any given year. It is also often referred to as the “100-year flood” since its probability of occurrence suggests it should only occur once every 100 years. This expression is, however, merely a simple and general way to express the statistical likelihood of a flood; actual recurrence periods are variable from place to place. Smaller floods occur more often than larger (deeper and more widespread) floods. Thus, a “10-year” flood has a greater likelihood of occurring than a “100-year” flood. **Table 4-21** shows a range of flood recurrence intervals and their probabilities of occurrence.

Table 4-21: Flood Probability Terms	
Flood Recurrence Intervals	Percent Chance of Annual Occurrence
10-Year	10.0%
50-Year	2.0%
100-Year	1.0%
500-Year	0.2%
<i>(Source: FEMA, August 2001)</i>	

Cullman County experienced 51 flood/flash flood events in a 10 year period resulting in a greater than 100% probability that a flood/flash flood event will occur on an annual basis. The total amount of damages for the 51 flood/flash flood events was \$340,000 with 4 flood/flash flood events causing damage resulting in an estimated \$85,000 of expected annual damages from future events. The referenced flood event(s) are the ones that resulted in the most damages, deaths, and injuries during the past ten year period and serves as the extent/range of magnitude or severity that could be experienced by Cullman County due to a flood event; the ranking is minor to major.

Primary Effects from Floods in Cullman County would include:

1. Loss of life
2. Property damage
3. Crop damage

4. Dam and levee failure

Hazardous results from significant flood in Cullman County would include:

1. Rising water levels can quickly sweep people along in its path.
2. Rapidly moving water destroys anything in its path and also leaves hazardous mold and breed insects.
3. Periods of standing water kill inadaptible plants, and flowing water removes sediment and nutrients from the soil.
4. Breached dams and levees allow water to flood into the surrounding floodplain resulting in destruction of crops and property.

Dam failures may result from one or more the following:

1. Prolonged periods of rainfall and flooding (the cause of most failures)
2. Inadequate spillway capacity which causes excess overtopping flows
3. Internal erosion erosions due to embankment or foundation leakage or piping
4. Improper maintenance
5. Improper design
6. Negligent operation
7. Failure of upstream dams
8. Landslides into reservoirs
9. High winds
10. Earthquakes

Flood Assessment Tools

Programs

Cullman County participates in the *National Flood Insurance Program (NFIP)*. The *NFIP* allows property owners to purchase federally sponsored flood insurance. The *NFIP* maps communities in order to establish Flood Risk Zones or Special Flood Hazards Areas. These hazard areas are then mapped on the *Flood Insurance Rate Maps (FIRMS)*. *FIRMS* are used to assess the risks of floods and aid in proper floodplain management. An update of the flood maps of Cullman County was completed in 2011. Currently Baileyton and Fairview are not

participating in the NFIP (they plan to work toward becoming a participating NFIP member in the future); while the county and remaining jurisdictions are considered participants in the NFIP. The Town of South Vinemont has no special flood hazard areas identified; therefore, all areas are Zone C. The Towns of Colony, Dodge City, Garden City, Holly Pond, and West Point have no determined elevations; therefore, all areas are Zone A, C, and X. The National Flood Insurance Program (NFIP) requires local participation. **Table 4-22** shows the current NFIP status of each jurisdiction. There are no Severe Repetitive Loss properties or Repetitive Loss properties in Cullman County at this time.

Flood Mitigation Assistance Program (FMA) - This program now allows for additional cost share flexibility: up to 100% federal cost share for severe repetitive loss properties; up to 90% federal costs share for repetitive loss properties; and 75% federal cost share for NFIP insured properties. The Repetitive Flood Claims (RFC) and Severe Repetitive Loss (SRL) Grant Programs were eliminated by the Biggert-Waters Flood Insurance Reform Act of 2012. Elements of these flood grant programs have been incorporated into FMA.

Regulations

The *National Pollutant Discharge Elimination System (NPDES)* requires cities to obtain a NPDES permit for the discharge of wastewater/storm water. This program will address residential and commercial land uses, illicit discharges and improper disposal, industrial facilities, and construction sites.

Additionally, Cullman County and each jurisdiction have various plans and regulatory tools in place to aid in hazard mitigation as shown earlier in the plan in **Table 2-1**.

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Table 4-22: Cullman County National Flood Insurance Program Status by Jurisdiction						
CID	Community Name	Initial FHBM Identified	Initial FIRM Identified	Current Eff. Map Date	Reg-Emer Date	Tribal
010247#	Cullman County	07/28/78	06/17/91	05/24/11	02/27/06	No
010435#	Town of Baileyton	Not Participating	12/02/04	05/24/11	12/02/05	No
010439#	Town of Colony		12/02/04	05/24/11 (M)	03/25/08	No
010209#	City of Cullman	08/09/74	01/14/77	05/24/11	01/14/77	No
010438#	Town of Dodge City		12/02/04	05/24/11 (M)	07/27/06	No
010434#	Town of Fairview	Not Participating	12/02/04	05/24/11	12/02/05	No
010436#	Town of Garden City		12/02/04	05/24/11 (M)	06/26/06	No
010437#	Town of Good Hope		12/02/04	05/24/11	03/01/05	No
010059#	City of Hanceville	04/12/74	09/15/78	05/24/11	09/15/78	No
010440#	Town of Holly Pond		12/02/04	05/24/11 (M)	06/26/06	No
010365#	Town of South Vinemont	10/01/76	12/02/04	(NSFHA)	09/04/05	No
010441#	Town of West Point		12/02/04	05/24/11 (M)	06/25/07	No
<i>Source: FEMA Community Status Book Report as of February 6, 2014</i>						
<i>Key: M = No Elevation Determined – All Zone A, C, and X NSFHA = No Special Flood Hazard Area – All Zone C</i>						

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VI. Drought/Extreme Heat

Droughts and heat waves have a county-wide impact. The future incidence of drought is highly unpredictable, conditions may be localized or widespread, and not much historical data is available making it difficult to determine the future probability of drought conditions with any accuracy. The qualitative probability rating for drought is high. Though historically not a major problem, the region is susceptible to extreme drought conditions.

The climate of Cullman County is best described as being closer to a continental climate. Average temperature ranges from 90 degrees F to 70 degrees F during a summer day and 45 degrees F to 10 degrees F during a winter day to 65 degrees F to 50 degrees F during a summer night and 25 degrees F to -10 degrees F during a winter night. Generally, Cullman County has hot summers and mild winters.

Drought is a normal part of virtually every climate on the planet, including areas of both high and low normal rainfalls. Drought is the result of a natural decline in the expected precipitation over an extended period of time, typically one or more seasons in length. The severity of drought can be aggravated by other climatic factors, such as prolonged high winds and low relative humidity (FEMA, 1997). Drought is a complex natural hazard which is reflected in the following four definitions commonly used to describe it:

Meteorological droughts are defined as the degree of dryness as compared to the normal precipitation for the area over the duration of the dry season. This type of drought is specific to a given region since atmospheric conditions and precipitation vary from one region to the next.

Hydrological droughts are associated with the effects of precipitation deficiencies on surface or groundwater supplies. Hydrological droughts do not occur as often as meteorological or agricultural droughts. It takes longer for precipitation deficiencies to show up in soil moisture, stream flow, groundwater levels, and reservoir levels. Hydrological droughts have an immediate impact on crop production, but reservoirs may not be affected for several months. Climate, changes in land use, land degradation, and the construction of dams can have adverse effects on the hydrological system especially in drought conditions.

Agricultural droughts occur when the moisture in the soil no longer meets the needs of the crops.

Socioeconomic droughts occur when physical water shortage begins to affect people and their quality of life. Socioeconomic drought occurs when the demand for water exceeds the supply as a result of weather-related supply shortfall. They may also be called a water management drought. A drought's severity depends on numerous factors, including duration, intensity, and geographic extent as well as regional water supply demands by humans and vegetation. Due to its multidimensional nature, drought is difficult to define in exact terms and also poses difficulties in terms of comprehensive risk assessments.

Drought differs from other natural hazards in three ways. First, the onset and end of a drought are difficult to determine due to the slow accumulation and lingering of effects of an event after its apparent end. Second, the lack of an exact and universally accepted definition adds to the confusion of its existence and severity. Third, in contrast with other natural hazards, the impact of drought is less obvious and may be spread over a larger geographic area. These characteristics have hindered the preparation of drought contingency or mitigation plans by many governments.

Droughts may cause a shortage of water for human and industrial consumption, hydroelectric power, recreation, and navigation. Water quality may also decline and the number and severity of wildfires may increase. Severe droughts may result in the loss of agricultural crops and forest products, undernourished wildlife and livestock, lower land values, and higher unemployment.

Extreme summer heat is the combination of very high temperatures and exceptionally humid conditions. If such conditions persist for an extended period of time, it is called a heat wave (FEMA, 1997). Heat stress can be indexed by combining the effects of temperature and humidity, as shown in **Table 4-24**. The index estimates the relationship between dry bulb temperatures (at different humidity) and the skin's resistance to heat and moisture transfer - the higher the temperature or humidity, the higher the apparent temperature. The human risks associated with extreme heat include heatstroke, heat exhaustion, heat syncope, heat cramps.

In addition to affecting people, severe heat places significant stress on plants and animals. The effects of severe heat on agricultural products, such as cotton, may include reduced yields and even loss of crops (Brown and Zeiher, 1997). Similarly, cows may become overheated, leading to reduced milk production and other problems. (Garcia, September 2002).

Drought is a natural event that, unlike floods or tornadoes, does not occur in a violent burst but gradually happens; furthermore, the duration and extent of drought conditions are unknown because rainfall is unpredictable in amount, duration and location. Drought events can potentially affect the entire county.

The Draft Alabama Drought Management Plan (DMP), developed by the Alabama Department of Economic and Community Affairs – Office of Water Resources (ADECA-OWR), defines drought in terms of several indices that describe the relative amounts of surface water flow, groundwater levels, and recent precipitation as compared to localized norms. Because drought is defined in relative terms, it can be stated that all areas of the county are susceptible to drought.

The National Weather Service uses two indexes to categorize drought. The most accurate index of short-term drought is the Crop Moisture Index (CMI). This index is effective in determining short-term dryness or wetness affecting agriculture. The most accurate index of long-term drought is the Palmer Index (PI). It has become the semi-official index of drought.

Cullman County experienced moderate (D1) to exceptional (D4) drought conditions, as explained in **Table 4-23**, from March 2007 through August 2008 having hydrologic, agricultural, and sociological impacts. Crops became highly stressed due to the lack of rainfall, with losses ranging from 50 to nearly 100 percent. Many crops were considered to be in poor or very poor condition, along with livestock and hay production. In addition, about 60 percent of the livestock, and 75 percent of pasture lands, were also considered to be poor or very poor, and hay yields for the summer were less than half of normal. Stream flows on area rivers and waterways remained near record low levels, and most reservoir levels were well below normal. Navigation on major rivers became significantly impacted, and many boat landings on major lakes became unusable due to extremely low lake levels. The number of mandatory water restrictions continued to increase, with fines and surcharges being enforced for excessive water usage. Many residential lawns, shrubbery, and gardens became severely stressed by the very dry conditions. Statewide, 31 counties were declared a disaster area. Alabama farmers received one million dollars in federal disaster aid along with other grant assistance. It was during this time that the State implemented its Drought Monitoring System. Drought conditions continued to escalate and by August 2007 all 67 Alabama counties were declared Natural Disaster areas by the

Federal Government. The State Agriculture Commissioner (at the time) Ron Sparks referred to this event as the worst drought in 30-40 years. (Source: NOAA NCDC)

Table 4-23: Drought Severity Classification

Category	Description	Possible Impacts	Ranges				
			Palmer Drought Index	CPC Soil Moisture Model (Percentiles)	USGS Weekly Streamflow (Percentiles)	Standardized Precipitation Index (SPI)	Objective Short and Long-term Drought Indicator Blends (Percentiles)
D0	Abnormally Dry	Going into drought: short-term dryness slowing planting, growth of crops or pastures. Coming out of drought: some lingering water deficits; pastures or crops not fully recovered	-1.0 to -1.9	21-30	21-30	-0.5 to -0.7	21-30
D1	Moderate Drought	Some damage to crops, pastures; streams, reservoirs, or wells low, some water shortages developing or imminent; voluntary water-use restrictions requested	-2.0 to -2.9	11-20	11-20	-0.8 to -1.2	11-20
D2	Severe Drought	Crop or pasture losses likely; water shortages common; water restrictions imposed	-3.0 to -3.9	6-10	6-10	-1.3 to -1.5	6-10
D3	Extreme Drought	Major crop/pasture losses; widespread water shortages or restrictions	-4.0 to -4.9	3-5	3-5	-1.6 to -1.9	3-5
D4	Exceptional Drought	Exceptional and widespread crop/pasture losses; shortages of water in reservoirs, streams, and wells creating water emergencies	-5.0 or less	0-2	0-2	-2.0 or less	0-2

(Accessed 2014)

On August 15, 2010, the heat index values in Cullman County reached the 110 to 115 degree range between 1 p.m. and 4 p.m. prior to thunderstorm activity and cloud cover developed. This event is referenced as a worst case scenario of such an event occurring during

the plan's study period of 2003-2013.

Cullman County experienced 23 drought/extreme heat events in a 10 year period resulting in a greater than 100% probability that a drought event will occur on an annual basis. The total amount of damages for the 23 drought/extreme heat events was \$0 with 0 drought events causing damage resulting in an estimated \$0 of expected annual damages from future events. The referenced drought/extreme heat event(s) are the ones that resulted in the most damages, deaths, and injuries during the past ten year period and serves as the extent/range of magnitude or severity that could be experienced by Cullman County due to a drought/extreme heat event; the ranking is minor to major.

Primary effects from Drought and Excessive Heat in Cullman County would include:

1. Crop and other agricultural damage
2. Water supply shortage - water wells, creeks, rivers, and lakes dry up
3. Increase vulnerability to forest fires and sinkholes
4. Heat exhaustion; heat stroke; heat syncope; and heat cramps

Hazardous results from significant Drought and Excessive Heat in Cullman County would include:

1. Agricultural damage from drought will result in economic losses of crops and livestock.
2. A water supply shortage will result in the necessity for water to be trucked into the area, damage to the sewer system and lack of hydroelectric power.
3. Forest fires can devastate vast acreages and burn homes and businesses.
4. Heat exhaustion can be debilitating and result in a hospital stay. Heat stroke can cause death.
5. Energy prices will inflate due to loss of hydro-power

Temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks are defined as extreme heat. Humid or muggy conditions occur when a "dome" of high atmospheric pressure traps hazy, damp air near the ground. The combination of high temperatures and humid conditions increase the level of discomfort and the potential for danger to humans. A sibling to the heat wave is the drought. Droughts occur when a long period passes without any substantial rainfall. A heat wave combined with a drought is a very

dangerous situation.

The human risks associated with extreme heat include heatstroke, heat exhaustion, heat syncope, heat cramps. A description of each of these conditions follows:

- Heatstroke is considered a medical emergency and is often fatal. It exists when rectal temperature rises above 105°F as a result of environmental temperatures. Patients may be delirious, stuporous, or comatose. The death to care ratio in reported cases averages about 15%.
- Heat Exhaustion is much less severe than heatstroke. The body temperature may be normal or slightly elevated. A person suffering from heat exhaustion may complain of dizziness, weakness or fatigue. The primary cause of heat exhaustion is fluid and electrolyte imbalance. The normalization of fluids will typically alleviate the situation.
- Heat Syncope is typically associated with exercise by people who are not acclimated to exercise. The symptom is a sudden loss of consciousness. Consciousness returns promptly when the person lies down. The cause is primarily associated with circulatory instability as a result of heat. The condition typically causes little or no harm to the individual.
- Heat Cramps are typically a problem for individuals who exercise outdoors but are unaccustomed to heat. Similar to heat exhaustion it is thought to be a result of a mild imbalance of fluids and electrolytes.

In 1979 R. G. Steadman, a meteorologist, developed the heat index, which is a relationship between dry bulb temperatures (at different humidity) and the skin's resistance to heat and moisture transfer. Utilizing Steadman's heat index, the following table was developed to show the risk associated with ranges in apparent temperature or heat index.

Table 4-24: Heat Index/Heat Disorders

Danger Category	Heat Disorder	Apparent Temperature (°F)
IV Extreme Danger	Heatstroke or sunstroke imminent.	>130
III Danger	Sunstroke, heat cramps, or heat exhaustion likely, heat stroke possible with prolonged exposure and physical activity.	105-130
II Extreme Caution	Sunstroke, heat cramps, and heat exhaustion possible with prolonged exposure and physical activity.	90-105
I Caution	Fatigue possible with prolonged exposure and physical activity.	80-90

(Source: National Weather Service, 1997)

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VII. Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold

Cullman County is vulnerable to extreme winter weather conditions such as extreme cold temperatures, snow, and ice. **Table 4-10** shows the winter storm/frost freeze/heavy snow/ice storm/winter weather/extreme cold events that have affected Cullman County from 2003 - 2013.

Cullman County commonly has extreme cold and winter storm events. These events impact the county in a variety of ways. Ice and small amounts of snow can cripple the county. Drivers are not accustomed to driving in these conditions, therefore many accidents occur. Snow and ice can weigh down tree limbs and power lines causing them to break, resulting in power failure and property damage. Local businesses and residents are not equipped with generators to restore power during these severe winter weather events. Also many homes may not be properly insulated, leading to health concerns and deaths. Since these storms have no defined track, all residents of Cullman County are vulnerable to severe winter storms.

The most common impacts of severe winter weather are power failure due to downed power lines and traffic hazards. Winter storm occurrences tend to be very disruptive to transportation and commerce as the county and its citizens are unaccustomed to them. Trees, cars, roads, and other surfaces develop a coating or glaze of ice, making even small accumulations of ice extremely hazardous to motorists and pedestrians. The most prevalent impacts of heavy accumulations of ice are slippery roads and walkways that lead to vehicle and pedestrian accidents; collapsed roofs from fallen trees and limbs and heavy ice and snow loads; and fallen trees, telephone poles and lines, electrical wires, and communication towers. As a result of severe ice storms, telecommunications and power can be disrupted for days. Also many homes and buildings, especially in rural areas, lack proper insulation or heating, leading to risk of hypothermia. Extremely cold temperatures accompanied by strong winds can result in wind chills that cause bodily injury such as frostbite and death.

Frost freezes occurred most recently on October 26, 2013 temperatures dropped below 32F degrees for at least three hours; the temperature in Hanceville was 24F degrees. On October 31, 2012, low temperatures ranged from the upper 20s to lower 30s; the City of Cullman recorded at or below 32F degrees with a minimum temperature of 29F degrees.

In January 2011, a heavy snow event resulted in \$100 property damage. A trace to seven inches of snowfall fell across Cullman County, with most of the county receiving between four and

six inches of snowfall. Totals were four inches or less in southern portions of the county near a line from Hanceville to locations south of Crane Hill. The snow ended as a mix of sleet and freezing rain on the tenth, producing minor accumulations of ice over the deep snowfall. Although this event resulted in minor damages, Cullman County is not equipped to function daily in snow and ice conditions; therefore, such events have the potential to greatly affect the county.

Winter weather occurred most recently on February 3, 2011 resulting in one to two inches of snowfall across Cullman County.

Cullman County experienced 28 winter storm/frost freeze/heavy snow/ice storm/winter weather/extreme cold events in a 10 year period resulting in a greater than 100% probability that a winter storm/frost freeze/heavy snow/ice storm/winter weather/extreme cold event will occur on an annual basis. The total amount of damages for the 28 winter storm/frost freeze/heavy snow/ice storm/winter weather/extreme cold events was \$100 with 1 winter storm/frost freeze/heavy snow/ice storm/winter weather/extreme cold event causing damage resulting in an estimated \$100 of expected annual damages from future events. The referenced winter storm/frost freeze/heavy snow/ice storm/winter weather/extreme cold event(s) are the ones that resulted in the most damages, deaths, and injuries during the past ten year period and serves as the extent/range of magnitude or severity that could be experienced by Cullman County due to a winter storm/frost freeze/heavy snow/ice storm/winter weather/extreme cold event; the ranking is minimum to minor.

Primary effects from winter storms in Cullman County would include:

1. Injury and damage from downed trees and utility lines due to the snow and ice load
2. Widespread impassable roads and bridges
3. Disruption of services and response capabilities
4. Crop and other agricultural damage

Hazardous results from winter storms in Cullman County would include:

1. Loss of power, communications, and fires are common results of severe winter storms. Widespread power outages close down businesses and impact hospitals, nursing homes, and adult and child care facilities serving special needs populations.

2. Loss of transportation ability will affect emergency response, recovery and supply of food and materials.
3. Numerous vehicle accidents in a winter storm can stretch thin the resources of fire rescue and law enforcement.
4. Stranded motorists and the homeless can create a food and housing shortage within the community.
5. The widespread nature of winter storms usually creates a strain on police, fire and medical providers due to the volume of calls for service.

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VIII. Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind

Hurricane season in the northern Atlantic Ocean, which affects the United States, begins on June 1 and ends on November 31. These months accompany warmer sea surface temperatures which is a required element to produce the necessary environment for tropical cyclone/hurricane development.

NOAA measures wind speeds for thunderstorm/wind and hurricane events in knots (kts) while the Saffir-Simpson scale as shown in **Table 4-25**, measures wind speed in miles per hour. Both knots and miles per hour is a speed measured by a number of units of distance covered in certain amount of time. Here is how knots compare to MPH:

- 1 knot = 1 nautical mile per hour = 6076.12 feet per hour
- 1 MPH = 1 mile per hour = 5280 feet per hour

To convert knots into miles per hour, multiply the number of knots by 1.151.

Saffir-Simpson Hurricane Wind Scale

Once a tropical storm reaches the level of a hurricane, it is then classified by the storm's intensity. Intensity levels, or categories, are used to assign a number (e.g., Category 1) to a hurricane based on the storm's intensity at the current time. The Saffir-Simpson Hurricane Wind Scale, **Table 4-25**, is a 1 to 5 rating based on a hurricane's sustained wind speed. This scale estimates potential property damage. Hurricanes reaching Category 3 and higher are considered major hurricanes because of their potential for significant loss of life and damage. With the scale in place, people within the hurricane's tract can better estimate the type of damage they should expect (i.e., wind, storm surge, and/or flooding impacts) due to the intensity of the oncoming hurricane.

Table 4-25: Saffir-Simpson Hurricane Wind Scale

Category	Sustained Winds	Types of Damage Due to Hurricane Winds
1	74-95 mph 64-82 kt 119-153 km/h	Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.
2	96-110 mph 83-95 kt 154-177 km/h	Extremely dangerous winds will cause extensive damage: Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.
3 (major)	111-129 mph 96-112 kt 178-208 km/h	Devastating damage will occur: Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
4 (major)	130-156 mph 113-136 kt 209-251 km/h	Catastrophic damage will occur: Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5 (major)	157 mph or higher 137 kt or higher 252 km/h or higher	Catastrophic damage will occur: A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

(Source: National Hurricane Center – NOAA; Accessed 2014)

Hurricanes impact areas in a variety of ways. The intensity of the storm, the speed of the winds, whether the storm moves through an area quickly or whether it stalls over one area all are variables toward the physical damage the storm will cause. Storm surges, high winds, and heavy rains are the three primary elements of hurricanes, while tornados and inland flooding are potential secondary elements caused in the wake of the storm. Cullman County is not directly affected by storm surges.

Cullman County is at a low risk for a direct hit by a hurricane due to its position several miles inland from the Alabama coastline. Although Cullman County does not feel the effects of

storm surges, other effects including heavy rain, flooding, winds, and tornados often have significant impacts on Cullman County.

Hurricanes and tropical storms such as Dennis and Katrina have affected Cullman County. The most significant impacts have been related to excessive rainfall, damaging wind, and tornados. Residents suffer loss of power, damage to homes, blocked roadways from associated storm debris, and loss of other crucial utilities. Mobile homes are particularly vulnerable and are impacted more than conventionally built structures. Cullman County has a total of 7,366 mobile homes countywide, 19.89% of the total housing stock. The greatest concentration of mobile homes in a municipality is in the Town of Colony where 45.26% of the units are mobile homes.

Effects of these storms generally impact the entire county and are not limited to a specific location. The fact that other surrounding counties will have also been affected by the same event only adds to the burden, as utility crews are often overwhelmed by the needs of an entire region or state.

Hurricane Dennis made landfall on July 10, 2005 at the Santa Rosa Sound in Florida, approximately 25 miles from the Florida-Alabama state line. As much as 10 inches of rain fell in some areas causing flash flooding in Cullman County and throughout the state. The remnants of Tropical Storm Dennis moved northward from the Gulf Coast and into the Tennessee Valley during the evening of July 10th. Gusty winds in excess of tropical storm force resulted in some minor tree damage across Cullman County along with several power outages. The winds and rain diminished during the early morning hours of July 11th.

The remnants of Hurricane Katrina moved northward along the Alabama/Mississippi state line. Katrina was still a strong tropical storm as the center passed just west of North Alabama during the evening hours of August 29, 2005. Most of North Alabama experienced tropical storm force wind gusts for several hours with a few wind gusts as high as 60 mph being reported. While structural damage was very limited, a few homes did receive minor roof damage due to the loss of a few shingles. Numerous trees and power lines were blown down across the entire area and thousands of people lost power. Katrina moved relatively quickly to the north and thus rainfall was limited. Rainfall amounts were around four to five inches near the Alabama/Mississippi line but tapered off significantly farther to the east with locations near the Alabama/Georgia line only seeing a half inch or less.

On December 20, 2007, Cullman County experienced strong sustained winds of 30-40 miles per hour with gusts around 50 miles per hour. Strong winds down trees across roads in many locations across Cullman County. Cities reporting downed trees included: Crane Hill, Loretta, Bremen, Garden City, Battleground, Fairview, and Gold Ridge. Cullman County reported \$1 million in property damages.

On April 12-13, 2009, Cullman County experienced high winds between 45 -55 miles per hour with gusts approaching 65 miles per hour. These winds downed numerous trees and power lines across the county. Homes were damaged by fallen trees in many locations. Some of the hardest hit areas included: Logan, Cullman, Good Hope, Hanceville, and Catalina Point. Cullman County reported \$600,000 in property damages.

Cullman County experienced 8 hurricane/tropical storm/tropical depression/high wind/strong wind events in a 10 year period resulting in an 80% probability that a hurricane/tropical storm event will occur on an annual basis. The total amount of damages for the 8 hurricane/tropical storm/tropical depression/high wind/strong wind events was \$1,645,000 with 5 hurricane/tropical storm/tropical depression/high wind/strong wind events causing damage resulting in an estimated \$329,000 of expected annual damages from future events. The referenced hurricane/tropical storm/tropical depression/high wind/strong wind events are the ones that resulted in the most damages, deaths, and injuries during the past ten year period and serves as the extent/range of magnitude or severity that could be experienced by Cullman County due to a hurricane/tropical storm/tropical depression/high wind/strong wind event; the ranking is minor to major.

Primary Effects of Hurricanes:

1. Wind
 - a. Secondary cause of deaths related to hurricanes
 - b. Continue causing destruction as storm travels miles inland
 - c. Able to completely destroy towns and structures that fall within storm path
 - d. Winds near perimeter of eye of storm are strongest and most intense
 - e. Oftentimes produce tornados
2. Heavy Rains
 - a. Rain levels during hurricanes can easily exceed 15 to 20 inches

- b. Cause flooding beyond coastal regions

Secondary Effects of Hurricanes:

1. Tornadoes
 - a. Usually found in right-front quadrant of storm or embedded in rain bands
 - b. Some hurricanes capable of producing multiple twisters
 - c. Usually not accompanied by hail or numerous lightning strikes
 - d. Tornado production can occur for days after the hurricane makes landfall
 - e. Can develop at any time of the day or night during landfall of a hurricane
2. Inland Flooding
 - a. Statistically responsible for greatest number of fatalities over last 30 years
 - b. Stronger storms not necessarily cause of most flooding; weaker storms that move slowly across the landscape can deposit large amounts of rain, causing significant flooding

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IX. Sinkhole/Expansive Soil

Sinkholes

Land subsidence, the loss of surface elevation due to the removal of subsurface support, ranges from broad, regional lowering of the land surface to localized collapse. The primary cause of land subsidence is a direct result of human activity often in areas of karsts geology. The human activities that may trigger subsidence include mining and the withdrawal of groundwater and/or petroleum. The most dramatic form of subsidence is the collapse of superficial material into underground voids.

A sinkhole is a natural depression or hole in the surface topography caused by the removal of soil or bedrock, often both, by water. They may be formed gradually or suddenly. Sinkholes are common where the rock below the land surface is limestone, carbonate rock, salt beds, or rocks that can naturally be dissolved by circulating ground water. As the rock dissolves, spaces and caverns develop underground. These sinkholes can be dramatic because the surface land usually stays intact until there is not enough support. Then a sudden collapse of the land surface can occur.

There are three types of potential problems associated with the existence or formation of sinkholes: subsidence, flooding, and pollution. The term subsidence commonly involves a gradual sinking, but it also refers to an instantaneous or catastrophic collapse. In Cullman County, sinkholes are common where the rock below the land surface is limestone, dolomite, or salt that can naturally be dissolved by ground water. As the rock dissolves, cavities and caverns develop underground. Sinkholes may be dramatic if the land stays intact for some time until the underground spaces just get too big and a sudden collapse of the land surface occurs.

The change in the local environment affecting the soil mass causing subsidence and sinkholes collapse is called “triggering mechanism.” Water, is the main factor affecting the local environment that causes subsidence. The main triggering mechanisms for subsidence are:

- ☐ Water level decline,
- ☐ Changes in groundwater flow,
- ☐ Increased loading, and
- ☐ Deterioration (abandoned coalmines).

Water level decline can happen naturally or be human induced. Main factors in water decline are:

- ☐ Pumping of water from wells,
- ☐ Localized drainage from construction,
- ☐ Dewatering, and
- ☐ Drought

Changes in the groundwater flow (as indicated in **Figure 4-5**) include an increase in the velocity of groundwater movement, increase in the frequency of water table fluctuations, and increased or reduced recharge. Increased loading causes pressure in the soil leading to failure of underground cavities and spaces. Vibrations caused by an earthquake, vibrating machinery and blasting, can cause structural collapse followed by surface settlement.

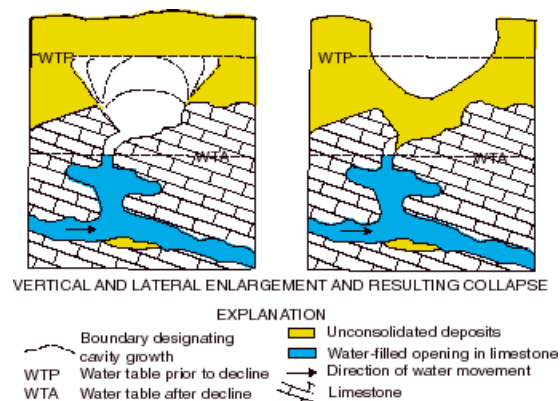


Figure 4-5
Water Level Decline

Source: Alabama Department of Transportation, 2014

Natural sinkholes occur where soluble limestone, carbonate rock, salt beds, or rocks can be dissolved by groundwater circulating through them. As the rock dissolves, spaces and caverns develop underground. The land usually stays intact until the underground spaces become too large to support the ground at the surface. When the ground loses its support it will collapse, forming a sinkhole. Sinkholes can be small or so extreme they consume an automobile or a house. The most damage from sinkholes tends to occur in Florida, Texas, Alabama, Missouri, Kentucky, Tennessee, and Pennsylvania.

Historically, land subsidence or sinkhole events have not been well documented. Cullman County geology has a low susceptibility to such events; therefore, is at a slight risk for sinkholes. The probability of future occurrences cannot be predicted due to a lack of historical records and detailed geologic studies. Areas in Cullman County underlain by carbonate rocks and characterized by the presence of subsurface cavities, sinkholes, and underground drainage are called "karst terrains." It is these karst areas that are most susceptible to sinkhole development and subsidence.

As development continues in rural areas of Cullman County it is likely that sinkholes will begin to have a greater impact on communities. When subsidence occurs in developed areas it can have a significant impact on communities including loss of property values, increased insurance costs and potential injuries.

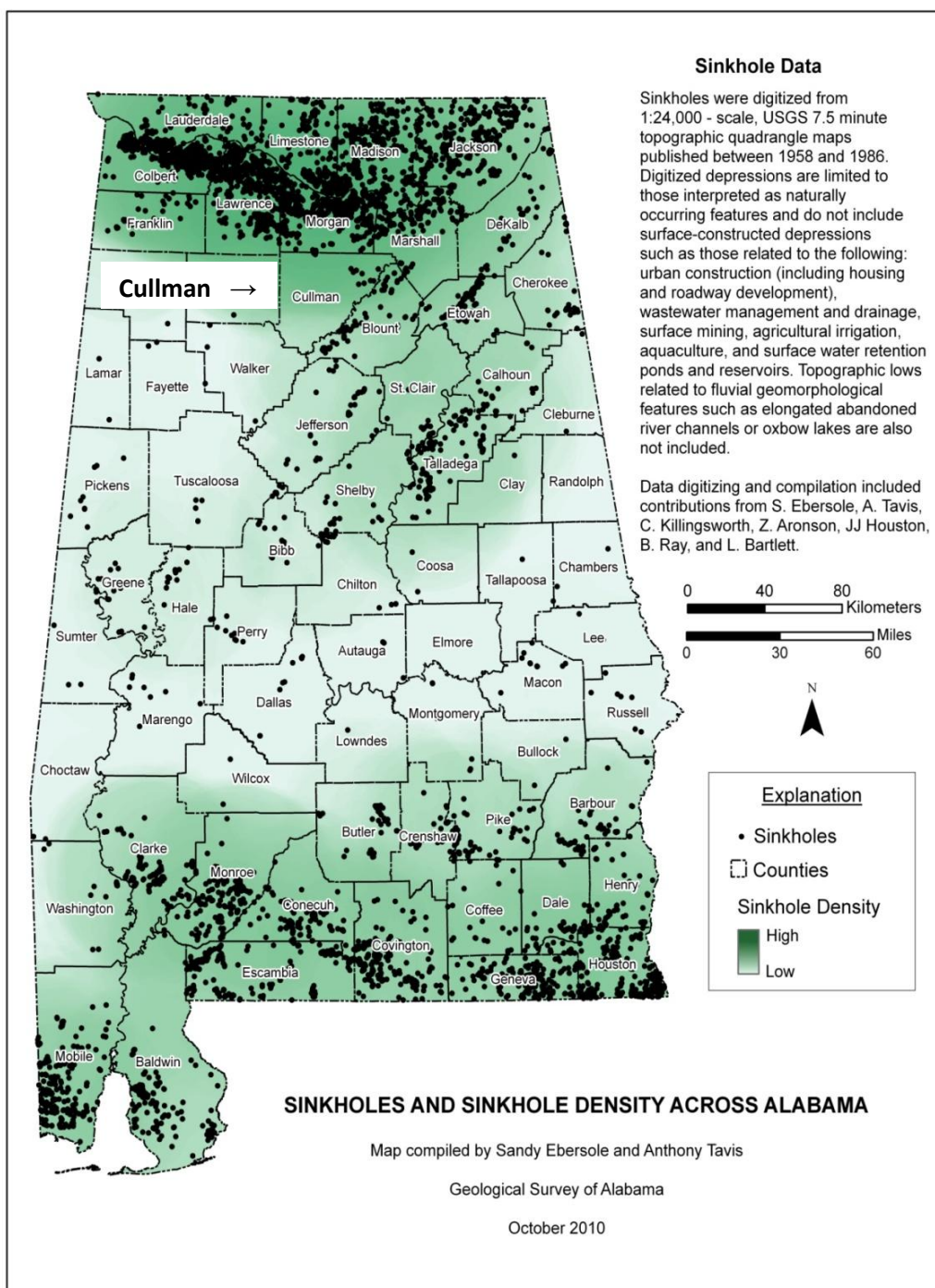
In Cullman County, sinkholes are common where the rock below the land surface is limestone, dolomite, or salt that can naturally be dissolved by ground water. As the rock dissolves, cavities and caverns develop underground. Sinkholes may be dramatic if the land stays intact for some time until the underground spaces just get too big and a sudden collapse of the land surface occurs. Some sinkholes are formed due to the leak in underground storm drains and sewer systems; when they collapse, the damage can be seen for many miles due to the repairs that become necessary.

The probability of future occurrences cannot be predicted due to a lack of historical records and detailed geologic studies. These are random events, which can be influenced by drought conditions.

Expansive soils are soils that swell when they come in contact with water. The presence of clay is generally the cause of such behavior. **Figure 4-7** shows the general soil areas for the state. Cullman County has Appalachian Plateau soils. There were no expansive soils reported from NOAA or local sources during the time frame covered by the plan. Though these soils have shrink-swell potential, the committee does not feel a profile is necessary.

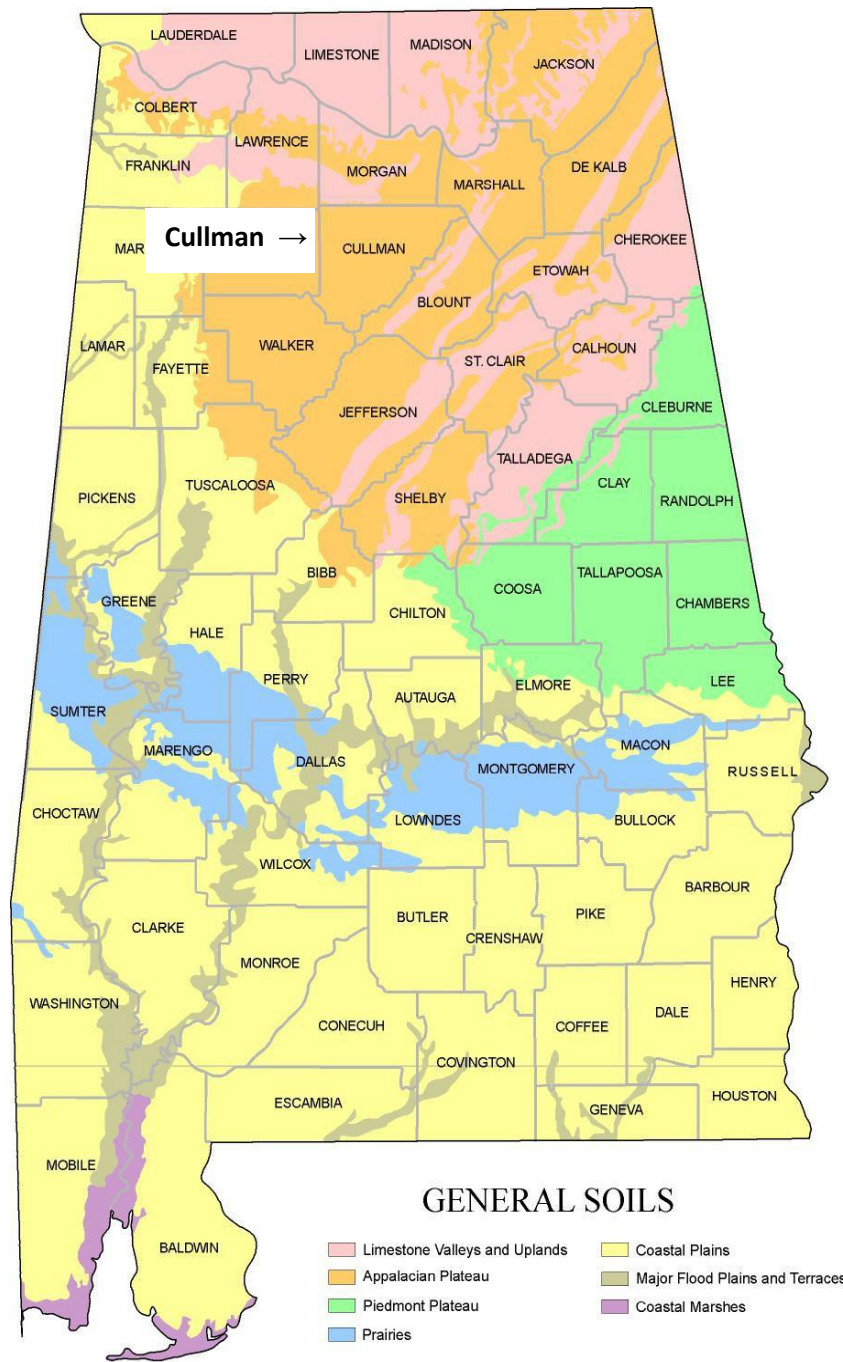
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Figure 4-6



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Figure 4-7: General Soils of Alabama



Source: Cartographic Research Lab, University of Alabama, 2014

Cullman County experienced 0 sinkhole/expansive soil events in a 10 year period resulting in a 0% probability that a sinkhole/expansive soil event will occur on an annual basis. The total amount of damages for the 0 sinkhole/expansive soil events was \$0 with \$0 sinkhole/expansive soil events causing damage resulting in an estimated \$0 of expected annual damages from future events. The extent/range of magnitude or severity that could be experienced by Cullman County due to a sinkhole/expansive soil event is minimum to minor based on the lack of historical records and detailed geologic studies.

Primary effects from sinkholes in Cullman County would include:

1. Property damage
2. Impassable roads
3. Sediment erosion
4. Infrastructure damage

Hazardous results from sinkholes in Cullman County would include:

1. When they are formed on land, they can change the general topography of the land area and divert streams of underground water.
2. If they form suddenly in areas with heavy population, they can cause a lot of damage to human life and property, as all in the area of the sinkhole may be lost.
3. They can be dangerous to the foundations of buildings. Total buildings could be lost.
4. Toxic chemicals beneath the earth can come up and may pollute the groundwater.

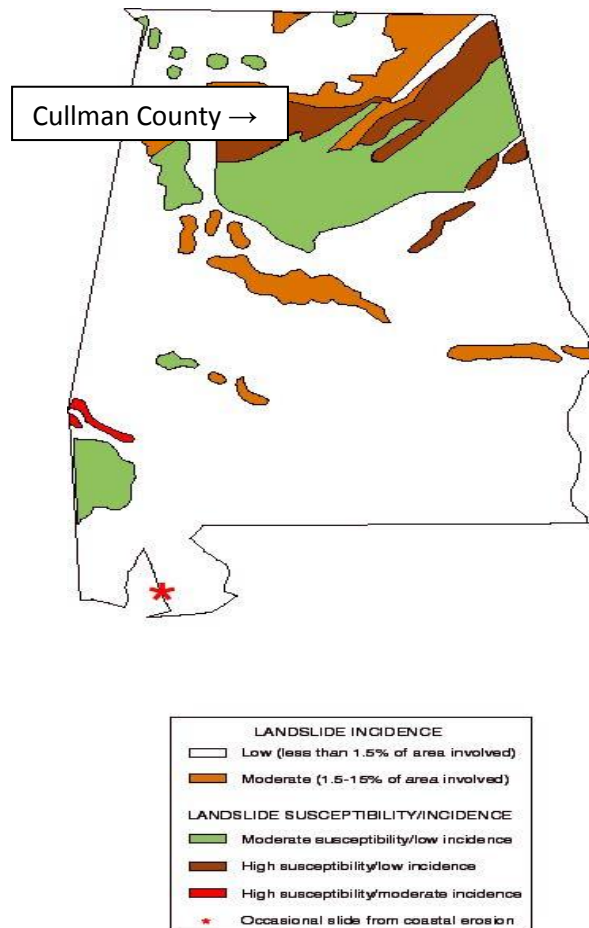
X. Landslide

A landslide is a geological phenomenon which includes a wide range of ground movement, such as rock falls, deep failure of slopes and shallow debris flows, which can occur in offshore, coastal and onshore environments. Although the gravity is the primary force for a landslide to occur, there are other contributing factors affecting the original slope stability. Typically, pre-conditional factors build up specific sub-surface conditions that make the area/slope prone to failure, whereas the actual landslide often requires a trigger before being released.

Land subsidence, the loss of surface elevation due to the removal of subsurface support, ranges from broad, regional lowering of the land surface to localized collapse. The primary cause of land subsidence is a direct result of human activity often in areas of karsts geology. The human activities that may trigger subsidence include mining and the withdrawal of groundwater and/or petroleum. The most dramatic form of subsidence is the collapse of superficial material into underground voids.

A landslide is defined by the United States Geological Survey as the movement of rock, debris, or earth down a slope. Various natural and man-induced triggers can cause a landslide. Naturally induced landslides occur as a result of weakened rock composition, heavy rain, changes in groundwater levels, and seismic activity. Geologic formations in a given area are key factors when determining landslide susceptibility. **Figure 4-8** shows moderate landslide incidence in Cullman County.

Figure 4-8: Landslide Incidences in Cullman County, AL



Source: U.S. Geological Survey

(Accessed 2014)

The map units are split into three incidence categories according to the percentage of the area affected by landslides. High incidence means greater than 15 percent of a given area has been involved in land sliding; medium incidence means that 1.5 to 15 percent of an area has been involved; and low incidence means that less than 1.5 percent of an area has been involved. High, medium, and low susceptibility are delimited by the same percentages used for classifying the incidence of land sliding. Susceptibility is not indicated where it is the same as or lower than incidence. Because the map above was prepared at a small scale using limited landslide and climate information, it is not intended for local planning or actual site selection.

The term landslide includes a wide range of ground movement, such as rock falls, deep

failure of slopes, and shallow debris flows. Although gravity acting on an over steepened slope is the primary reason for a landslide, there are other contributing factors:

- Erosion by rivers, glaciers, or ocean waves creates over-steepened slopes
- Rock and soil slopes are weakened through saturation by snowmelt or heavy rains
- Earthquakes create stresses that cause or encourage the failure of weak slopes
- Earthquakes of magnitude 4.0 and greater have been known to trigger landslides
- Volcanic eruptions produce loose ash deposits, heavy rain, and debris flows
- Excess weight from accumulation of rain or snow, stockpiling of rock or ore from waste piles, or from man-made structures may stress weak slopes to fail

Slides are downward displacements along one or more failure surfaces of soil or rock. The material may be a single intact mass or a number of pieces. The sliding may be rotational (turning about a point) or translational (movement roughly parallel to the failure surface).

Flows are a form of rapid mass movement by loose soils, rocks, and organic matter, together with air and water that form slurry flowing rapidly downhill. Flows are distinguished from slides by high water content and velocities that resemble those of viscous liquids.

Lateral spreads are large movements of rock, fine-grained soils (i.e., quick clays), or granular soils, distributed laterally. Liquefaction may occur in loose, granular soils, and can occur spontaneously due to changes in pore-water pressure or due to earthquake vibrations.

Falls and topples are masses of rocks or material that detach from a steep slope or cliff that free-fall, roll, or bounce. Movements typically are rapid to extremely rapid. Earthquakes commonly trigger rock falls.

Almost any steep or rugged terrain is susceptible to landslides under the right conditions. The most hazardous areas are steep slopes on ridges, hill, and mountains; incised stream channels; and slopes excavated for buildings and roads. Slide potentials are enhanced where slopes are destabilized by construction or river erosion. Road cuts and other altered or excavated areas are particularly susceptible to landslides and debris flows. Rainfall and seismic shaking by earthquakes or blasting can trigger landslides.

Debris flows (also referred to as mudslides) generally occur during intense rainfall on water saturated soil. They usually start on steep hillsides as soil slumps or slides that liquefy and accelerate to speeds as great as 35 miles per hour. Multiple debris flows may merge, gain volume,

and travel long distances from their source, making areas down slope particularly hazardous. Surface runoff channels along roadways and below culverts are common sites of debris flows and other landslides (USGS, 2000).

Landslides often occur together with other major natural disasters, such as the following, thereby exacerbating relief and reconstruction efforts:

- ☐ Floods and landslides are closely related and both involve precipitation, runoff, and ground saturation that may be the result of severe thunderstorms or tropical storms.
- ☐ Earthquakes may cause landslides ranging from rock falls and topples, to massive slides and flows.
- ☐ Landslides into a reservoir may indirectly compromise dam safety or a landslide may even affect the dam itself.
- ☐ Wildfires may remove vegetation from hillsides, significantly increasing runoff and landslide potential.

The probability of future occurrences cannot be predicted due to a lack of historical records and detailed geologic studies. These are random events, which can be influenced by drought conditions.

On March 26, 2010, an early morning landslide, as shown in **Figure 4-9**, located in the Smith Lake area created a major inconvenience for residents in Southwest Cullman County. A section of County Road 950 that runs parallel to the lake slid into the water following heavy rainfall, sending trees, dirt, and debris tumbling downhill and into the lake. The road dead ends past the landslide area in **Figure 4-9**. This event was not the first in this area. The county almost lost their track hoe while working on unstable grounds in the area prior to this event. The road runs along the deep channel of the lake and is set midway in the slope of a steep bank fronting the lake. County Road 950 is subject to subsidence from unstable soil and heavy erosion. According to the County Commission, the 5.5 mile County Road 109 would cost approximately \$25,000 per mile to repair.

Figure 4-9: Landslide in Cullman County



(Source: The Cullman Times, Benjamin Bullard)

Cullman County experienced 1 landslide event in a 10 year period resulting in a 10% probability that a landslide event will occur on an annual basis. The total amount of damages for the 1 landslide event was \$25,000 with 1 landslide event causing damage resulting in an estimated \$25,000 of expected annual damages from future events. The referenced landslide event is the only reported landslide; therefore, the referenced event is the one that resulted in the most damages, deaths, and injuries during the past ten year period and serves as the extent/range of magnitude or severity that could be experienced by Cullman County due to a landslide event; the ranking is minimum to minor.

Primary effects from landslide in Cullman County would include:

1. Property damage
2. Impassable roads
3. Sediment erosion

4. Underground infrastructure damage

Hazardous results from landslide in Cullman County would include:

1. Landslides move with tremendous force capable of destroying most structures in its path while carrying anything it comes in contact with.
2. Material from landslides can damage and destroy roads as well as block them with debris, resulting in disruption to business and other activity.
3. Removed sediment can leave the surrounding area bare and prone to erosion.
4. The flow of a landslide can rip underground pipes and wiring from an area as well as bury them deeper under debris, creating a loss of services.

XI. Earthquake

An earthquake is a sudden slip on a fault and the resulting ground shaking and radiated seismic energy caused by an abrupt release of accumulated strain in the tectonic plates that comprise the earth's crust. These rigid plates, known as tectonic plates, are some 50 to 60 miles in thickness and move slowly and continuously over the earth's interior. The plates meet along their edges, where they move away, past or under each other at rates varying from less than a fraction of an inch up to five inches per year. While this sounds small, at a rate of two inches per year, a distance of 30 miles would be covered in approximately one million years (FEMA, 1997).

The tectonic plates continually bump, slide, catch, and hold as they move past each other which causes stress to accumulate along faults. When this stress exceeds the elastic limit of the rock, an earthquake occurs, immediately causing sudden ground motion and seismic activity. Secondary hazards may also occur, such as surface faulting, sinkholes, and landslides. While the majority of earthquakes occur near the edges of the tectonic plates, earthquakes may also occur at the interior of plates.

The vibration or shaking of the ground during an earthquake is described by ground motion. The severity of ground motion generally increases with the amount of energy released and decreases with distance from the fault or epicenter of the earthquake. Ground motion causes waves in the earth's interior, also known as seismic waves, and along the earth's surface, known as surface waves. The following are the two kinds of seismic waves:

- P (primary) waves are longitudinal or compression waves similar in character to sound waves that cause back-and-forth oscillation along the direction of travel (vertical motion), with particle motion in the same direction as wave travel. They move through the earth at approximately 15,000 MPH.
- S (secondary) waves, also known as shear waves, are slower than P waves and cause structures to vibrate from side-to-side (horizontal motion) due to particle motion at right angles to the direction of wave travel. Unreinforced buildings are more easily damaged by S waves. There are also two kinds of surface waves, Raleigh waves and Love waves. These waves travel more slowly and typically are significantly less damaging than seismic waves.

Seismic activity is commonly described in terms of magnitude and intensity. Magnitude (M) describes the total energy released and intensity (I) subjectively describes the effects at a particular location. Although an earthquake has only one magnitude, its intensity varies by location.

Magnitude is the measure of the amplitude of the seismic wave and is expressed by the Richter scale. The Richter scale is a logarithmic measurement, where an increase in the scale by one whole number represents a tenfold increase in measured amplitude of the earthquake.

Intensity is a measure of the strength of the shock at a particular location and is expressed by the Modified Mercalli Intensity (MMI) scale.

Another way of expressing an earthquake's severity is to compare its acceleration to the normal acceleration due to gravity. If an object is dropped while standing on the surface of the earth (ignoring wind resistance), it will fall towards earth and accelerate faster and faster until reaching terminal velocity. The acceleration due to gravity is often called "g" and is equal to 9.8 meters per second squared (980 cm/sec/sec). This means that every second something falls towards earth, its velocity increases by 9.8 meters per second. Peak ground acceleration (PGA) measures the rate of change of motion relative to the rate of acceleration due to gravity. For example, acceleration of the ground surface of 244 cm/sec/sec equals a PGA of 25.0 percent. It is possible to approximate the relationship between PGA, the Richter scale, and the MMI, as shown in **Table 4-26**. The relationships are, at best, approximate, and also depend upon such specifics as the distance from the epicenter and depth of the epicenter. An earthquake with 10.0 percent PGA would roughly correspond to an MMI intensity of V or VI, described as being felt by everyone, overturning unstable objects, or moving heavy furniture.

Table 4-26: Earthquake PGA, Magnitude and Intensity Comparison

PGA (%g)	Magnitude (Richter)	Intensity (MMI)	Description (MMI)
<0.17 – 1.4	1.0 – 3.0	I	Not felt except by a very few under especially favorable conditions.
0.17 – 1.4	3.0 – 3.9	II - III	II. Felt only by a few persons at rest, especially on upper floors of buildings. III. Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
1.4 – 9.2	4.0 – 4.9	IV - V	IV. Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rock noticeably. V. Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
9.2 - 34	5.0 – 5.9	VI – VII	VI. Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight. VII. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
34 – 124	6.0 – 6.9	VIII - IX	VIII. Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. IX. Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
>124	7.0 and higher	VIII or Higher	X. Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent. XI. Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly. XII. Damage total. Lines of sight and level are distorted. Objects thrown into the air.
(Source: http://earthquake.usgs.gov ; Accessed 2014)			

Earthquake-related ground failure, due to liquefaction, is a common potential hazard from strong earthquakes in the central and eastern United States. Liquefaction occurs when seismic waves pass through saturated granular soil, distorting its granular structure, and causing some of the empty spaces between granules to collapse. Pore-water pressure may also increase sufficiently to cause the soil to behave like a fluid (rather than a soil) for a brief period and causing deformations. Liquefaction causes lateral spreads (horizontal movement commonly 10-15 feet, but up to 100 feet), flow failures (massive flows of soil, typically hundreds of feet, but up to 12 miles), and loss of bearing strength (soil deformations causing structures to settle or tip). Sand blows were common following major New Madrid earthquakes in the central United States.

The hazards associated with earthquakes include anything that can affect the lives of humans, including surface faulting, ground shaking, landslides, liquefaction, tectonic deformation, tsunamis, and seiches. Earthquake risk is defined as the probability of damage and loss that would result if an earthquake caused by a particular fault were to occur. Losses depend on several factors including the nature of building construction, population density, topography and soil conditions, and distance from the epicenter.

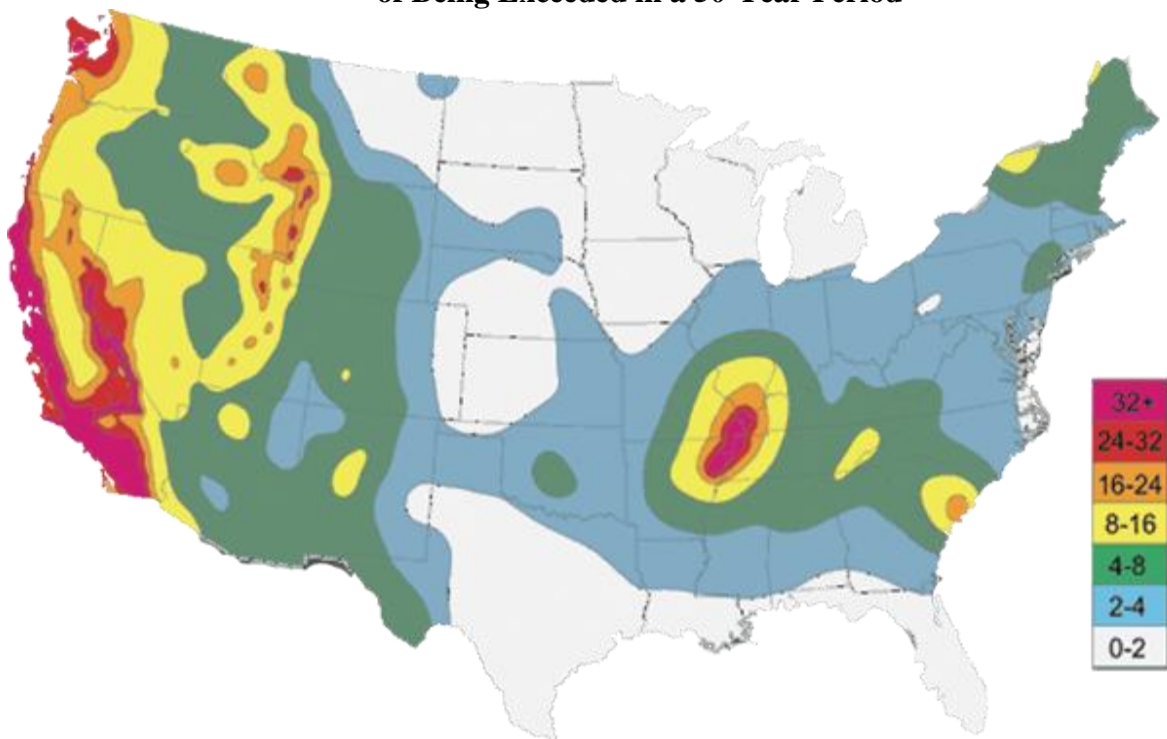
Interestingly, an earthquake's magnitude can be a poor indicator of hazard impact because the duration of ground shaking, and resulting increased damages, is not factored into the magnitude concept. The majority of losses are due to collapsing houses and other structures, the most vulnerable being those of unreinforced masonry and adobe. Structures built with more flexible materials such as steel framing are preferred. Wood frame construction, which constitutes a high percentage of homes in the United States, also tends to flex rather than collapse but is more susceptible to fire. Building codes have historically been utilized to address construction standards to mitigate damages for earthquakes and other hazards. However, older structures, non-compliance, and incomplete knowledge of needed measures remain a problem. In order to reduce losses to lives and property, wider adoption of improved construction methods for both residential and important critical facilities such as hospitals, schools, dams, power, water, and sewer utilities is needed.

The zone of frequent earthquake activity affecting Cullman County is the Southern Appalachian Seismic Zone (SASZ) (also called the Eastern Tennessee Seismic Zone). The SASZ extends from near Roanoke in Southwestern Virginia southwestward to Central Alabama.

Considered a zone of moderate risk, the SASZ includes the Appalachian Mountains. Most of the earthquakes felt in Alabama are centered in the SASZ. The hypocenters of earthquakes in this zone are on deeply buried faults. Cullman County is located within the SASZ zone and is at a moderate risk for earthquakes.

Earthquakes occurring in Cullman County are predominantly low magnitude events. However, there is growing concern that a high magnitude event is inevitable and earthquakes are becoming a much larger concern to the county. GSA is currently working to better define seismic hazards and impacts throughout the county. **Figure 4-10** is based on earthquake occurrences and their shaking extent relative to the epicenter. Colors show levels of horizontal shaking having a 1-in-10 chance of being exceeded in a 50-year period. Cullman County has a 4-8% chance of experiencing an earthquake; however, there are insufficient historical records and geologic studies to predict the future probability of an earthquake occurring in Cullman County. The risk of a significant, damage-causing earthquake in Cullman County is low to moderate.

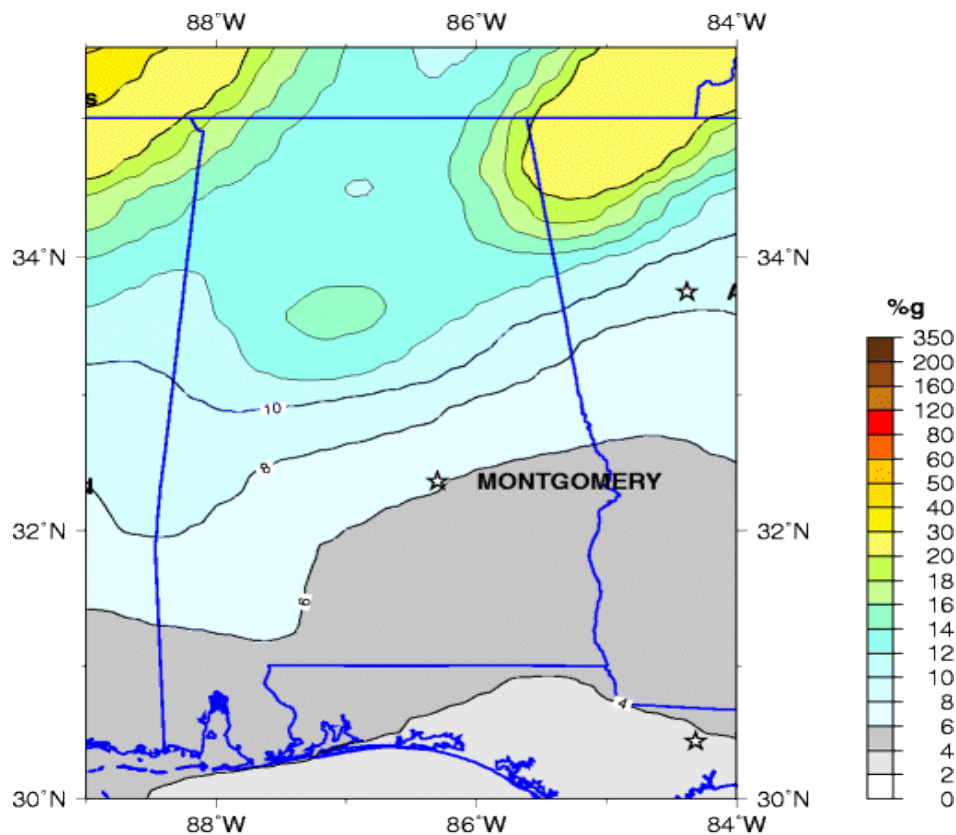
Figure 4-10: Horizontal Shaking Having a 1-in-10 Chance of Being Exceeded in a 50-Year Period



(Source: Geological Survey of Alabama, 2010)

Although many areas of the United States are better known for their susceptibility, earthquakes do occur in Alabama. **Figure 4-12** shows the seismic zones of the Southeastern United States, which includes Alabama, as well as the epicenters of earthquakes recorded in the state from 1886-2007 as provided by the Geological Survey of Alabama and noted in the Alabama EMA Earthquake Book 2002. Cullman County did not experience any major earthquake events during the past ten years (January 1, 2003 – December 31, 2013) as noted in **Table 4-14**; however, has a low to moderate seismic risk. In accordance with FEMA guidelines, an area with 2% or greater probability of exceedance in 50 years should be further assessed for vulnerability. Cullman County's risk falls at approximately the 12-16% probability of exceedance (**Figure 4-11**). To date, there have been earthquake epicenters of 1.0-1.9 and 2.0-2.9 experienced in Cullman County.

Figure 4-11: Alabama's Seismic Hazard Map

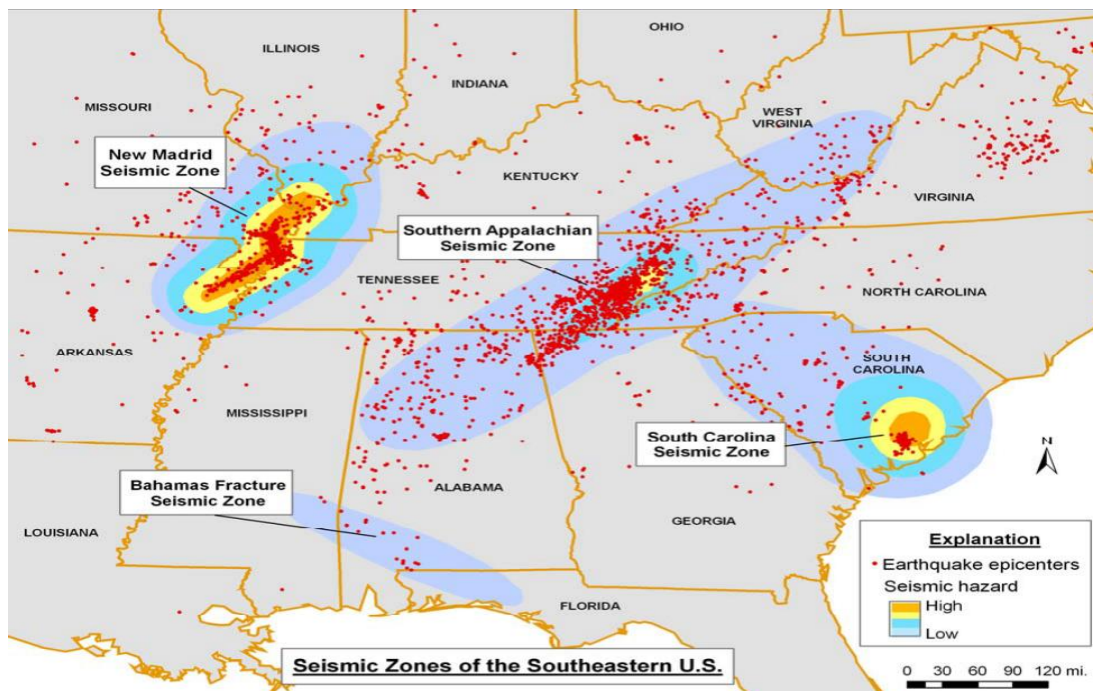


Peak Acceleration (%g) with 2% Probability of Exceedance in 50 Years
site: NEHRP B-C boundary
National Seismic Hazard Mapping Project (2008)
(Source: United States Geological Survey, 2008)

The Geological Survey of Alabama, in conjunction with the Alabama Emergency Management Agency, developed basement fault and liquefaction susceptibility maps for Alabama. The basement fault mapping project was an effort to approximate locations of buried faults. Some buried faults are considered active based on earthquake epicenters in the vicinity of the faults (**Figure 4-13**). The liquefaction mapping project was conducted to help identify areas that are most at risk to liquefaction during a moderate to strong magnitude earthquake. Liquefaction is a phenomenon that can occur during an earthquake when seismic waves pass through saturated unconsolidated material causing sediment particles to move in relation to each other. Liquefaction can be especially damaging to structures built on thick sediments, as in areas where the sediments are saturated with water such as in floodplains (**Figure 4-14**). (Source: *Alabama Hazard Mitigation Plan*)

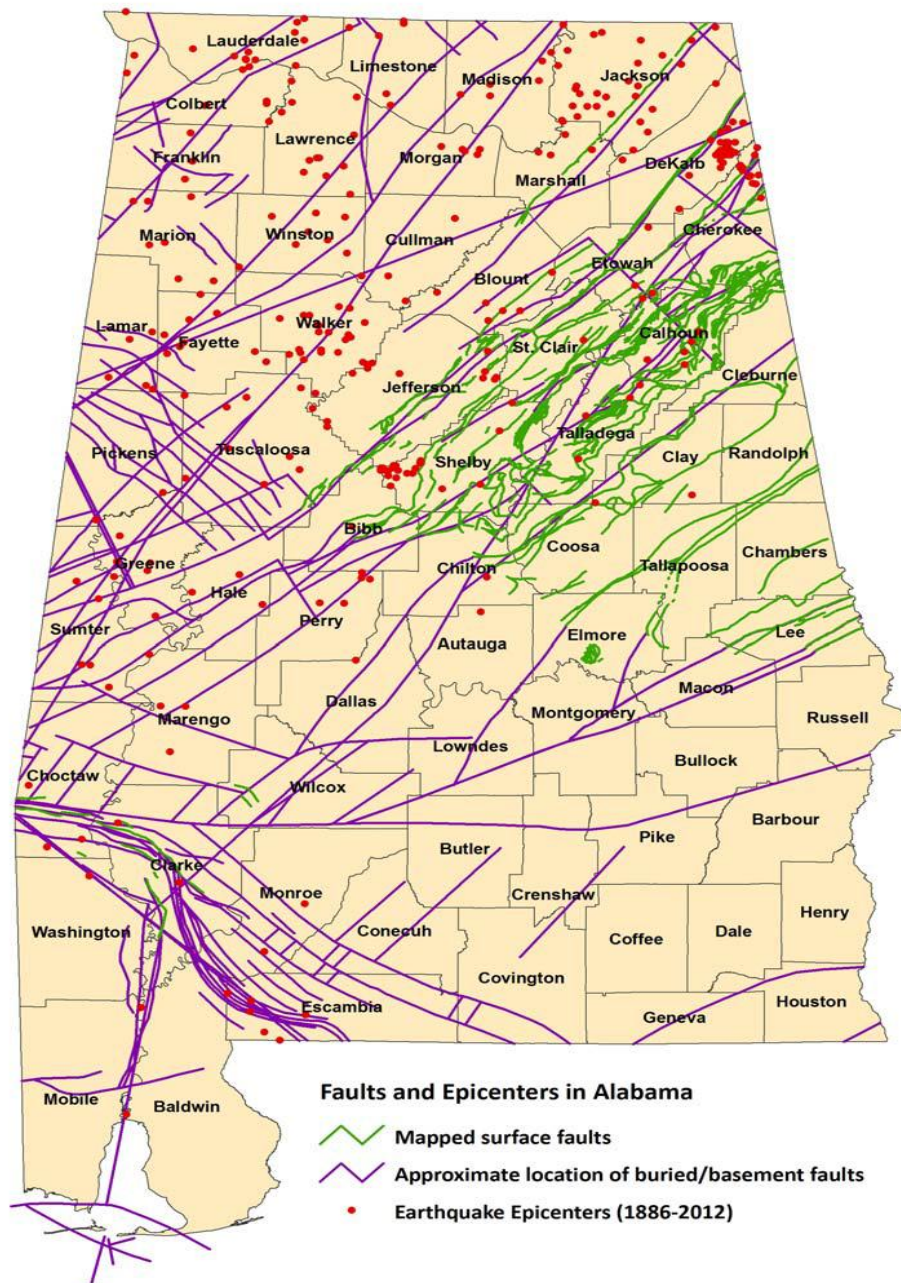
Figure 4-15 shows the location and magnitudes of all known earthquakes occurring in Alabama from 1886 through March 2012. Data for epicenters was collected by the GSA from GSA records and the USGS.

Figure 4-12: Seismic Zones of the Southeastern United States



(Source: *Geological Survey of Alabama, 2010*)

Figure 4-13: Faults and Epicenters in Alabama

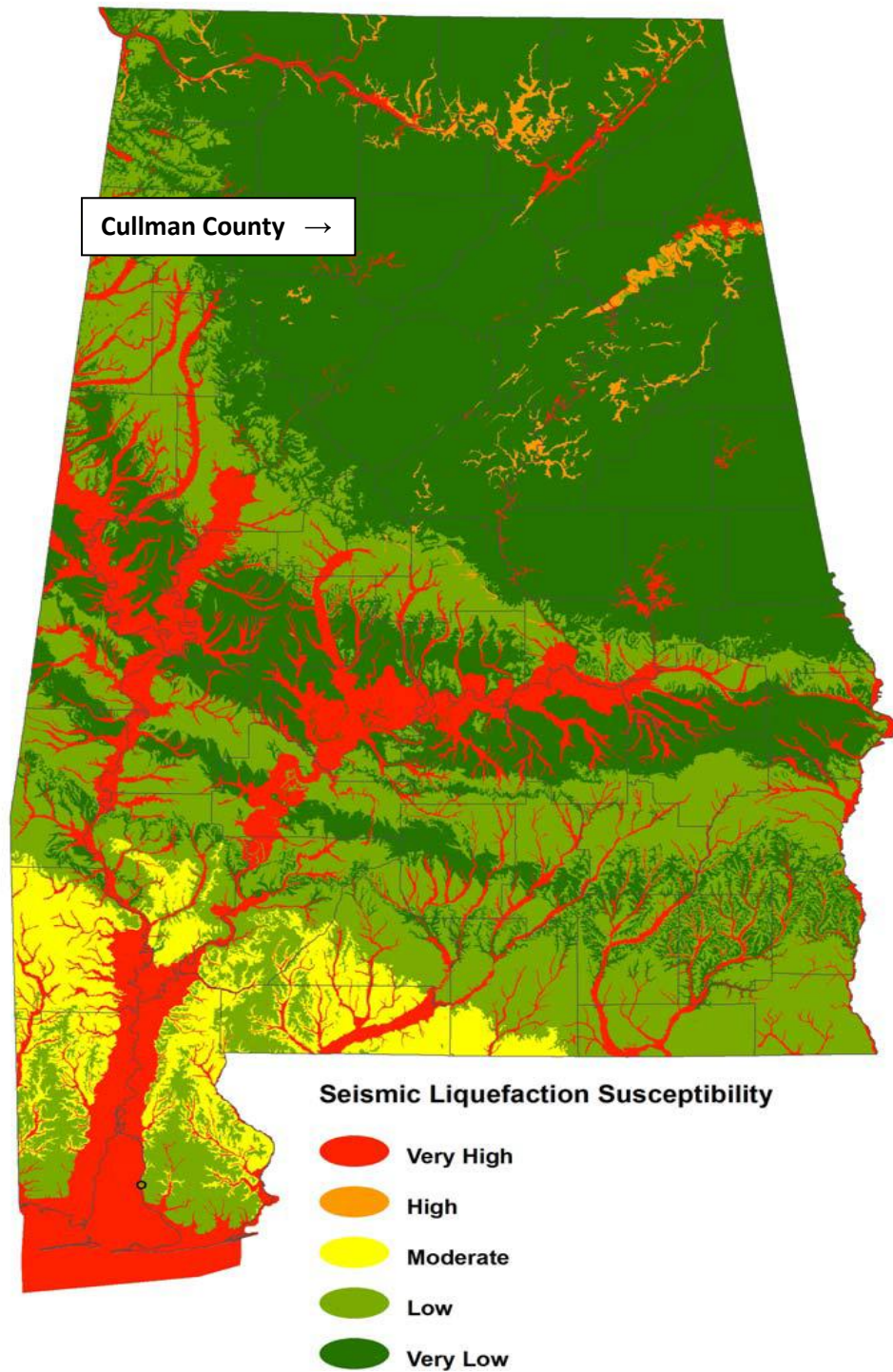


Historical Earthquake Epicenters, Mapped Surface Faults, and Approximate Locations of Buried Faults in the Alabama

Surface maps are based on the 1:250,000-scale digital geologic map of Alabama (GSA, 2006). Buried faults are based on the faults approximated in the basement fault mapping project (GSA, 2008). Epicenters are based on historical data from seismic records (2012).

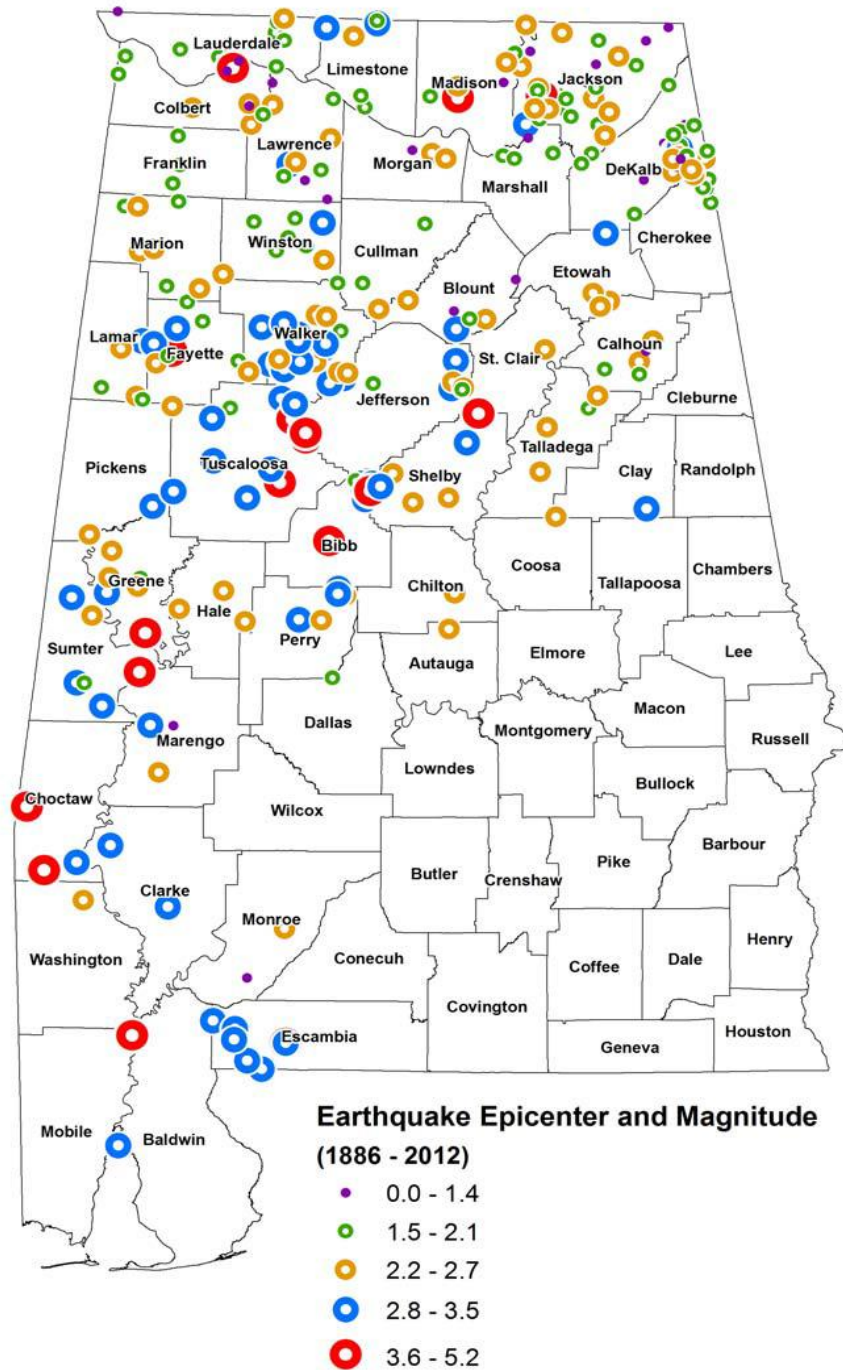
(Source: Geological Survey of Alabama, 2010; Alabama Hazard Mitigation Plan)

Figure 4-14: Seismic Liquefaction Susceptibility



Susceptibility to Liquefaction During a Moderate to Strong Magnitude Earthquake
(Source: Geological Survey of Alabama, 2006; Alabama Hazard Mitigation Plan)

Figure 4-15: Earthquake Epicenter and Magnitude



Historical Earthquakes of Alabama (1886-2012)

(Source: Geological Survey of Alabama, 2012; Alabama Hazard Mitigation Plan)

In the eastern United States strong earthquakes occur less frequently than other parts of the country; however, this does not mean that the damage in this area would be any less catastrophic should a powerful quake occur. There are two important reasons for this. The first is that the type of rock present in the eastern part of the country transmits seismic waves more effectively. This in turn creates better transmission of earthquake energy and results in higher damage over a wider area. Second, because buildings and other structures in the eastern United States have not been designed to withstand severe earth shaking, they will sustain more damage.

Primary effects from earthquake in Cullman County would include:

1. Property Damage
2. Underground infrastructure damage
3. Building collapse
4. Trigger for other natural disasters

Hazardous results from earthquake in Cullman County would include:

1. Shaking can cause cracking of roads, bridges, or buildings, which may also lead to collapse.
2. Pipes and wiring underground could be severely damaged due to the movement of the earth. This would result in interruption of service and long periods of repair before lines were serviceable again.
3. Buildings in Cullman County are not built to meet the rigors of earthquakes; collapsing structures could kill or injure occupants.
4. Earthquakes can create other disasters such as landslides, flooding, and sinkholes.
5. Shifting of underlying soil and breaching of dams are examples of possible results from an earthquake.

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XII. Wildfire

Cullman County is at a slight to moderate risk of a wildfire. A wildfire is an uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures. They often begin unnoticed, spread quickly, and are usually signaled by dense smoke that may fill the area for miles around. Wildfires can be human-caused through acts such as arson or campfires, or can be caused by natural events such as lightning. Wildfires can be categorized into 3 types:

1. **Wildland fires** occur in very rural areas and are fueled primarily by natural vegetation. In Cullman County, the vast majority of these fires occur on privately owned land. Wildland fire suppression is the responsibility of the State of Alabama, through the Alabama Forestry Commission.
2. **Interface fires** occur in areas where homes or other structures are endangered by the wildfires. The fires are fueled by both natural vegetation and man-made structures. These are often referred to as Wildland Urban Interface fires and form the majority of wildfires in Cullman County. Interface fire suppression is the responsibility of the Alabama forestry Commission, working closely with local volunteer fire departments.
3. **Firestorms** occur during extreme weather (e.g., high temperatures, low humidity, and high winds) with such intensity that fire suppression is virtually impossible. These events typically burn until the conditions change or the fuel is exhausted.

The vast majority of wild land fires occur on privately owned lands. Additionally, the majority of the fires occur in areas where homes or structures are endangered. These areas are known as the wild land urban interface and are defined as areas where development meets wild land vegetation, both of which provide fuel for fires. The wild land urban interface areas have increased significantly throughout the county, and now face the risk of major losses from wildfires. In Cullman County, most wild land urban interface areas are considered “intermixed.”

Instead of having large forest areas surrounding an isolated town, Cullman County contains many scattered homes and farms spread across the forest areas. The following two factors contribute significantly to wildfire behavior in Alabama:

1. **Fuel:** The type of fuel and the fuel loading (measured in tons of vegetative matter per acre) have a direct impact on fire behavior. Fuel types vary from light fuels (grass) to moderate fuels (Southern Rough) to heavy fuels (slash). The type of fuel and the fuel load determines the potential intensity of the wildfire and how much effort must be expended to contain and control it.
2. **Weather:** The most variable factor affecting wildfire behavior is weather. Important weather variables are precipitation, humidity, and wind. Weather events ranging in scale from localized thunderstorms to large cold fronts can have major effects on wildfire occurrence and behavior. Extreme weather, such as extended drought and low humidity can lead to extreme wildfire activity.

In addition to affecting people, wildfires may severely impact livestock inflicting a severe economic impact on farmers. Timber loss to fire creates an economic loss to both the private landowner and the county's economy. Wildfires in Cullman County generally are moderate in intensity, resulting in destruction of undergrowth and some timber. The soil surface layer of the forest recovers quickly, minimizing erosion and water quality impacts. The entire Cullman County is vulnerable to wildfires.

The frequency and severity of wildfires is dependent on weather and on human activity. Nearly all wildfires in Cullman County are human caused (only a small percent are caused by lightning), with arson and careless debris burning being the major causes of wildfires. If not promptly controlled, wildfires may grow into an emergency or disaster. Even small fires can threaten lives, damage forest resources and destroy structures. **Table 4-15** shows the number of fires and acres burned during the period 2010-2013, as recorded by the Alabama Forestry Commission. Cullman County had a total of 82 fires during this 3 year period, affecting a total of 1,958.65 acres.

Wildfires are responsible for burning thousands of acres of land across the United States each year. They are large, fast moving, disastrous fires that occur in the wilderness or rural areas. These fires are uncontrolled and in dry conditions can spread rapidly through the surrounding vegetation and structures. Cullman County is susceptible to wild/forest fires especially during times of drought. Cullman County has a total of 230,582 acres of forestland. The total acres are made up of 61,261 softwoods, 22,090 oak-pine, and 147,230 hardwoods. (*Source: Alabama*

The frequency and severity of wildfires is dependent on weather and on human activity. Nearly all wildfires in Cullman County are human caused (only a small percent are caused by lightning), with arson and careless debris burning being the major causes of wildfires. If not promptly controlled, wildfires may grow into an emergency or disaster. Even small fires can threaten lives, damage forest resources and destroy structures. **Table 4-27** shows the number of fires and acres burned during the period 2010 - 2013, as recorded by the Alabama Forestry Commission. Cullman County had a total of 82 fires during this 3 year period, affecting a total of 1,958.65 acres.

Cullman County is located in an area where the current fire danger conditions are low to moderate, according to the U. S. Forestry Service.

Table 4-27: Wildfires in Cullman County 2010-2013					
County	Total # of Fires	Average # of Fires	Total Acres Burned	Average Acres Burned	Average Fire Size
Cullman	82	27.33	1,958.65	652.88	23.88

Source: Alabama Forestry Commission; Accessed in 2014)

Wildfires are an ongoing threat to both rural Cullman County and wild land urban interface communities at risk. As with most natural hazards, wildfires are strongly influenced by weather phenomena, although their risk and impacts are also related to other factors such as the number of structures that are near forested areas, and so forth. Wildfire probability can be expected to remain relatively constant over the long run, assuming that weather patterns do not change significantly.

Cullman County experienced 82 wildfire events in a 3 year period resulting in a greater than 100% (27.33) probability that a wildfire event will occur on an annual basis. The total amount of acres burned for the 82 wildfire events was 1,958.65 resulting in an estimated 23.88 acres burned per wildfire event. Based upon the average cost of an acre in Cullman County, the cost of the average fire size is 23.88 acres equaling \$45,372 per fire. The extent/range of magnitude or severity that could be experienced by Cullman County due to a wildfire event is minimum to minor.

Primary effects from wildfire in Cullman County would include:

1. Loss of property
2. Loss of livestock
3. Destruction of wilderness
4. Crop destruction

Hazardous results from significant wildfire in Cullman County would include:

1. Widespread fire destroys everything flammable, leaving people homeless and businesses destroyed.
2. Fenced in livestock have no way of escaping the path of a wildfire and most are lost due to smoke inhalation.
3. Most wildfires actually help forests grow because they rid the forest of underbrush, but exceptionally hot fires that have a long duration destroy entire forests.
4. An entire year's crop can be lost by burning through all vegetation.

XIII. Dam Failures

A dam is barriers constructed across a watercourse in order to store, control, or divert water. Dams are usually constructed of earth, rock, concrete, or mine tailings. The water impounded behind a dam is referred to as the reservoir and is measured in acre-feet, with one acre-foot being the volume of water that covers one acre of land to a depth of one foot. Due to topography, even a small dam may have a reservoir containing many acre-feet of water. A dam failure is the collapse, breach, or other failure of a dam that causes downstream flooding. Dam failures may result from natural events, human-caused events, or a combination thereof. Due to the lack of advance warning, failures resulting from natural events, such as hurricanes, earthquakes, or landslides, may be particularly severe. Prolonged rainfall that produces flooding is the most common cause of dam failure (FEMA, 1997).

Dam failures usually occur when the spillway capacity is inadequate and water overtops the dam or when internal erosion through the dam foundation occurs (also known as piping). If internal erosion or overtopping cause a full structural breach, a high-velocity, debris-laden wall of water is released and rushes downstream, damaging or destroying whatever is in its path.

Dam failures may result from one or more the following:

- ☐ Prolonged periods of rainfall and flooding (the cause of most failures)
- ☐ Inadequate spillway capacity which causes excess overtopping flows
- ☐ Internal erosion erosions due to embankment or foundation leakage or piping
- ☐ Improper maintenance
- ☐ Improper design
- ☐ Negligent operation
- ☐ Failure of upstream dams
- ☐ Landslides into reservoirs
- ☐ High winds
- ☐ Earthquakes

Dam failures are potentially the worst flood events. A dam failure is usually the result of neglect, poor design, or structural damage caused by a major event such as an earthquake. Historical records of dam/levee failures for Cullman County are not available. When a dam fails, a large quantity of water is suddenly released downstream, destroying anything in its path. The area

impacted by the water emitted by dam failure would encounter the same risks as those in a flood zone during periods of flooding. The area directly affected by the water released during a dam failure is not county wide. The risks associated with dam/levee failures are the same as those risks associated with flooding. There have been no significant dam or levee failures reported in Cullman County during 2003 - 2013.

Alabama, including Cullman County, has no dam safety program and legislation. Individuals from Natural Resources, the Catfish Farmers Federation, Alabama Power Company and several other agencies have formed a committee to promote state dam safety legislation. A draft legislative instrument was written, and the Dam Safety initiative has been transferred to the Alabama Department of Economic Affairs. The Alabama Office of Water Resources is supporting the establishment of an Alabama Dam Security and Safety Program. The legislation to establish this program has been under development for several years, but was reemphasized in 2002 when OWR assumed overall management of dam safety and National Flood Insurance Program initiatives from the AEMA down to the local NFIP Coordinator. Dam safety has been an ongoing hazard mitigation issue in the State of Alabama, especially for small dams that are privately owned and poorly maintained. No state law currently exists to regulate any private dams or the construction of new private dams, nor do private dams require federal licenses or inspections. There have been several attempts in the State of Alabama to pass legislation that would require inspection of dams on bodies of water over 50 acre-feet or dams higher than 25 feet. Enactment has been hampered by the opposition of agricultural interest groups and insurance companies.

Once established, the program will provide an up-to-date inventory of dams in Cullman County. A full inventory of dams will help to benefit public safety and emergency response operations in the event of a natural or other disaster. It will also provide for the inspection and permitting certification) of certain dams in order to protect the citizens of Alabama by reducing the risk of failure of such dams.

The probability of future occurrences cannot be characterized on a countywide basis because of the lack of information available. The overall area affected is low and impacts are localized. This rating is intended only for general comparison to other hazards that are being considered.

According to HAZUS-MH 2011, Cullman County has a total of 22 dams - 20 High Density Polyethylene (HPDE - Earth) Dams, 1 HPDG (Concrete Gravity) and 1 HPDZ (Miscellaneous) dam. According to reports from the Corps of Engineers for the years 1978-1980, Lake Catoma Dam, Wallace Hathcock Dam, and Eva Road Lake Dam are considered high hazard dams. Lake George Dam and Sportsman Lake Dam are considered unsafe dams. Contrasting this information is the National Oceanographic and Atmospheric Administration (1997) stating Cullman County has six high hazard dams. A copy of the Dam Safety Emergency Plan for Lake George Dam, Sportsman Lake, and Lewis Smith Dam is located in the Cullman County EMA Office. In the event of a flood or significant earthquake in Cullman County, the possibility for an emergency situation could exist at these three dams. The Cullman County EMA is prepared to coordinate efforts if an event arises at these dams. **Table 4-28** depicts dam locations in Cullman County.

Figure 4-16 depicts the locations of dams in Cullman County. According to the HAZUS 2011 database, there are 22 identified dams in Cullman County, six major dams of which have been categorized as having a high hazard classification (loss of one human life is likely if the dam fails); seven dams categorized as having a significant risk (possible loss of human life and likely significant property or environmental destruction if the dam fails if the dam fails); and nine dams categorized as having a low risk (**Table 4-28**). Classifications are assigned to a dam depending upon the urban development directly downstream of the dam and whether or not failure would result in serious economic loss. The classification is not an indication of the quality of the dams' construction.

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Table 4-28: Cullman County Dams

Dam Name	NID ID	River	Dam Class	Nearest Jurisdiction	Year Completed	Hazard Classification	Latitude	Longitude
FORREST INGRAM DAM	AL00975	BRINDLEY CREEK	HPDE	WELTI WEST	1968	Significant	34.149999	-86.76
ROY SHAW DAM	AL00985	TR BUZZARD BRANCH	HPDE	UNION CHURCH COMMUNITY	1969	Significant	34.14167	-86.65667
L B HAYES DAM	AL00984	TR KILLPATRICK CREEK	HPDE	CULLMAN NORTH	1967	Low	34.209999	-86.866669
FORREST INGRAM DAM	AL00983	TR RICE CREEK	HPDE	BLACK WARRIOR RIVER CAMP	1970	Significant	33.921669	-86.91667
LEE HART DAM	AL00982	TR EIGHT MILE CREEK	HPDE	SOUTH CULLMAN	1954	Low	34.153329	-86.819999
W I WALKER DAM	AL00980	TR COPPERAS BRANCH	HPDE	BERLIN	1959	Significant	34.18	-86.733329
SPORTSMAN LAKE DAM	AL00979	WOLF CREEK	HPDE	CULLMAN	1948	High	34.19	-86.86
EVA ROAD LAKE	AL00978	BRIDGE CREEK	HPDG	CULLMAN	1950	High	34.19333	-86.83833
LAKE GEORGE DAM	AL00976	BRIDGE CREEK	HPDE	CULLMAN	1956	High	34.22333	-86.83833
BROWN POND DAM	AL00989	TR ROCK CREEK	HPDE	EMENUS CHURCH COMMUNITY	1949	Significant	34.19333	-86.966669
LAKE CATOMA DAM	AL00977	EIGHT MILE CREEK	HPDE	CULLMAN	1966	High	34.183329	-86.805
TOMMY EGE DAM	AL00986	HENDERSON BRANCH	HPDE	WEST HOLLY POND	1966	Low	34.196669	-86.661669
HOLLIS POND DAM	AL00988	TR SIMPSON CREEK	HPDE	FISHING CAMP	1960	Low	34.00667	-86.944999
CARL BUDWEG DAM	AL00994	TR RYAN CREEK	HPDE	CULLMAN	1948	Low	34.183329	-86.834999

PAUL RIGSBY DAM	AL0099 3	ROCK CREEK	HPDE	BEULAH CHURCH COMMUNITY	1952	Significant	34.254999	-86.923329
LICK CREEK DAM	AL0099 2	TR LICK CREEK	HPDE	SOUTH HARMONY	1952	Low	34.135	-87.03333
HARBISONS POND DAM	AL0099 1	TR BLEVENS CREEK	HPDE	SOUTH ADDISON	1949	Low	34.20333	-87.073329
WHITES DAM	AL0099 0	TR CROOKED CREEK	HPDE	CLARKSON	1958	Significant	34.2	-86.981669
EGE FARM DAM	AL0181 1	TR RYAN CREEK	HPDE	CULLMAN	1967	Low	34.16667	-86.878329
OTTIS BURROW DAM	AL0181 2	UNKNOWN	HPDE	CULLMAN	1960	High	34.174999	-86.875
IMP. NO.2	AL8347 0		HPDZ	ARKADELPHIA	0	Low	33.97528	-86.94333
WALLACE HATHCOCK DAM	AL0098 1	TR-BAVAR CREEK	HPDE	GOOD HOPE	1956	High	34.114999	-86.876669

(Source: HAZUS MH 2011); Developed 2014

The probability of future occurrences cannot be characterized on a countywide basis because of the lack of information available. The qualitative probability is rated low because the overall area affected is low and impacts are localized. This rating is intended only for general comparison to other hazards that are being considered. Dam failures are potentially the worst flood events. A dam failure is usually the result of neglect, poor design, or structural damage caused by a major event such as an earthquake.

When a dam fails, a large quantity of water is suddenly released downstream, destroying anything in its path. The area impacted by the water emitted by dam failure would encounter the same risks as those in a flood zone during periods of flooding. The area directly affected by the water released during a dam failure is not county wide. Historical records of dam/levee failures for Cullman County are not available.

FIGURE 4-16:
Developed in 2014

Dams in Cullman County, AL

HAZUS MH 2.1

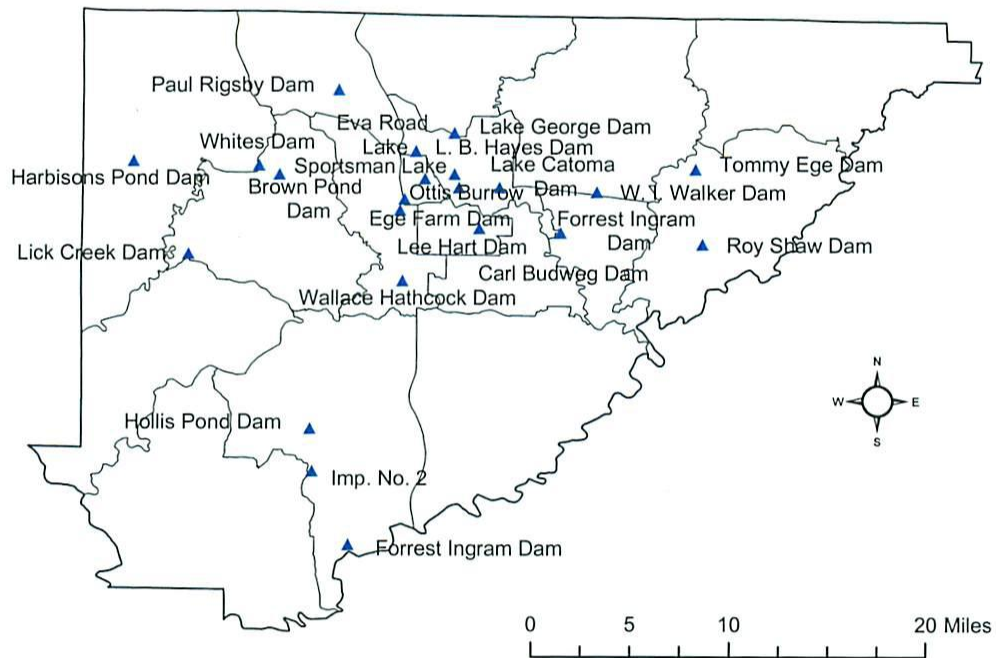


Table 4-29: Cullman County Dams Risk Categories	
Risk Categories	Number of Dams
High - loss of one human life is likely if the dam fails	6
Significant - possible loss of human life and likely significant property or environmental destruction if the dam fails if the dam fails	7
Low	9
Total	22
<i>(Source: HAZUS MH 2.1) Developed in 2014</i>	

The risks associated with dam/levee failures are the same as those risks associated with flooding. There have been no significant dam or levee failures reported in Cullman County.

Cullman County experienced 51 flood/flash flood events in a 10 year period resulting in a greater than 100% probability that a flood/flash flood event will occur on an annual basis. The total amount of damages for the 51 flood/flash flood events was \$340,000 with 4 flood/flash flood events causing damage resulting in an estimated \$85,000 of expected annual damages from future events. The extent/range of magnitude or severity that could be experienced by Cullman County due to a dam failure event is equal to that of a flood event which is minor to major.

Primary effects from Dam failure in Cullman County would include:

1. Loss of life
2. Destruction of property
3. Unregulated water flow to surrounding areas
4. Increased amount of disease and disease-carrying animals in the area

Hazardous results from dam failure in Cullman County would include:

1. Heavy flooding would be a direct result of a dam failure, causing many deaths by injuring and trapping people in structures.
2. Large amounts of water would sweep with it property and severely damage any property that remained in the area.
3. Chemical spills from local factories caused by rushing water would pollute the area and destroy crops and other property.
4. The river would be able to flow naturally once the dam was breached - damaging any structures in the path, as well as interrupting wildlife cycles and hydrologic power supply.
5. There would be increased diseases as a result of the unsanitary conditions.

General Risk

Requirement §201.6(c)(2)(ii) of the FR states that “a description of an overall summary of each hazard and its impact on the community” shall be included in the plan. **Table 4-30** summarizes the risk determinations for Cullman County based upon the events that occurred 2003-2013.

Table 4-30: Summary of Cullman County’s Annual Potential Loss Estimates for Specific Hazards	
Hazard	Total Estimated Risk
Thunderstorms	\$25,657
Lightning	\$21,357
Hail	\$15,500
Tornados	\$2,245,500
Floods/Flash Floods	\$85,000
Droughts/Extreme Heat	Not available
Winter Storms/Frost Freezes/ Heavy Snows/Ice Storms/Winter Weather/Extreme Cold	\$100
Hurricanes/Tropical Storms/ Tropical Depressions/High Winds/Strong Winds	\$329,000
Sinkholes/Expansive Soils	Not available
Landslides	\$25,000
Earthquakes	Not available
Wildfires	\$45,372
Dam/Levee Failures	Not available

Source: NCDC/NOAA, 2014

Socially Vulnerable Populations

Population Density for Cullman County, Alabama

Certain populations are generally more affected by hazard events. These populations can be defined in terms of social, racial, and economic characteristics. **Table 4-31** shows the county’s population characteristics by jurisdiction and by census tract. The City of Cullman is the most populated jurisdiction, followed by the City of Hanceville and the Towns of Good Hope, Holly Pond, South Vinemont, Baileyton, Dodge City, West Point, Garden City, Fairview, and Colony. The county has eighteen census tracts. In terms of vulnerability, the larger the population of an area the more people and structures that could possibly be damaged or destroyed. Tract 9642 is the most populated tract and contains the Town of Fairview. Tract 9646 is the least populated tract and contains mostly unincorporated areas of the county.

Minority populations are generally considered to be more vulnerable to hazard events. These populations may not have the resources necessary to recover as quickly or completely from disasters. Minorities generally have higher percentages of inadequate medical insurance, inadequate home insurance, and homes that may be deemed as substandard housing.

Populations over sixty-five years of age and those under eighteen years of age are more vulnerable than other population groups. These groups are at higher risk for injury and medical complications that may occur during or as a result of a disaster. These special needs populations may require more attention during evacuation and may require special shelters.

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Table 4-31: Cullman County Population Characteristics

Geographic Area	Population	Race- White	Race- Black	Race- Other	Under 18 years	Age 18–64 years	Age 65 and Over
Cullman County	80,406	76,133	856	3,417	18,641	48,955	12,810
Baileyton	610	588	1	21	135	385	90
Colony	268	204	59	5	59	167	42
Cullman	14,775	13,742	124	909	3,284	8,711	2,780
Dodge City	593	545	31	17	66	184	46
Fairview	446	430	1	15	115	279	52
Garden City	492	474	1	17	97	294	101
Good Hope	2,264	2,099	5	160	571	1,370	323
Hanceville	2,982	2,733	130	119	631	1,735	616
Holly Pond	798	785	1	12	198	238	47
South Vinemont	749	679	1	69	164	455	130
West Point	586	563	0	23	142	366	78
Census Tracts							
9641	5,582	5,283	24	275	1,283	3,501	798
9642	7,373	6,965	29	379	1,880	4,463	1,030
9643	5,001	4,822	17	102	1,170	3,066	765
9644	4,112	3,998	2	112	969	2,570	573
9645	4,180	4,042	3	135	968	2,620	592
9646	4,007	3,860	7	140	1,025	2,432	550
9647	4,643	4,398	14	231	1,158	2,837	648
9648	4,289	3,983	20	286	971	2,544	774
9649	6,683	6,260	39	384	1,495	3,799	1,389
9650	6,071	5,609	82	380	1,349	3,640	1,082
9651	3,578	3,356	3	219	890	2,229	459
9652	2,309	2,217	16	76	562	1,422	325
9653	4,539	4,412	10	117	1,057	2,778	704
9654.01	3,310	3,040	153	117	611	1,987	712
9654.02	4,189	3,955	69	165	959	2,504	726
9655	5,631	5,117	360	154	1,239	3,520	872
9656	2,257	2,203	1	53	441	1,406	410
9657	2,652	2,613	7	32	614	1,637	401
<i>(Source: 2010 Census; Accessed in 2014)</i>							

Given the importance of population shifts over time, successful mitigation planning requires a look at future trends to assess future vulnerability. Population projections show that Cullman County is expected to increase in size by approximately 6.7 percent by the year 2040. Census 2010 recorded a population of over 80 thousand residents in Cullman County. Overall, the county has experienced moderate growth. The total population increased 1% for the 2000 - 2010 time period and is projected to increase 6.7% for the 2010 – 2040 time period as presented in **Table 4-32**. Cullman County is ranked number 18 in population among the 67 Alabama Counties as shown in the **Table 4-33**.

Table 4-32: Cullman County’s Population Growth

County	Census 2000	Census 2010	Projections						Change 2010-2040	
			2015	2020	2025	2030	2035	2040	Number	Percent
Cullman	77,483	80,406	81,996	83,348	84,347	85,014	85,460	85,828	5,422	6.7%

(Source: U. S. Census Bureau and Center for Business and Economic Research, The University of Alabama, Fall 2012/Alabama State Plan)

Table 4-33: Geographical Rank of Cullman County

Population Rank	Geographic Area	Population	Housing Units	Area in Square Miles			Density per Square Mile of Land Area	
				Total Area	Water Area	Land Area	Population	Housing Units
18	Cullman County	80,406	37,054	755.02	20.18	734.84	106.50	50.42

(Source: U. S. Census Bureau 2010)

In addition to the racial and age composition within the county, income levels are important when identifying vulnerable populations. Lower income individuals may not have the resources to prepare for or recover from disasters. **Table 4-34** shows the median household income, per capita income, and poverty level data for the jurisdictions and census tracts in

Cullman County.

The median household income for the State of Alabama is \$43,160. The median household income for the United States is \$53,046. No tract exceeds the state and national averages. Tracts 9643, 9652, 9655, and 9656 have median household incomes that exceed the state's average; however, all are lower than the national average. Only one of the municipalities (Good Hope) has a median household income that exceeds the state average, but is less than the national average. All other municipalities do not have a median household income that equals or exceeds either the state or national average. (*Source: 2010 Census*)

Per capita income is the average obtained by dividing aggregate income by the total population of an area. The per capita income for the State of Alabama is \$23,587. The per capita income for the United States is \$28,051. Tract 9656 is the only tract that exceeds the state average, but remains below the national average. Only one of the municipalities (West Point) has a per capita income that exceeds the state average; however, is below the national average. All other municipalities do not have a per capita income that equals or exceeds either the state or national average. (*Source: 2010 Census*)

The percent of persons below the poverty level in the State of Alabama is 18.1%. The corresponding rate for the United States is 14.9%. Eleven out of 18 tracts in the county are above one or both of these rates, leaving 7 Tracts: 9643, 9646, 9647, 9652, 9654.02, 9656, and 9657 equal or below the state and national rates. Only the Towns of Garden City and West Point have rates that are below the state and national rates. The Town of South Vinemont has the highest poverty rate in the county at 34.92%. (*Source: 2010 Census*)

Housing is an important consideration of mitigation planning. The concentration and the type of housing are two primary factors. In Cullman County there are a total of 37,026 housing units. **Table 4-35** shows the housing characteristics of the county by jurisdiction and census tracts.

The Town of Good Hope has the highest number of mobile home units within a municipality; while, Colony has the highest percent of mobile homes within a municipality. Mobile home units are historically very vulnerable to a variety of hazards and prone to high amounts of damage and complete destruction.

Table 4-34: Cullman County Income Data

Geographic Area	Median Household Income (2008-2012)	Per Capita Income (2008-2012)	Persons Below Poverty Level (2008-2012)	Percent Below Poverty Level
Cullman County	\$39,244	\$20,653	14,956	18.60%
Baileyton	\$34,196	\$20,329	134	23.30%
Colony	\$31,917	\$15,894	78	23.35%
Cullman	\$36,608	\$21,738	2,970	20.10%
Dodge City	\$42,750	\$19,134	147	18.31%
Fairview	\$35,417	\$21,455	66	16.75%
Garden City	\$41,591	\$25,912	64	10.70%
Good Hope	\$45,737	\$19,570	449	19.42%
Hanceville	\$23,594	\$14,622	917	33.37%
Holly Pond	\$35,227	\$14,392	321	26.27%
South Vinemont	\$30,833	\$13,422	228	34.92%
West Point	\$41,875	\$26,804	66	10.56%
Census Tracts				
9641	\$42,528	\$21,648	804	15.87%
9642	\$40,795	\$19,885	1,412	19.72%
9643	\$45,352	\$24,182	391	8.25%
9644	\$36,373	\$23,255	725	19.14%
9645	\$40,154	\$18,867	897	20.74%
9646	\$40,023	\$18,643	390	10.16%
9647	\$39,185	\$19,192	692	14.91%
9648	\$30,169	\$18,628	1,016	23.83%
9649	\$39,360	\$23,132	1,005	17.11%
9650	\$36,640	\$18,884	1,429	22.45%
9651	\$34,192	\$22,152	1,005	27.35%
9652	\$51,190	\$20,142	232	9.30%
9653	\$39,650	\$18,203	1,186	23.46%
9654.01	\$31,058	\$15,296	829	28.29%
9654.02	\$35,000	\$21,005	615	14.72%
9655	\$45,026	\$23,313	1,435	24.15%
9656	\$43,409	\$25,198	304	13.51%
9657	\$42,906	\$20,378	356	13.57%
<i>(Sources: 2010 Census; www.usa.com)</i>				

Table 4-35: Cullman County Housing Characteristics

Geographic Area	Total Housing Units	Mobile Home Units	Mobile Home %
Cullman County	37,026	7,366	19.89%
Baileyton	333	55	16.52%
Colony	190	86	45.26%
Cullman	6,543	179	2.74%
Dodge City	315	68	21.59%
Fairview	169	14	8.28%
Garden City	300	46	15.33%
Good Hope	946	230	24.31%
Hanceville	1,397	84	6.01%
Holly Pond	469	23	4.90%
South Vinemont	325	96	29.54%
West Point	283	46	16.25%
Census Tracts 9641	2,530	559	22.09%
9642	3,218	462	14.36%
9643	2,191	540	24.65%
9644	1,771	473	26.71%
9645	1,840	602	32.72%
9646	1,659	278	16.76%
9647	1,948	355	18.22%
9648	1,915	53	2.77%
9649	2,839	250	8.81%
9650	2,766	197	7.12%
9651	1,573	450	28.61%
9652	1,008	109	10.81%
9653	2,102	449	21.36%
9654.01	1,399	266	19.01%
9654.02	2,017	230	11.40%
9655	2,817	810	28.75%
9656	2,014	815	40.47%
9657	1,419	468	32.98%

(Sources: 2010 Census; www.usa.com)

Table 4-36 shows the building stock in Cullman County by general occupancy. The data provides the number of buildings by use and is shown by census tract. According to this data, provided by *HAZUS-MH 2.1* software, Tract 9649 has the highest number of structures in the county. Complementing this information is **Table 4-37** that provides the value totals for these building types and **Table 4-38** that provides the content value for these building types. Each table is shown by Census Tract. Tract 9649 also has the highest total value for structures in the county.

Table 4-36: Cullman County Building Stock by General Occupancy								
Tract	Residential	Commercial	Industrial	Agriculture	Religious	Government	Education	Building Count
9641	2,685	78	36	27	8	5	1	2,840
9642	3,152	124	34	36	23	3	1	3,373
9643	2,140	74	36	7	13	2	1	2,273
9644	1,933	61	22	8	11	0	1	2,036
9645	1,953	49	21	16	5	2	1	2,047
9646	1,559	64	30	12	9	2	4	1,680
9647	2,139	105	70	12	11	6	5	2,348
9648	2,004	151	23	2	4	7	5	2196
9649	3,175	311	77	11	28	5	13	3,620
9650	2,645	268	68	9	14	23	2	3,029
9651	1,512	53	25	25	1	0	0	1,616
9652	873	31	16	16	3	0	1	940
9653	2,174	74	29	29	11	0	1	2,318
9654.01	1,693	79	25	26	10	2	3	1,838
9654.02	1,693	79	26	25	10	2	4	1,839
9655	2,755	94	36	36	15	4	1	2,941
9656	1,867	40	15	15	5	1	1	1,944
9657	1,290	31	17	17	6	3	1	1,365
TOTAL	37,242	1,766	606	329	187	67	46	40,243
<i>(Source: HAZUS-MH 2.1., 2014)</i>								

Table 4-37: Cullman County Building Exposure*(Numbers shown in thousands of dollars)*

Tract	Residential	Commercial	Industrial	Agriculture	Religious	Government	Education	Total Exposure
9641	\$180,296	\$18,482	\$13,762	\$5,207	\$4,999	\$2,431	\$1,226	\$226,403
9642	\$289,837	\$33,531	\$7,083	\$4,099	\$14,347	\$2,955	\$2,650	\$354,502
9643	\$208,161	\$17,942	\$17,480	\$885	\$7,172	\$721	\$896	\$253,257
9644	\$136,503	\$17,984	\$3,345	\$977	\$6,448	\$0	\$53	\$165,310
9645	\$143,653	\$12,970	\$9,541	\$2,175	\$2,532	\$3,938	\$670	\$175,479
9646	\$130,706	\$20,670	\$5,705	\$2,573	\$4,023	\$1,040	\$3,482	\$168,199
9647	\$154,454	\$35,946	\$68,459	\$1,214	\$5,535	\$3,028	\$5,607	\$274,243
9648	\$207,326	\$68,380	\$4,786	\$367	\$5,112	\$6,990	\$12,260	\$305,221
9649	\$351,793	\$180,203	\$50,248	\$2,133	\$22,290	\$6,242	\$12,851	\$625,760
9650	\$289,825	\$186,242	\$76,896	\$1,591	\$9,621	\$14,154	\$594	\$578,923
9651	\$139,446	\$17,505	\$4,942	\$1,959	\$861	\$0	\$0	\$164,713
9652	\$102,237	\$7,694	\$3,939	\$658	\$1,825	\$0	\$858	\$117,211
9653	\$182,775	\$19,539	\$6,687	\$3,681	\$4,788	\$120	\$2,443	\$220,033
9654.01	\$142,849	\$26,417	\$17,361	\$1,406	\$10,360	\$1,268	\$7,480	\$207,141
9654.02	\$142,849	\$26,416	\$17,360	\$1,405	\$10,359	\$1,268	\$7,479	\$207,136
9655	\$258,475	\$23,016	\$8,682	\$1,680	\$8,320	\$1,780	\$132	\$302,085
9656	\$174,461	\$8,502	\$2,239	\$860	\$2,652	\$211	\$585	\$189,510
9657	\$125,664	\$6,751	\$18,844	\$2,349	\$2,868	\$2,739	\$1,453	\$160,668
Total	\$3,361,310	\$728,190	\$337,359	\$35,219	\$124,112	\$48,885	\$60,719	\$4,695,794

(Source: HAZUS-MH 2.1, 2014)

Table 4-38: Cullman County Building Contents Exposure
(Numbers shown in thousands of dollars)

Tract	Residential	Commercial	Industrial	Agriculture	Religious	Government	Education	Total Exposure
9641	\$90,305	\$18,590	\$18,400	\$5,207	\$4,999	\$2,994	\$1,226	\$141,721
9642	\$145,074	\$34,890	\$8,681	\$4,099	\$14,347	\$3,595	\$2,650	\$213,386
9643	\$104,164	\$18,185	\$25,245	\$885	\$7,172	\$721	\$896	\$157,268
9644	\$68,398	\$18,051	\$4,086	\$977	\$6,448	\$0	\$53	\$98,013
9645	\$71,892	\$13,219	\$13,297	\$2,175	\$2,532	\$5,908	\$670	\$109,693
9646	\$65,408	\$20,803	\$7,476	\$2,573	\$4,023	\$1,500	\$3,482	\$105,265
9647	\$77,377	\$37,075	\$100,122	\$1,214	\$5,535	\$3,744	\$5,607	\$230,674
9648	\$103,811	\$70,651	\$6,477	\$367	\$5,112	\$9,573	\$17,381	\$213,372
9649	\$176,180	\$207,726	\$72,100	\$2,133	\$22,290	\$8,648	\$13,609	\$502,686
9650	\$145,147	\$205,076	\$112,431	\$1,591	\$9,621	\$15,551	\$594	\$490,011
9651	\$69,819	\$17,646	\$6,173	\$1,959	\$861	\$0	\$0	\$96,458
9652	\$51,152	\$7,815	\$4,296	\$658	\$1,825	\$0	\$858	\$66,604
9653	\$91,533	\$19,673	\$8,698	\$3,681	\$4,788	\$120	\$2,443	\$130,936
9654.01	\$71,528	\$26,607	\$25,044	\$1,406	\$10,360	\$1,268	\$10,448	\$146,661
9654.02	\$71,528	\$26,606	\$25,044	\$1,405	\$10,359	\$1,268	\$10,448	\$146,658
9655	\$129,347	\$23,244	\$11,165	\$1,680	\$8,320	\$2,394	\$132	\$176,282
9656	\$87,292	\$8,502	\$2,652	\$860	\$2,652	\$211	\$585	\$102,754
9657	\$62,888	\$6,751	\$28,007	\$2,349	\$2,868	\$4,019	\$1,453	\$108,335
Total	\$1,682,843	\$781,110	\$479,394	\$35,219	\$124,112	\$61,514	\$72,535	\$3,236,727

(Source: HAZUS-MH 2., 20141)

Table 4-39: Cullman County Vulnerability Summary

Natural Hazards	Baileyton	Colony	Cullman	Dodge City	Fairview	Garden City	Good Hope	Hanceville	Holly Pond	South Vinemont	West Point	Un-incorporated County
Thunderstorm	H	H	H	H	H	H	H	H	H	H	H	H
Lightning	M	M	M	M	M	M	M	M	M	M	M	H
Hail	L	L	L	M	M	L	L	L	L	L	L	H
Tornado	H	H	H	H	H	H	H	H	H	H	H	H
Flood/Flash Flood	M	M	M	L	M	M	M	M	M	M	M	H
Drought/ Extreme Heat	M	L	L	L	L	L	L	L	L	L	L	H
Winter Storm/ Frost Freeze/ Heavy Snow/ Ice Storm/Winter Weather/ Extreme Cold	M	L	L	L	L	L	L	L	L	L	L	H
Hurricane/Tropical Storm/Tropical Depression/ High Wind/ Strong Wind	H	M	M	H	M	H	M	H	H	H	H	H
Sinkhole/ Expansive Soil	L	L	L	L	L	L	L	L	L	L	L	L
Landslide	L	L	L	L	L	L	L	L	L	L	L	M
Earthquake	L	L	L	L	L	L	L	L	L	L	L	L
Wildfire	L	L	L	L	L	L	L	L	L	L	L	H
Dam/Levee Failure	L	L	L	L	L	L	L	L	L	L	L	L

KEY:

NA – Not Applicable; not a hazard to the jurisdiction

L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction)

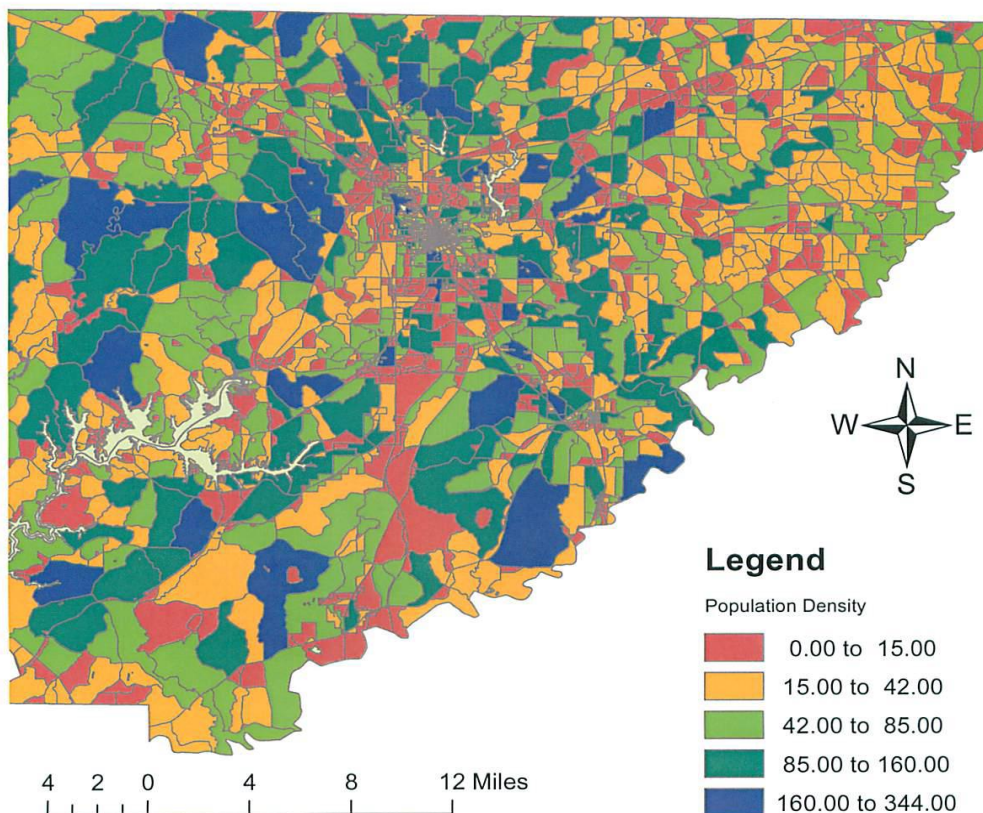
M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence)

H – High Risk; significant risk/major damage potential (damage to over 10% of jurisdiction, regular occurrence)

(Source: Participating Jurisdictions, 2014)

Mitigation goals and strategies of this plan update have been reviewed and reprioritized based on the rate and amount of development that has occurred in high risk and highly vulnerable areas. **Figure 4-17 (created in 2014)** depicts the population density distributions of the urban and rural subsections across the county. Cullman County will continue to monitor development trends and adjust its mitigation responses accordingly. This plan update reflects the changes in population and growth patterns since the 2010 Plan, and future updates will address continuing changes over time.

FIGURE 4-17: CULLMAN COUNTY POPULATION DENSITY



Impacts of Development Trends on Vulnerability

With the exception of a few strengths, weaknesses, threats, and opportunities in the county, development trends have remained primarily the same as listed in the 2010 plan revision; therefore, this section was reviewed by the HMPC and no changes are needed.

Development trends, particularly population shifts and land use changes created by major economic development expansions and infrastructure improvements of countywide significance, are important considerations to effective mitigation planning. These trends must be continually monitored and analyzed to keep abreast of changing vulnerabilities of jurisdictions and the increasing exposure of growing populations, new buildings, and enlarged infrastructure to natural hazards. As growth and development patterns change over time, the risks to property damage and lives also change. This section examines the projected growth trends and other impacts of countywide significance that are expected to affect the location and extent of natural hazards vulnerability over time.

Cullman County is mostly a rural county. The county government relies on the North-Central Alabama Regional Council of Governments (NARCOG) for assistance in land use development. The following is acreage usage in order of most use to least use in Cullman County: Forest, Agriculture, Transportation, Residential, Public, Industrial, and Commercial.

Open and minimally encumbered land exists which must be capitalized on. Abundant electric power and natural gas embrace the area. Existing and planned city and county water and wastewater systems serve extensively as the foundation for extension and interconnection to accommodate development. A population shift is occurring. The tourism industry in Cullman County offers historic attractions which can be cumulatively leveraged as a destination attraction.

Industry offers extensive employment with good paying jobs and is a major driver in support and growth of retail development. Retail development is typically community oriented whereas major industrial development is best maximized through regional county teamwork. Teamwork and unity through coalition of governing bodies presents a compelling case for federal and state financial support and sends a reverberating message throughout industry.

Land area is still predominantly undeveloped. Most of Cullman County is drained by the Black Warrior River. In southwestern Cullman County, a 21,000 acre man-made lake (Smith Lake) is now a predominant natural feature. Also, in Cullman County, most of the eastern boundary is formed by the Mulberry Fork of the Warrior River.

The topography varies from a fertile river valley to gently rolling pasture and timberlands, to hilly and mountainous. Elevations range from 556 feet above sea level at the Tennessee River to 300 feet above sea level in southern Cullman County. Future developments in areas characterized by slopes, ranging from 15 percent to 45 percent will be significantly limited as the result of difficulties with drainage, erosion, access, increased cost of development, and safety hazards. Lands with slopes ranging from two percent to six percent are generally well suited for residential, industrial, and commercial development. Lands within the 6 percent to 15 percent slope range have moderate site development problems with regard to drainage and road alignment. Erosion potential is defined as land, which has a slope of six percent or more and is covered by forest or woodlands. Two classes of erosion potential are given ---moderate and severe. Clear cutting of timber should be prohibited on lands rated as having severe erosion potential. Cutting of timber on lands rated as having moderate erosion potential should be limited and exercised with planned thoughtfulness.

The extent and nature of Cullman County's natural resources provide the basis for the development capacity as the county progresses and develops. Cullman County is beginning to use its natural resources to develop an industrial base and provide jobs for the future. Forests are valuable resources that provide wildlife habitats, recreation and outdoor opportunities and raw materials for industry. The natural vegetation throughout the county is predominantly deciduous/hardwood, to include one or more species of pine, oak, hickory, and other types. Forest lands exercise a balancing effect on water resources by diminishing erosion, sedimentation, and flooding. The scenic value of woodlands is apparent. In addition, they provide a habitat for wild game and high recreational potential.

The county has a wide variety of mineral deposits with considerable potential. These are limestone, clay, sandstone, sand, and gravel. Potential uses for this clay material are brick, tile, and pottery. Sandstone is abundant over the entire County of Cullman. The potential uses for this stone are abrasive, silica brick, and lightweight concrete block. Limestone is found in a strip along the Mulberry River on the southern border of Cullman County. It has potential for agricultural lime

and mixing stone for steel production. Sand and gravel is very abundant in the county. Sand and gravel has an excellent commercial value. Coal is found in the southwest portion of Cullman County. The coal mined in this area is used primarily for industrial use. The major soil group is called the Appalachian Plateau. All of Cullman County is situated in the Appalachian Plateau.

Extreme northern Cullman County drains north into the Tennessee River. The remainder of Cullman County drains south into the Sipsey and Mulberry Forks of the Black Warrior River.

The Region's major roads and highways are adequate for current transportation needs. Throughout the system, however, there are numerous segments where improvements in alignment and road surfaces are needed. Also, many of the bridges serving the major roads are too narrow for acceptable safety standards. As the county grows and experiences further development, new routes and improvements to existing highways will be needed. Rail Service is provided to the Region by Norfolk Southern Railway (east/west) and CSX Transportation (north/south). Air transportation is provided to Cullman County by the Huntsville International Airport. This facility is the newest, most modern and largest of its type in the State of Alabama. Additionally, Folsom Field in Cullman is a smaller non-commercial airport. Cullman County is served by carrier companies, motor freight terminal, UPS, Federal Express and Airborne Express. At present, two major bus lines serve the North Central Alabama Region. Greyhound provides commercial bus service to the North and South, with six northbound and seven southbound buses traversing the Region daily, and Continental Trailways buses make two eastbound and three westbound runs daily.

Water and sewer service has been a major funding priority for projects. Potable water may be the most basic of all infrastructures and good water and sewer systems is imperative for economic growth and industrial development. Cullman offers public sanitary sewage within the county. On-site sewage disposal systems present a variety of problems and should be considered only a tolerable minimum at best. Due to physiographical limitations throughout much of the county, there is a danger of ground water contamination and stream pollution, even when on-site systems appear to be functioning properly.

The source of electric power is from the Tennessee Valley Authority. The power is distributed through several local Electric Departments, and power companies operating within the county's rural areas. Natural gas is furnished by Cullman-Jefferson Counties Gas District, Northwest Alabama Gas District, and Wheeler Basin Natural Gas. In addition to the above-

mentioned systems several L.P. gas companies operate within the county, supplying areas not reached by natural gas. Solid waste service is provided by both local municipal collection and private collectors.

The NARCOG Region has some 26 industrial parks. The total available acreage is approximately 1,937 acres in Cullman County. Cullman County is part of a multi-level network of economic markets, ranging from small local markets, through regional markets to World Export Trade. Natural resources, geographic advantages, and the location of port facilities, banking and trade facilities have thus far provided necessary basis for economic growth and development. The new and expanded industrial development provides new opportunities for employment, potential market development services, manufacturing and supply within the county.

Key to the information below provided by the North-Central Alabama Regional Council of Governments – 2012-2017 CEDS:

Strength – A factor that is favorable or conducive to realizing the economic development potential of the county.

Strengths – Anything that allows or encourages the economic development potential of the region.

Weakness – Anything that restricts or limits the economic development potential of the county.

Opportunity – A possibility due to a favorable combination of circumstances within the county.

Threat– Any circumstance or event with the potential to adversely impact the economic development potential of the county.

Transportation

Strengths

- A multi-modal transportation network, which is adequate to support industrial and commercial growth.
- An East-West rail network (Norfolk Southern), which is adequate to support industrial growth and expansion.
- Access to Interstate 65 and major 4 lane highways.
- Adequate Bridges
- Water transportation, which is directly accessible

Weaknesses

- Lack of funding to address problems in a timely manner.
- Substandard bridges in rural area.
- Lack of funding to replace substandard bridges.
- An inadequate statewide rail network to support industrial growth and expansion, particularly north-south (CSX).
- Concern that the railroad's current level of service may diminish for Cullman.
- Railway transportation system underutilized.
- Transit needs improvements for seniors, students and workforce.
- Rising fuel costs and impact on transit and transportation.
- Lack of planning for new roads (land use and zoning).

Opportunities

- Expand capacity of the Railway system.
- Widen Interstate 65 to six-lanes from Cullman/Jefferson County line to Tennessee
- Widening County roads and bridges throughout the region
- Street Improvement in small towns
- Bridge for US 278 East in Cullman west of St. Bernard Drive
- Southern by-pass for Cullman from Highway 157 to I-65
- Widen US 278 East in Cullman from 4th Avenue East to the Highway 69 intersection.

Natural Gas

Strength

- Availability of natural gas, primarily in incorporated areas, for economic development.

Weaknesses

- Lack of natural gas in rural areas.

Water

Strengths

- Most of the region has adequate water supply and storage capacity.

- Water supply is adequate to support industrial development.

Weaknesses

- Rural areas need water line upgrade to larger line size.
- Rural areas need more fire hydrants. The upgrading of water lines was identified as a need in several areas to provide for better fire protection in the rural portions of the county.
- Lack of water in un-served areas of the region.
- Additional water sources for future use.

Sewer

Strengths

- Wastewater sewers are primarily available in cities and towns.
- Wastewater treatment facility at Mallard Fox West Industrial Park (working on EPA stag grant for rest of project w/County Commission)

Weaknesses

- The lack of wastewater treatment facilities in the rural portions of the region.
- Aging infrastructure and expanding infrastructure continue to challenge the sewer capacity of the region leading to rapidly increasing sewer rates and a significant number of houses on septic tanks.
- Lack of municipal sewer systems in the rural areas of the county where there are failing septic tanks and poor soil conditions.

Economic Development

Strengths

- Excellent location for markets and suppliers.
- Excellent workforce with a good work ethic, which is trainable and available.
- Access to additional untrained entry-level workforce.
- Excellent workforce development training available for new manufacturing facilities.
- Good prevailing wages.
- Access to high-tech workers from adjacent areas.

- Development of industrial park sites.
- A growing local governmental interest and participation in economic development on a region wide basis.
- A strong industrial base in Cullman.
 - * New companies and suppliers have now located in Cullman, such as Rehau and North Alabama Fabricating Company of Cullman.
 - * A Tokyo-based automotive parts manufacturer, Topre America has been working toward a \$109 million investment in Cullman, creating 250 new jobs along the way. The new investment is more than half of the company's existing building and equipment investment of \$200 million up to this point in Cullman. The 250 new jobs will bring the plant's total employment to more than 600, and the plant's footprint has grown from 440,000 square feet to 620,000 square feet. Seven new stamping machines (ranging in size from 200-2,500 tons) will be installed, and a new die storage building will be constructed as part of the project. *(Source: The Cullman Times; September 28, 2012)*

Weaknesses

- Inadequate speculative buildings to attract a diversity of industries.
- Lack of a local program to provide small businesses with export assistance.
- Lack of a program to bring small rural areas up to prepared cities status.
- Lack of small business incubators throughout region.

Tourism, Leisure, Culture & Recreation

Strengths

- An abundance of recreation opportunities available.
- Excellent, tourism, museums, and cultural attraction.
- Good parks and recreation departments.
- Economic benefits of recreation.
 - * The new 1,456 acre Stony Lonesome OHV Park is now located in Cullman County and should have a huge impact on the tourism economy.

Weaknesses

- Need for additional recreation facilities for rural portions of the county.
- Funding for recreation projects.
- More organized recreation and tourism on the river.
- Lack of funding for museums, cultural centers and activities.
- Lack of the development of a Regional Recreation Plan.

Education & Workforce

Strengths

- A strong, educated, and trainable workforce.
- Good work ethic.
- Proximity to educational institutions.
- Cullman Area Workforce Solutions (CAWS).
- Education outreach programs and night class offerings.
- Availability of skill training opportunities.
- Excellent training available for new manufacturing.
- Access to high-tech workers.
- Increasing education attainment levels.
- Good access to additional labor supply of untrained and entry-level workers.
- Strong collaboration between high schools, community colleges and universities to meet workforce needs.
- Strong emphasis on workforce development in the community colleges.
 - * VIA WIRED - The Valley Innovation Alliance's (VIA) Workforce Innovation in Regional Economic Development (WIRED) is a 501(c)3 created by a grant initiative awarded by the Department of Labor (DOL). Under this initiative, VIA WIRED works to strengthen workforce preparedness in the Tennessee Valleys targeted industries and high-growth fields (biotechnology, nanotechnology, engineering, information technology, and advanced manufacturing) while integrating workforce development activities. The VIA WIRED provides service to a 23 county region, which includes 14 counties in Northern Alabama and

9 counties in Southern Tennessee. This workforce development program should enhance and strengthen our region and the rest of the Tennessee Valley area.

Weaknesses

- The out migration of educated young adults.
- Lack of comprehensive training in many rural high schools.
- The rural high school graduation rate should be increased.
- Lack of parent and student understanding of career opportunities in advanced manufacturing.
 - * One of the issues raised consistently is the workforce and the implications it holds for attracting and retaining industries. According to the National Association of Manufacturers and the Manufacturing Institute, this is a time of great challenge for U.S. manufacturers as they adapt to today's global economy. Companies across the country report experiencing a severe skills shortage. These shortages are exacerbated by changing demographics such as the retirement of baby boomers, technical advances demanding higher skills, and crushing global competition. At the same time, our education system is not producing students with the level of skills needed for today's advanced manufacturing. In response to this human capital challenge, the "Dream It. Do It. Manufacturing Careers Campaign" has been developed. This is a grassroots economic development initiative that aims to foster growth, innovation and jobs by building entrepreneurial, regional alliances and providing youth-oriented awareness and education initiatives designed to captivate the next generation of American manufacturing talent.

Quality of Life

Strengths

- Excellent health facilities are available.
- Low crime rate.
- Excellent rural and urban fire protection.
- High quality of life in Cullman.

Weaknesses

- Lack of coordination between agencies.

Environmental & Natural Resources

Strengths

- The county is distinguished with its abundant amount of prime farmland, forest and others outside opportunities.
- The aesthetics of the county, for example the rolling topography, enhances the quality of life by leading to region-wide pride in cultural traditions.
- An adequate supply of energy is available.
- An adequate supply of water.
- Adequate supply of timber, minerals, sand, gravel, and other resources to support expansion of industry.

Weaknesses

- The sensitivity of the Tennessee River and its special considerations.
- Illegal dumping and groundwater pollution.
- Lack of programs to help prevent conversion of prime farmland to non-agricultural uses.
- The lack of proper land use management.
- The competition for use of forestland by agricultural and urban development.
- Lack of zoning in rural areas of the county.

Government & Finance

Strengths

- Citizens' desire for good and effective government.
- Commitment to work with existing structure of local governments.

Weaknesses

- Lack of communication between the county and its municipalities.
- Lack of effective and well-defined and measurable goals.
- Turf wars and concerns only with the local area without any regard for more general or wider issues.
- Citizen's not willing to pay more for services.

Opportunities

- Maximize tourism potential through a comprehensive plan of advertising and joint cooperation of local governments.
- Growth in tourism at lakes, especially Smith Lake.
- Countywide Land Use Planning.
- Conference/Civic Facilities.
- Hotel at Smith Lake.
- Legalize sale of alcoholic beverages.
- Enhance Existing Recreation Facilities to attract new industry.
- Upgrade water lines and systems in rural areas.
- Agriculture Center/Museum.
- Cleanup illegal dumps.
- Litter control.
- Construction of Speculative Buildings.
- Increase recreational opportunities for youths.
- Develop and/or identify more grant programs (funding) for existing industries (retention).
- Establish a Scenic Byway on US 31 (exit 287) in Blount and Cullman County (Blount Springs/Blue Hole Community, Shrine, Rickwood Caverns, Old Drennan House, Bangor Caves, Top Hat BBQ Sulfur Springs, and Garden City to Blountsville).
- Develop stronger relationships with local representatives for funding local projects.
- Expand existing tech-prep programs in schools/colleges.
- Create a partnership between education and industry.
- Develop a unified legislative agenda.
- Plan a Comprehensive Tour of the Region as a tourist/visitor attraction
- Economic Region 76- “Dream It. Do It” Campaign VIA-WIRED

Threats

- Maintaining existing industrial base.
- Lack of rural planning.
- Limited rural wastewater systems.

- Sale of alcoholic beverages prohibited, except in the City of Cullman and the Town of Good Hope.
- Complacency in current educational systems.
- Lack of infrastructure, water upgrade in rural areas.
- Failure to upgrade and repair roads and bridges.
- Inadequate rural fire protection.
- Lack of Cooperation and Teamwork.
- Pollution (agriculture and industrial).
- Illegal dumps and litter.
- Lack of Hotel at Smith Lake.
- Inability to support expanding automotive and aerospace industries and the emerging biotechnology industry with an available skilled workforce.

This plan fully recognizes that changes in development for jurisdictions in hazard prone areas are on-going issues that must be constantly monitored and addressed in the local planning process. Changing development trends and the on-going growth and shift of population can increase levels of vulnerability. The potential impacts of these changes can have adverse impacts, such as those noted here:

- Increasing demands for developable land area to accommodate new growth can push new development to previously undeveloped flood plains.
- New development and associated parking, roads, and other impermeable surfaces can increase urban runoff, exacerbating flooding hazards.
- New construction in previously rural areas can push the wildland-urban interface, increasing exposure to wildfires.
- New housing may be constructed inadequately to withstand the damaging wind threats of high winds and tornadoes.
- Increased population can stretch the demand for limited water resources in times of drought.
- More development in widespread areas subject to sinkholes can increase the probability of property and infrastructure damages.

Table 4-40: Cullman County's Critical Facilities

CRITICAL FACILITIES – CULLMAN COUNTY	
FACILITY TYPE	REPLACEMENT VALUE
Cullman County Courthouse, 500 2 nd Ave. SW, Cullman	Building: \$16,500,792 Contents: \$1,872,000
Victim Services, 310 3 rd Ave. NE, Cullman	\$1,243,246
Cullman County Health Department, 601 Logan Ave. SW, Cullman	\$1,254,286
Agri Trade Center, 2423 2 nd Ave. NW, Cullman	\$2,202,854
1 Electrical System	\$99,000,000
2 Natural Gas Distributors	
7 Broadcast Facilities	\$630,000
1 Newspaper	
Sheriff's Department and Crime Stoppers, 500 2 nd Ave. S.W., Cullman	\$2,520,000
1 E-911 Center	
Airport Hangar	\$68,000
Forestry Service	\$112,200
Cullman County Community Center, County Road 663, Cullman	\$160,500
Crane Hill Senior Center, 15095 County Road 222, Crane Hill	Building: \$165,850 Contents: \$2,000
Bremen Community Center, County Road 110, Cullman	\$85,600
Community Center, Beat 8, County Road 15, Cullman	\$160,500
Cullman County Jail/Juvenile Detention, 1900 Beech Ave., Cullman	Building: \$13,746,000 Contents: \$700,000
Office Trailer, 17 County Road, Crane Hill	\$25,000
Environmental Center, 10075 Highway 69 S., Bremen	Building: \$417,721 Contents: \$20,000
(20) OHV Park Storage Buildings, 10075 Highway 69 S., Bremen	Buildings: \$300,000 Contents: \$34,000
Cullman Regional Medical Center, 1912 AL Hwy 157, Cullman	\$19,111,110
1 EMS Transport Service	
2 Hazmat Teams	
2 Rescue Teams	
Smith Lake	
Smith Lake Senior Center, Sportsman Lake Road NW, Cullman	Building: \$194,688 Contents: \$48,000
Smith Lake Maintenance Building, 1536 Sportsman Lake Rd.,	\$55,000

Cullman	
Smith Lake Maintenance Shop, 416 County Road 385, Cullman	\$118,400
Water and Sewer	
Water Department Office, 2051 2 nd Ave. SW, Cullman	Building: \$405,520 Contents: \$350,000
Water Department Shop, 2051 2 nd Ave. SW, Cullman	Building: \$457,322 Contents: \$20,000
8 Booster Stations	\$1,060,000
Cullman County Sanitary Department, Highway 69, Cullman	Building: \$214,500 Contents: \$53,000
Oden Ridge Water Tank, Oden Ridge	\$315,000
Eva Water Tank, Cullman	\$162,000
County Line Water Tank, Cullman	\$225,000
Hamby Chapel Water Tank, Cullman	\$162,000
Hamby Chapel Water Tank #2, Cullman	\$1,080,000
Berlin Water Tank, Cullman	\$369,000
Stouts Mountain Water Tank, County Road 564, Stouts Mountain	\$315,000
Shelton Grove Water Tank, County Road 223, Shelton Grove	\$315,000
Bushy Pond Water Tank, County Road 222, Bushy Pond	\$315,000
Crane Hill Water Tank, County Road 222, Crane Hill	\$447,000
Springhill Water Tank, County Road 1136, Cullman	\$990,000
Springhill Water Tank #2, 118 County Road 1148, Springhill	\$225,000
Schmuck Mountain Water Tank, County Road 18, Schmuck Mountain	\$315,000
Bremen Water Tank, County Road 109, Bremen	\$810,000
Water Department/EMA Office, 2020 Beech Ave., SE, Cullman	Building: \$1,851,000 Contents: \$275,000
9 Water Utility Systems	\$269,730,000
Cullman Water Treatment Plant	\$29,970,000
6 Wastewater Treatment Facilities	\$359,640,000
County Road Department	
Cullman County Road Department Garage Buildings (2)	Buildings: \$1,420,138 Contents: \$96,000
Cullman County Road Department Storage Buildings (2)	\$113,000
Cullman County Road Department Shed	\$35,000
Cullman County Road Department Fueling Station	\$134,712
West Office, 3190 County Road 438, Cullman	Building: \$337,827 Contents: \$20,000
West Fueling Station, 3190 County Road 438, Cullman	\$83,000
Road Department Office, 2883 Highway 69 N., Cullman	\$992,955

Cullman County Board of Education	
Cullman County BOE	\$11,401,310
Maintenance Facilities	\$4,107,961
Communication Centers	\$324,559
Parkside Elementary	\$9,779,148
Cold Springs School Facilities	\$23,385,148
Child Development Centers	\$3,811,943
Dowling Community Center	\$261,281
Fairview School Facilities	\$37,005,387
Garden City Schools Facilities	\$3,816,249
Good Hope Schools and Facilities	\$25,720,099
Good Hope Primary Schools	\$11,300,359
Harmony School	\$12,384,415
Hanceville Schools and Facilities	\$27,727,806
Holly Pond Schools and Facilities	\$26,387,866
Jones Chapel Schools and Facilities	\$3,157,774
Logan School Facilities	\$2,457,526
Vinemont Schools and Facilities	\$31,306,918
Welti Schools and Facilities	\$4,332,660
West Point Schools and Facilities	\$42,576,492
Career Center Facilities	\$12,722,482
Bremen VFD, P. O. Box 162, Bremen, AL 35033	
Station #1, 1425 County Road 110, Cullman, AL 35057	Building: \$175,000 Contents: \$65,000
Station #2, 50 County Road 143, Bremen, AL 35033	Building: \$35,000 Contents: \$3,500
Station #3, 5286 County Road 38, Hanceville, AL 35077	Building: \$35,000 Contents: \$2,500
1995 Ford Pumper	\$250,000
2004 Freightliner Pumper	\$250,000
2000 International Pumper	\$250,000
1995 Ford Brush	\$65,000
1993 Ford Brush	\$65,000
1993 Ford Brush	\$65,000
1990 Ford Tanker	\$175,000
10 KW Generator	\$8,000
Mobile SCBA Fill Unit	\$65,000
Sparkman Fire Truck	\$300,000
E-1 Fire Engine #2	\$200,000
KME Fire Truck	\$300,000
International EMS 1	\$45,000
Food Service Truck	\$45,000
Breathing Air Compressor	\$35,000

Walter VFD, 4411 Co. Rd. 781, Cullman, AL 35055	\$180,000
1984 5 ton military surplus brush/tanker	\$20,000
1986 Ford 500 gpm service/pumper	\$25,000
1996 Darley 1250/1000 pumper	\$200,000
2000 CS 1250/1000 pumper	\$200,000
2006 Ford F350 Service/Rescue Crew Cab Skid Unite	\$80,000
2010 Pierce 1250/1000 pumper/rescue	\$200,000
25 Kw Generator	\$30,000
Surplus 3Kw Generator on trailer	\$3,500
Arkadelphia VFD, 5023 Co. Rd. 35, Bremen, AL	\$240,000
Battleground VFD, 8630 Co. Rd. 1082, Vinemont	\$240,000
Berlin VFD, 3581 U. S. Hwy. 278 E., Cullman	\$240,000
Bethsadia VFD, 454 Co. Rd. 804, Cullman	\$240,000
Cold Springs VFD, 9110 Co. Rd. 109, Bremen	\$240,000
Crane Hill VFD, 225 Co. Rd. 870, Crane Hill	\$240,000
Gold Ridge, VFD, 5225 Co. Rd. 1545, Cullman	\$240,000
Johnsons Crossing VFD, 1599 Co. Rd. 1617, Hanceville	\$240,000
Jones Chapel VFD, 96 Co. Rd. 940, Cullman	\$240,000
Joppa VFD, 15437 AL Hwy 69 N., Joppa	\$240,000
Logan VFD, 4215 Co. Rd. 818, Logan	\$240,000
Loretto VFD, 7648 Co. Rd. 437, Cullman	\$240,000
Sardis VFD, 8176 Co. Rd. 30, Sardis	\$240,000
Trimble VFD, 4896 Co. Rd. 222 or 7744 Co. Rd. 813, Cullman	\$240,000
Total	\$1,141,130,792

(Sources: Local; HAZUS MH 2.1, Accessed 2014)

Table 4-41: Critical Roadways Vulnerable to Flooding and Landslides

CRITICAL ROADWAYS		
NAME	TYPE	FLOOD TYPE
AL Highway 69	Major Transportation Route	Majority in Zone X crossing Zone A once
AL Highway 157	Major Transportation Route	Majority in Zone X crossing Zone A once
U. S. Highway 31	Major Transportation Route	Majority in Zone X crossing Zone A several times
U. S. Highway 278	Major Transportation Route	Majority in Zone X crossing Zone A several times
AL Highway 91	Major Transportation Route	Majority in Zone X crossing Zone A several times
County Road 222	Major Transportation Route	Majority in Zone X crossing Zone A several times
County Road 747	Major Transportation Route	Majority in Zone X crossing Zone A twice
Interstate 65	Major Transportation Route/ Hurricane Evacuation Route/ Nuclear Evacuation Route	Majority in Zone X crossing Zone A several times
County Road 216 to Old 69 to Interstate 65	Major Transportation Route	
County Road 216 to Alabama Highway 69 South	Major Transportation Route	
County Road 223 to Alabama Highway 69 South	Major Transportation Route	
Howard Circle to Alabama Highway 69 South	Major Transportation Route	

(Source: Joyce Allen and Cherrie Haney, Cullman County Economic Development)

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SECTION 5: MITIGATION STRATEGY

Mitigation Strategy

This section remains the same as stated in the 2010 plan update. During the 2015 update planning process, the Cullman County Hazard Mitigation Planning Committee (also referred to as the committee or CCHMPC) reaffirmed the county's overall hazard mitigation strategy:

- Reduce risks through actions and policies that limit the effects of natural hazards on the physical assets and citizens of Cullman County.

Hazard Mitigation Goals

This section was reviewed by the HMPC and remains the same as stated in the 2010 plan update.

The following goals remain the same as stated in the 2010 plan update:

1. Establish a comprehensive countywide hazard mitigation system
2. Reduce Cullman County's risk from natural hazards
3. Reduce vulnerability of new and future development
4. Reduce Cullman County's vulnerability to natural hazards
5. Foster public support and acceptance of hazard mitigation

These goals are accompanied by objectives and actions that are designed to support the implementation of the goals. A multi-stage process was used to identify, evaluate, and prioritize the goals, objectives, and actions. The selection and prioritization process remained the same as was used for the 2010 plan update. In the selection and prioritization of mitigation actions, each member was asked to consider the following: funding options, political support, public support, legality, preservation of the environment, and staff capability. The committee then looked at each strategy in terms of costs and benefits. Not only were direct costs and benefits considered, but

indirect costs and benefits were also acknowledged. Indirect costs and/or benefits are often intangible attributes such as social effects.

Hazard Mitigation Actions

This section was reviewed and remains the same as stated in the 2010 plan update.

The CCHMPC members were provided lists of the actions and associated objectives identified in the 2010 plan for their review and comment. Agencies provided feedback on completed, in progress, deferred, and/or deleted actions. Further, the planning committee reviewed the local plan to verify that goals and objectives identified within the plan were compatible with the goals and objectives identified at the state level.

Priority mitigation actions will be implemented only if they are cost beneficial; maximum benefits must outweigh the associated costs of the proposed actions. The committee performed a general evaluation of each mitigation measure which might require FEMA funds. The committee weighed the estimated costs for each mitigation measure against the projected benefits of the action. A more detailed benefit-cost analysis will be required for each priority action to determine economic feasibility during the project planning phase. Projects will also require a more detailed evaluation for eligibility and feasibility including social impact, environmental impact, technical feasibility, and other criteria that measure project effectiveness. This detailed evaluation of projects will be performed in the pre-application phase of a grant request. Further, implementation of actions will be subject to the availability of FEMA grants and other sources of funding from year-to-year.

The Cullman County HMPC reviewed all mitigation actions, adjusted the priority based upon actions that were previously identified, and reevaluated the grant funding programs. The committee assessed the availability of grant funds and the state/federal governments' prioritization of these potential grants in order to establish the priorities for Cullman County's planning strategy.

- A High ranking requires continuous action and participations from the entire community.
- A Medium ranking involves fewer people, effort, and area of the community.
- A Low ranking involves a small number of people and plans for a specific action.

Since the 2010 Plan was adopted, Cullman County was faced with a series of natural hazard threats. Cullman County pursues, and continues to pursue, a variety of natural hazard mitigation actions that reduce the potential impact of these threats and the impact of future threats. Since adoptions of the 2010 Plan, there have been 441 hazardous events in Cullman County as noted in **Table 4-4 through Table 4-16**. These events played a significant role in shaping the hazard mitigation priorities within Cullman County over the last five years. Each disaster revealed strengths and weaknesses within the hazard mitigation program, and the county adjusted its subsequent mitigation actions to address these weaknesses accordingly.

Mitigation Implementation

Mitigation Actions listed in the 2010 Plan will be benchmarked in this plan update. New mitigation actions will also be listed in this plan update.

Legend for the Mitigation Measure # as listed in the following tables:

- 1st # = Type #: 1 for Prevention
 2 for Property Protection
 3 for Public Education and Awareness
 4 for Natural Resource Protection
 5 for Emergency Services Protection
 6 for Structural Projects
- 2nd # = Goal #: 1 for “Establish a comprehensive countywide hazard mitigation system”
 2 for “Reduce Cullman County’s risk from natural hazards”
 3 for “Reduce vulnerability of new and future development”
 4 for “Reduce Cullman County’s vulnerability to natural hazards”
 5 for “Foster public support and acceptance of hazard mitigation”
- 3rd # = Actions: The number of mitigation measures with the same type # and goal #

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Table 5-1: Cullman County Mitigation Actions	
Mitigation Action 1.1.1	Make application and/or commit/continue to participate in the NFIP, meeting all NFIP requirements
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	FL
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County's NFIP Coordinator
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	HMGP
Priority	High
Benchmark	Cullman County is a NFIP participating community and plans on maintaining this status. Jon Brunner is the NFIP contact and Floodplain Manager for Cullman County.
Mitigation Action 1.1.2 COMPLETE	Encourage the development of zoning and building codes in the county and small municipalities.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T; FL; H; E
Applies to new/existing asset(s)	New
Local Planning Mechanism	Cullman County Commission
Estimated Time Frame for Completion	2017
Estimated Cost	N/A
Funding Sources	HMGP; Local
Priority	High
Benchmark	The county and municipalities have zoning regulations under development. Subdivision regulations are in place and enforced. This mitigation action is complete.

Mitigation Action 1.1.3	Develop and implement clean-up plan for the county and participating jurisdictions.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County Commission and Local Municipalities
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	HMGP; Local
Priority	Low
Benchmark	<p>The county has the option to use a pre-disaster contract developed by the Alabama County Commission Association. The County Engineer is the primary contact for clean-up.</p> <p>The county wishes to leave their options open to developing their own clean-up plan; therefore, this mitigation action will remain.</p>
Mitigation Action 1.1.4	Develop a pre-disaster contract for clean-up.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T; W; H
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County EMA
Estimated Time Frame for Completion	2015
Estimated Cost	N/A
Funding Sources	HMGP; Local
Priority	Medium
Benchmark	<p>The county has the option to use a pre-disaster contract developed by the Alabama County Commission Association. The County Engineer is the primary contact for clean-up.</p> <p>The county wishes to leave their options open to developing their own clean-up plan; therefore, this mitigation action will remain.</p>

Mitigation Action 1.1.5	Develop an alternate evacuation route and plan.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County EMA and Cullman County Road Department
Estimated Time Frame for Completion	2019
Estimated Cost	N/A
Funding Sources	HMGP; Local; DOT; CDBG; R&R
Priority	Low
Benchmark	<p>The HMPC continues assessing the evacuation routing of citizens based on types of events.</p> <p>Evacuation is event driven. All primary travel/education routes have been designated as priorities for the clearing of debris following an event in Cullman County.</p>
Mitigation Action 1.1.6 COMPLETE	Develop a tree control program near power lines and county/municipal/private utilities; enter into a pre-disaster contract.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T; W; H
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Cullman County EMA and Cullman County Road Department
Estimated Time Frame for Completion	2019
Estimated Cost	N/A
Funding Sources	HMGP; Local
Priority	Low
Benchmark	Works with the Alabama Power and Cullman Electric Cooperative and plan is in place. In addition, Cullman County Road Department actively maintains rights of ways which includes tree cutting. No contract is to be signed.

Mitigation Action 1.1.7	Promote education, training, and certification of public works employees.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Cullman County Commission
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	HMGP; Local
Priority	Medium
Benchmark	<p>The county continues promoting education, training, and certification of public works employees.</p> <p>CCEMA has sponsored the following courses for training and certification of public works employees and executive level supervisors:</p> <p>ICS 300 – Incident Command 11/13-15/2012 MGT 312 – Senior Officials Workshop 02/13/2013 MGT 340 – Crisis Leadership & Decision Making 08/05/2014 MGT 342 - Strategic Overview of Disaster Management for W/WW Utilities 01/07/2014 MGT 343 - Disaster Management for W/WW Utilities (2 classes) 04/3-4/2013 & 07/29-30/2014 MGT 345 - Disaster Management for Electric Power Systems 10/10-11/2012</p>

Mitigation Action 2.2.1	Protect property by relocating the structure out of harm's way, acquiring and clearing the property, elevating the structure above flood levels, placing barriers between property and hazards (e.g. low floodwalls, firebreaks, and sewer backup valves), retrofitting a structure and carrying property insurance. This includes acquiring buildings in flood prone areas and evaluating elevations as an alternate mitigation measure. Increase open space acquisitions in flood prone areas.
Type	Property Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	FL
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County NFIP Coordinator and Cullman County EMA
Estimated Time Frame for Completion	2018
Estimated Cost	N/A
Funding Sources	HMGP; CDBG; Local
Priority	High
Benchmark	To date, no funding has been allocated to address any existing structures in flood prone areas.

Mitigation Action 2.2.2	Promote drainage improvements on local streets and develop drainage and maintenance program. Develop and implement standard operating procedures for drainage system maintenance.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T; FL; W; H; D/LF
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Cullman County NFIP Coordinator and Cullman County EMA
Estimated Time Frame for Completion	2018
Estimated Cost	N/A
Funding Sources	HMGP; CDBG; ADEM; EPA; USDA; Local
Priority	High
Benchmark	The Cullman County Road Department actively maintains all the drainage structures within the bounds of rights of way. Additionally, the Cullman County Road Department maintains drainage structures off of rights of way on an as needed basis, subject to acquiring the appropriate easements.
Mitigation Action 2.4.1	Ensure all county and municipal structures are protected from lightning strikes.
Type	Property Protection
Goal	Reduce Cullman County's vulnerability to natural hazards
Hazard(s) Addressed	TH; L; T
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Cullman County Commission and Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	N/A
Funding Sources	HMGP; Local
Priority	Low
Benchmark	Communications towers at the CCEMA and the Cullman County Sheriff's Office have had additional lightning arrestor protection added within the past 3 years following strikes that affected dispatch consoles in the EOC and CCSO Dispatch Center.

Mitigation Action 5.2.1	Purchase/update emergency generators for post-disaster mitigation and conduct routine tests on backup generators for all critical facilities. This includes procuring a 2500 KW generator with an extra tank to power the Cullman Regional Medical Center in cases of power outages due to disastrous events.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County EMA
Estimated Time Frame for Completion	2018
Estimated Cost	\$1,000 - \$5,000 each
Funding Sources	HMGP; ADECA; Local
Priority	High
Benchmark	CCEMA has procured additional generators including several small generators through ADECA: 2-5KW and 1-10KW/trailer mounted. In addition, the CCEMA houses and maintains 2-55KW generators/trailer mount provided by the AEMA. The CCEMA has not identified a funding source for the 2500 KW generator required by CRMC. Generators remain an action item in the plan until all critical facilities' backup systems are completed.

Mitigation Action 5.2.2	Purchase, install, and test emergency warning sirens, as needed.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; Local
Priority	High
Benchmark: Purchase, install, and test emergency warning sirens, as needed. Upgrade existing equipment as needed.	<p>All existing equipment has been upgraded to meet FCC narrow-banding requirements. Mitigation grant funding was used to complete the upgrade. Therefore, this portion of Mitigation Action 5.2.2 is complete.</p> <p>This mitigation action has been revised accordingly.</p> <p>CCEMA tests all 42 sirens in Cullman County and is directly responsible for all maintenance on 26 sirens located in unincorporated areas of the jurisdiction. CCEMA works with all 11 municipalities to ensure that all sirens located in municipal jurisdictions are maintained and that any operational issues are resolved as soon as possible. Sirens are silent tested several times each month. Audible tests are conducted on the first Wednesday of each month or as required following maintenance service. Siren testing and maintenance will continue.</p>

Mitigation Action 5.4.1	Ensure all hospitals, schools, and nursing home facilities have a severe weather plan in place to protect their inhabitants.
Type	Emergency Services Protection
Goal	Reduce Cullman County's vulnerability to natural hazards
Hazard(s) Addressed	TH; H; T; FL; W; H
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County EMA
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	HMGP; NARCOG; Local
Priority	Low
Benchmark	<p>The CCEMA is a member of the ADPH ESF 8 working group along with members of the hospital, nursing home, and medically-related service community in Cullman County and Public Health Area 2. This working group coordinates planning and resources identification for all-hazards responses for facilities located in Cullman County and Area 2. CCEMA also works with the local City and County School Systems to ensure that a severe weather plan is in place. In addition, CCEMA has reached out to private-parochial schools in the jurisdiction to assist in severe weather planning. This mitigation action will remain as plans will need to be reviewed, exercised, and revised. As the school campuses expand into primary, elementary, intermediate, and high schools with separate administrations, the planning needs will change.</p>

Mitigation Action 6.1.1	Provide adequate individual storm shelters and community safe rooms.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Cullman County Commission and Cullman County EMA
Estimated Time Frame for Completion	2020
Estimated Cost	\$4,000 - \$130,000 each
Funding Sources	HMGP; ADECA; Local; GERF when available
Priority	High
Benchmark	<p>The CCEMA has worked in association with the Cullman County Economic Development (CCED) Office to provide HMGP grant assistance to individuals for the construction of individual storm shelters. The CCED writes and manages the grants. The CCED was successful in the approval of 214 individual storm shelter grants, of which approximately 194 have been completed.</p> <p>The CCED was successful in the approval of 15 community safe room grants for safe rooms to be located at senior citizen sites, volunteer fire departments, and on municipal properties around the county. Approximately 12-13 have have been completed with others under construction. One 5-unit community safe room in the City of Cullman is incomplete. One unit is under construction at the Goldridge VFD. The remaining safe rooms have been installed and are complete: City of Cullman (5 units in 1 location); Town of Baileyton (1 unit); Town of South Vinemont (2 units); Town of West Point (2 units); Town of Good Hope (2 units); Goldridge VFD (1 unit under construction); Vinemont Providence VFD (1 unit); Dodge City VFD (1 unit); Smith Lake Park (1 unit); County Senior Centers (1 unit each at 5 locations).</p> <p>The county wishes to add more individual storm shelters and community safe rooms, as funding becomes available, to ensure citizens have a safe haven during severe weather events.</p>

Mitigation Action 6.3.1	Require new electrical distribution lines be placed underground.
Type	Structural Projects
Goal	Reduce vulnerability of new and future development
Hazard(s) Addressed	TH; H; T; W; H
Applies to new/existing asset(s)	New
Local Planning Mechanism	Cullman County Commission
Estimated Time Frame for Completion	2020
Estimated Cost	N/A
Funding Sources	HMGP; Local
Priority	Medium
Benchmark	
Mitigation Action 6.4.1	Maintain and upgrade public infrastructures and services.
Type	Structural Projects
Goal	Reduce Cullman County's vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County Commission
Estimated Time Frame for Completion	2019
Estimated Cost	N/A
Funding Sources	HMGP; CDBG; DOT; Local
Priority	High
Benchmark	

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SECTION 6: JURISDICTIONAL ASSESSMENTS

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TOWN OF BAILEYTON

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**Table 6-1: Town of Baileyton
Risk and Vulnerability Overview**

Natural Hazards	Hazard Identification	Prioritized Occurrence Threat	Vulnerability
Thunderstorm	X	3	H
Lightning	X	8	M
Hail	X	5	L
Tornado	X	7	H
Flood/Flash Flood	X	7	H
Drought/Extreme Heat	X	4	L
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	X	2	L
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	X	6	M
Sinkhole/Expansive Soil	X	9	L
Landslide	X	9	L
Earthquake	X	9	L
Wildfire	X	1	L
Dam/Levee Failure	X	9	L

Sources: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey; Participating Jurisdictions

KEY

Hazard Identification: X Affects the Jurisdiction, N/A Not a threat to the jurisdiction

Priority: Hazards are prioritized with the highest threat of occurrence assigned number one based on hazardous events that have occurred within each jurisdiction over the past ten years, with the exception of wildfires that were based on events that have occurred over the past three years. Some natural hazards have equal threats to a jurisdiction; therefore, their threat number will be the same.

Vulnerability: NA – Not Applicable; not a hazard to the jurisdiction

L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction)

M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence)

H – High Risk; significant risk/major damage potential (damage to over 10% of jurisdiction, regular occurrence)

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Table 6-2: Baileyton's Thunderstorm Events

24 Thunderstorm Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	I.Z.	Type	Mag	Dth	Inj	PrD	CrD
BAILEYTON	CULLMAN CO.	AL	06/01/2006	16:40	CST	Thunderstorm Wind	60 kts. EG	0	0	15.00K	0.00K
BAILEYTON	CULLMAN CO.	AL	07/01/2007	13:32	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
BAILEYTON	CULLMAN CO.	AL	08/17/2007	16:38	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:18	CST-6	Thunderstorm Wind	56 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Thunderstorm Wind	61 kts. EG	0	0	3.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	52 kts. EG	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	61 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:45	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:05	CST-6	Thunderstorm Wind	56 kts. EG	0	0	1.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:08	CST-6	Thunderstorm Wind	70 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:10	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
BAILEYTON	CULLMAN CO.	AL	06/15/2009	19:25	CST-6	Thunderstorm Wind	56 kts. EG	0	0	14.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:30	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K

CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	58 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:50	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	56 kts. EG	0	0	15.00K	0.00K
BAILEYTON	CULLMAN CO.	AL	01/11/2012	04:55	CST-6	Thunderstorm Wind	61 kts. EG	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/17/2013	11:10	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
Totals:								0	0	177.00K	0.00K

Table 6-3: Baileyton's Lightning Events

1 Lightning Event – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN CO.	CULLMAN CO.	AL	06/24/2011	15:25	CST-6	Lightning		0	0	1.00K	0.00K
Totals:								0	0	1.00K	0.00K

Table 6-4: Baileyton's Hail Events

9 Hail Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
BAILEYTON	CULLMAN CO.	AL	05/02/2003	13:25	CST	Hail	2.50 in.	0	0	0.00K	0.00K
BAILEYTON	CULLMAN CO.	AL	02/21/2005	19:43	CST	Hail	0.75 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:50	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
BAILEYTON	CULLMAN CO.	AL	08/02/2008	16:05	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
BAILEYTON	CULLMAN CO.	AL	08/02/2008	16:10	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:24	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:56	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/30/2013	18:42	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-5: Baileyton's Tornado Events

4 Tornado Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:06	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:20	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Tornado	EF1	0	0	50.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:41	CST-6	Tornado	EF2	0	0	150.00K	0.00K
Totals:								0	0	240.00K	0.00K

Table 6-6: Baileyton's Flood/Flash Flood Events

4 Flood/Flash Flood Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/05/2004	20:30	CST	Flood		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/05/2004	23:15	CST	Flood		0	0	0.00K	0.00K
COUNTYWIDE	CULLMAN CO.	AL	09/16/2004	15:30	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/27/2008	13:50	CST-6	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-7: Baileyton's Drought/Extreme Heat Events

23 Drought/Extreme Heat Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/27/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/28/2009	10:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/15/2010	00:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-8: Baileyton's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events

28 Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2007	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/15/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/16/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/28/2008	22:24	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2009	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2009	02:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/30/2011	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2012	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/31/2012	01:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/26/2013	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2009	02:20	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/02/2010	03:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/25/2010	05:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/09/2011	16:45	CST-6	Heavy Snow		0	0	0.10K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/17/2013	11:15	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2008	01:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/23/2008	08:25	CST-6	Winter Weather		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/04/2009	23:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/07/2010	05:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2010	09:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/12/2010	07:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/15/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/12/2010	08:01	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/15/2010	09:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/26/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/03/2011	14:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/09/2011	18:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-9: Baileyton's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events

8 Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events –
01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/29/2005	20:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/16/2004	11:50	CST	High Wind	50 kts. ES	0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2008	20:00	CST-6	High Wind	39 kts. ES	0	0	10.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/11/2009	12:45	CST-6	High Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2009	23:05	CST-6	High Wind	55 kts. EG	0	0	600.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/24/2009	16:00	CST-6	High Wind	35 kts. ES	0	0	20.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/20/2007	15:10	CST-6	Strong Wind	39 kts. EG	0	0	1.000M	0.00K
Totals:								0	0	1.645M	0.00K

Table 6-10: Baileyton's Sinkhole Events

0 Sinkhole Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: (Source: NOAA NCDC Storm Events Database/U.S. and AL Geological Survey)

No sinkhole events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-11: Baileyton's Landslide Events

0 Landslide Event – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: (Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)

No landslide events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-12: Baileyton's Earthquake Events

0 Earthquake Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)

No earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-13: Countywide Wildfire Events

82 Wildfire Events – 2010 thru 2013

(Source: Alabama Forestry Commission)

County	Total # of Fires 2010-2013	Average # of Fires Per Year	Total Acres Burned 2010-2013	Average Acres Burned Per Year	Average Fire Size in Acres
Cullman	82	27.33	1,958.65	652.88	23.88

Source: Alabama Forestry Commission

Table 6-14: Baileyton's Dam/Levee Failure Events

0 Dam/Levee Failure Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/Local Input)

No dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

**Table 6-15: Town of Baileyton
Hazard Probability Assessment**

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	24	>100%	>10%	Town wide
Lightning	1	10%	5-10%	Town wide
Hail	9	90%	<5%	Town wide
Tornado	4	40%	>10%	Town wide
Flood/Flash Flood	4	40%	>10%	Town wide
Drought/Extreme Heat	23	>100%	<5%	Town wide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	28	>100%	<5%	Town wide
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	8	80%	5-10%	Town wide
Sinkhole/Expansive Soil	0	0	<5%	Town wide
Landslide	0	0	<5%	Town wide
Earthquake	0	0	<5%	Town wide
Wildfire (3 year study period)	82	>100%	<5%	Town wide
Dam/Levee Failure	0	0	<5%	Town wide

Source: NOAA NCDC; U. S. Inflation Calculator/Consumer Price Index; USGS ; Local Input; USDA Census of Agriculture; Alabama Forestry Commission; and National Forestry Service; Participating Jurisdictions

Methodology: Number of historical occurrences is those reported by NOAA NCDC during the 10 year study period, with the exception of wildfire that is a 3 year study period. Probability is expressed by dividing the total number of occurrences by the study period in years. Extent is expressed as the percentage assigned by the jurisdictions' ranking in the vulnerability overview (Table 4-40). Zero denotes no data available to determine the probability, extent, or affected area.

Table 6-16: Baileyton's Critical Facilities

CRITICAL FACILITIES – BAILEYTON	
FACILITY TYPE	REPLACEMENT VALUE
Baileyton VFD, P. O. Box 37, Baileyton, AL 35019	
Station I, 165 Fire Station Rd., Baileyton, AL	Building: \$312,000 Contents: \$52,000
Station II, 2404 Co. Rd. 1725, Holly Pond, AL	Building: \$65,000 Contents: \$11,000
1969 Chevy Brush	\$65,000
1972 Hahn Pumper	\$275,000
1983 GMC Pumper	\$275,000
1996 Freightliner Pumper	\$300,000
1998 International Pumper	\$300,000
2003 Ford Rescue F350	\$100,000
2004 International Pumper	\$275,000
2005 Ford Expedition	\$35,000
40 KW Generator	\$20,000
25 KW Generator	\$15,000
Portable SCBA fill station	\$35,000
1996 Kawasaki Mule 2500 ATV	\$10,000
Total	\$2,145,000

(Source: Local)

**Table 6-17: Town of Baileyton
Estimated Loss Projections from Specified Hazards**

Natural Hazards	Average Occurrences (per year)	Total Deaths	Total Injuries	Average Death and Injury Loss (per event)	Average Crop and Property Loss (per event)	Projected Loss (per event)
Thunderstorm	2.4	0	0	\$0	\$7,375	\$8,039
Lightning	0.1	0	0	\$0	\$1,000	\$1,090
Hail	0.9	0	0	\$0	\$0	\$0
Tornado	0.4	0	0	\$0	\$60,000	\$65,400
Flood/Flash Flood	0.4	0	0	\$0	\$0	\$0
Drought/Extreme Heat	2.3	0	0	\$0	\$0	\$0
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	2.8	0	0	\$0	\$0	\$0
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	0.8	0	0	\$0	\$205,625	\$224,131
Sinkhole/Expansive Soils	0	0	0	\$0	\$0	\$0
Landslide	0	0	0	\$0	\$0	\$0
Earthquake	0	0	0	\$0	\$0	\$0
Wildfire (3 year study period)	27.3	0	0	\$0	\$45,372	\$49,456
Dam/Levee Failure	0	0	0	\$0	\$0	\$0

Sources: NOAA NCDC; U.S. Inflation Calculator/Consumer Price Index; Local Input; USDA Census of Agriculture; Alabama Forestry Commission and National Forestry Service; Alabama Geological Survey

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences during the ten-year period with the exception of wildfire which takes the average fire size as noted in Table 4-15 multiplied by average amount per acre (\$1,900). Projected loss expresses an estimated damage amount per future occurrence by converting the average loss figure from a midpoint of 2008 dollars to 2014 dollars (\$1 in 2008 = \$1.09 in 2014...a cumulative rate of inflation of 9%). Zero denotes no data available to determine the average occurrences, average loss or projected loss per event.

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Town of Baileyton Mitigation Action Plan

The Town of Baileyton recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

Mitigation Status

During the plan update, mitigation actions were reviewed in order to identify completed, deferred, or deleted actions from the previous plan and incorporate actions added during annual updates. **Table 6-18** shows the Town of Baileyton's updated mitigation actions. During the plan update process, no new mitigation actions were identified and added to the plan.

Table 6-18: Baileyton's Mitigation Actions	
Mitigation Action 1.1.1	Make application and/or commit/continue to participate in the NFIP, meeting all NFIP requirements
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	FL
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County's NFIP Coordinator
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	HMGP
Priority	High
Benchmark	<p>Local planning and development issues have prevented the Town of Baileyton from becoming a member of the NFIP. The town wishes to become a member in the future.</p> <p>Jon Brunner is the NFIP contact and Floodplain Manager for Cullman County.</p>

Mitigation Action 5.2.1	Purchase/update emergency generators for post-disaster mitigation and conduct routine tests on backup generators for all critical facilities.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Town of Baileyton and Cullman County EMA
Estimated Time Frame for Completion	2018
Estimated Cost	\$1,000 - \$5,000 each
Funding Sources	HMGP; ADECA; Local
Priority	High
Benchmark	<p>CCEMA has procured additional generators including several small generators through ADECA: 2-5KW and 1-10KW/trailer mounted. In addition, the CCEMA houses and maintains 2-55KW generators/trailer mount provided by the AEMA.</p> <p>Generators remain an action item in the plan until all critical facilities' backup systems are completed.</p>

Mitigation Action 5.2.2	Purchase, install, and test emergency warning sirens, as needed.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; Local
Priority	High
Benchmark: Purchase, install, and test emergency warning sirens, as needed. Upgrade existing equipment as needed.	<p>All existing equipment has been upgraded to meet FCC narrow-banding requirements. Mitigation grant funding was used to complete the upgrade. Therefore, this portion of Mitigation Action 5.2.2 is complete.</p> <p>This mitigation action has been revised accordingly.</p> <p>CCEMA tests all 42 sirens in Cullman County and is directly responsible for all maintenance on 26 sirens located in unincorporated areas of the jurisdiction. CCEMA works with all 11 municipalities to ensure that all sirens located in municipal jurisdictions are maintained and that any operational issues are resolved as soon as possible. Sirens are silent tested several times each month. Audible tests are conducted on the first Wednesday of each month or as required following maintenance service. Siren testing and maintenance will continue.</p>

Mitigation Action 6.1.1	Provide adequate individual storm shelters and community safe rooms.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Town of Baileyton and Cullman County EMA
Estimated Time Frame for Completion	2020
Estimated Cost	\$4,000 - \$130,000 each
Funding Sources	HMGP; ADECA; Local; GERF when available
Priority	High
Benchmark	<p>The CCEMA has worked in association with the Cullman County Economic Development (CCED) Office to provide HMGP grant assistance to individuals for the construction of individual storm shelters. The CCED writes and manages the grants. The CCED was successful in the approval of 214 individual storm shelter grants, of which approximately 194 have been completed.</p> <p>The CCED was successful in the approval of 15 community safe room grants for safe rooms to be located at senior citizen sites, volunteer fire departments, and on municipal properties around the county. Approximately 12-13 have been completed with others under construction. One unit has been completed in the Town of Baileyton.</p> <p>The Town of Baileyton wishes to add more individual storm shelters and community safe rooms as funding becomes available.</p>

Town of Colony

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**Table 6-19: Town of Colony
Risk and Vulnerability Overview**

Natural Hazards	Hazard Identification	Prioritized Occurrence Threat	Vulnerability
Thunderstorm	X	4	H
Lightning	X	8	M
Hail	X	6	L
Tornado	X	7	H
Flood/Flash Flood	X	7	H
Drought/Extreme Heat	X	3	L
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	X	2	L
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	X	5	M
Sinkhole/Expansive Soil	X	9	L
Landslide	X	9	L
Earthquake	X	9	L
Wildfire	X	1	L
Dam/Levee Failure	X	9	L

Sources: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey; Participating Jurisdictions

KEY

Hazard Identification: X Affects the Jurisdiction, N/A Not a threat to the jurisdiction

Priority: Hazards are prioritized with the highest threat of occurrence assigned number one based on hazardous events that have occurred within each jurisdiction over the past ten years, with the exception of wildfires that were based on events that have occurred over the past three years. Some natural hazards have equal threats to a jurisdiction; therefore, their threat number will be the same.

Vulnerability: NA – Not Applicable; not a hazard to the jurisdiction

L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction)

M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence)

H – High Risk; significant risk/major damage potential (damage to over 10% of jurisdiction, regular occurrence)

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Table 6-20: Colony's Thunderstorm Events

20 Thunderstorm Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
COUNTYWIDE	CULLMAN CO.	AL	06/11/2003	14:00	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:18	CST-6	Thunderstorm Wind	56 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Thunderstorm Wind	61 kts. EG	0	0	3.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	52 kts. EG	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	61 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:45	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:05	CST-6	Thunderstorm Wind	56 kts. EG	0	0	1.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:08	CST-6	Thunderstorm Wind	70 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:10	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:30	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	58 kts. EG	0	0	2.00K	0.00K

CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:50	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	56 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/17/2013	11:10	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
Totals:								0	0	128.00K	0.00K

Table 6-21: Colony's Lightning Events

1 Lightning Event – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN CO.	CULLMAN CO.	AL	06/24/2011	15:25	CST-6	Lightning		0	0	1.00K	0.00K
Totals:								0	0	1.00K	0.00K

Table 6-22: Colony's Hail Events

5 Hail Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:50	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:24	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:56	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/30/2013	18:42	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-23: Colony's Tornado Events

4 Tornado Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:06	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:20	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Tornado	EF1	0	0	50.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:41	CST-6	Tornado	EF2	0	0	150.00K	0.00K
Totals:								0	0	240.00K	0.00K

Table 6-24: Colony's Flood/Flash Flood Events

4 Flood/Flash Flood Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>I.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/05/2004	20:30	CST	Flood		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/05/2004	23:15	CST	Flood		0	0	0.00K	0.00K
COUNTYWIDE	CULLMAN CO.	AL	09/16/2004	15:30	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/27/2008	13:50	CST-6	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-25: Colony's Drought/Extreme Heat Events

23 Drought/Extreme Heat Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/27/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/28/2009	10:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/15/2010	00:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-26: Colony's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events

28 Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2007	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/15/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/16/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/28/2008	22:24	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2009	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2009	02:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/30/2011	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2012	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/31/2012	01:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/26/2013	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2009	02:20	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/02/2010	03:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/25/2010	05:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/09/2011	16:45	CST-6	Heavy Snow		0	0	0.10K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/17/2013	11:15	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2008	01:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/23/2008	08:25	CST-6	Winter Weather		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/04/2009	23:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/07/2010	05:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2010	09:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/12/2010	07:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/15/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/12/2010	08:01	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/15/2010	09:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/26/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/03/2011	14:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/09/2011	18:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-27: Colony's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events

8 Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events –
01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/29/2005	20:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/16/2004	11:50	CST	High Wind	50 kts. ES	0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2008	20:00	CST-6	High Wind	39 kts. ES	0	0	10.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/11/2009	12:45	CST-6	High Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2009	23:05	CST-6	High Wind	55 kts. EG	0	0	600.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/24/2009	16:00	CST-6	High Wind	35 kts. ES	0	0	20.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/20/2007	15:10	CST-6	Strong Wind	39 kts. EG	0	0	1.000M	0.00K
Totals:								0	0	1.645M	0.00K

Table 6-28: Colony's Sinkhole Events

0 Sinkhole Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: (Source: NOAA NCDC Storm Events Database/U.S.and AL Geological Survey)

No sinkhole events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-29: Colony's Landslide Events

1 Landslide Event – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: (Source: NOAA NCDC Storm Events Database/U.S.and AL Geological Survey)

No landslide events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-30: Colony's Earthquake Events

0 Earthquake Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)

No earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-31: Countywide Wildfire Events

82 Wildfire Events – 2010 thru 2013

(Source: Alabama Forestry Commission)

County	Total # of Fires 2010-2013	Average # of Fires Per Year	Total Acres Burned 2010-2013	Average Acres Burned Per Year	Average Fire Size in Acres
Cullman	82	27.33	1,958.65	652.88	23.88

Source: Alabama Forestry Commission

Table 6-32: Colony's Dam/Levee Failure Events

0 Dam/Levee Failure Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/Local Input)

No dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

**Table 6-33: Town of Colony
Hazard Probability Assessment**

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	20	>100%	>10%	Town wide
Lightning	1	10%	5-10%	Town wide
Hail	9	90%	<5%	Town wide
Tornado	4	40%	>10%	Town wide
Flood/Flash Flood	4	40%	>10%	Town wide
Drought/Extreme Heat	23	>100%	<5%	Town wide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	28	>100%	<5%	Town wide
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	8	80%	5-10%	Town wide
Sinkhole/Expansive Soil	0	0	<5%	Town wide
Landslide	0	0	<5%	Town wide
Earthquake	0	0	<5%	Town wide
Wildfire (3 year study period)	82	>100%	<5%	Town wide
Dam/Levee Failure	0	0	<5%	Town wide

Source: NOAA NCDC; U. S. Inflation Calculator/Consumer Price Index; USGS ; Local Input; USDA Census of Agriculture; Alabama Forestry Commission; and National Forestry Service; Participating Jurisdictions

Methodology: Number of historical occurrences is those reported by NOAA NCDC during the 10 year study period, with the exception of wildfire that is a 3 year study period. Probability is expressed by dividing the total number of occurrences by the study period in years. Extent is expressed as the percentage assigned by the jurisdictions' ranking in the vulnerability overview (Table 4-40). Zero denotes no data available to determine the probability, extent, or affected area.

Table 6-34: Colony's Critical Facilities

CRITICAL FACILITIES – COLONY	
FACILITY TYPE	REPLACEMENT VALUE
Colony VFD, 100 Ward Hill, Hanceville, AL	\$180,000
Total	\$180,000

(Source: Local)

**Table 6-35: Town of Colony
Estimated Loss Projections from Specified Hazards**

Natural Hazards	Average Occurrences (per year)	Total Deaths	Total Injuries	Average Death and Injury Loss (per event)	Average Crop and Property Loss (per event)	Projected Loss (per event)
Thunderstorm	2.0	0	0	\$0	\$6,400	\$6,976
Lightning	0.1	0	0	\$0	\$1,000	\$1,090
Hail	0.5	0	0	\$0	\$0	\$0
Tornado	0.4	0	0	\$0	\$60,000	\$65,400
Flood/Flash Flood	0.4	0	0	\$0	\$0	\$0
Drought/Extreme Heat	2.3	0	0	\$0	\$0	\$0
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	2.8	0	0	\$0	\$0	\$0
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	0.8	0	0	\$0	\$205,625	\$224,131
Sinkhole/Expansive Soils	0	0	0	\$0	\$0	\$0
Landslide	0	0	0	\$0	\$0	\$0
Earthquake	0	0	0	\$0	\$0	\$0
Wildfire (3 year study period)	27.3	0	0	\$0	\$45,372	\$49,456
Dam/Levee Failure	0	0	0	\$0	\$0	\$0

Sources: NOAA NCDC; U.S. Inflation Calculator/Consumer Price Index; Local Input; USDA Census of Agriculture; Alabama Forestry Commission and National Forestry Service; Alabama Geological Survey

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences during the ten-year period with the exception of wildfire which takes the average fire size as noted in Table 4-15 multiplied by average amount per acre (\$1,900). Projected loss expresses an estimated damage amount per future occurrence by converting the average loss figure from a midpoint of 2008 dollars to 2014 dollars (\$1 in 2008 = \$1.09 in 2014...a cumulative rate of inflation of 9%). Zero denotes no data available to determine the average occurrences, average loss or projected loss per event.

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Town of Colony Mitigation Action Plan

The Town of Colony recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

Mitigation Status

During the plan update, mitigation actions were reviewed in order to identify completed, deferred, or deleted actions from the previous plan and incorporate actions added during annual updates. **Table 6-36** shows the Town of Colony's updated mitigation actions. During the plan update process no new mitigations actions were identified and added to the plan.

Table 6-36: Colony's Mitigation Actions	
Mitigation Action 1.1.1	Make application and/or commit/continue to participate in the NFIP, meeting all NFIP requirements
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	FL
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County's NFIP Coordinator
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	HMGP
Priority	High
Benchmark	The Town of Colony is a NFIP participating community and plans on maintaining this status. Jon Brunner is the NFIP contact and Floodplain Manager for Cullman County.

Mitigation Action 5.2.1	Purchase/update emergency generators for post-disaster mitigation and conduct routine tests on backup generators for all critical facilities.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Town of Colony and Cullman County EMA
Estimated Time Frame for Completion	2018
Estimated Cost	\$1,000 - \$5,000 each
Funding Sources	HMGP; ADECA; Local
Priority	High
Benchmark	CCEMA has procured additional generators including several small generators through ADECA: 2-5KW and 1-10KW/trailer mounted. In addition, the CCEMA houses and maintains 2-55KW generators/trailer mount provided by the AEMA. Generators remain an action item in the plan until all critical facilities' backup systems are completed.

Mitigation Action 5.2.2	Purchase, install, and test emergency warning sirens, as needed.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; Local
Priority	High
Benchmark: Purchase, install, and test emergency warning sirens, as needed. Upgrade existing equipment as needed.	<p>All existing equipment has been upgraded to meet FCC narrow-banding requirements. Mitigation grant funding was used to complete the upgrade. Therefore, this portion of Mitigation Action 5.2.2 is complete.</p> <p>This mitigation action has been revised accordingly.</p> <p>CCEMA tests all 42 sirens in Cullman County and is directly responsible for all maintenance on 26 sirens located in unincorporated areas of the jurisdiction. CCEMA works with all 11 municipalities to ensure that all sirens located in municipal jurisdictions are maintained and that any operational issues are resolved as soon as possible. Sirens are silent tested several times each month. Audible tests are conducted on the first Wednesday of each month or as required following maintenance service. Siren testing and maintenance will continue.</p>

Mitigation Action 6.1.1	Provide adequate individual storm shelters and community safe rooms.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Town of Colony and Cullman County EMA
Estimated Time Frame for Completion	2020
Estimated Cost	\$4,000 - \$130,000 each
Funding Sources	HMGP; ADECA; Local; GERP when available
Priority	High
Benchmark	<p>The CCEMA has worked in association with the Cullman County Economic Development (CCED) Office to provide HMGP grant assistance to individuals for the construction of individual storm shelters. The CCED writes and manages the grants. The CCED was successful in the approval of 214 individual storm shelter grants, of which approximately 194 have been completed.</p> <p>The CCED was successful in the approval of 15 community safe room grants for safe rooms to be located at senior citizen sites, volunteer fire departments, and on municipal properties around the county. Approximately 12-13 have been completed with others under construction.</p> <p>The Town of Colony wishes to add individual storm shelters and community safe rooms as funding becomes available.</p>

CITY OF CULLMAN

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**Table 6-37: City of Cullman
Risk and Vulnerability Overview**

Natural Hazards	Hazard Identification	Prioritized Occurrence Threat	Vulnerability
Thunderstorm	X	2	H
Lightning	X	9	M
Hail	X	5	L
Tornado	X	8	H
Flood/Flash Flood	X	6	M
Drought/Extreme Heat	X	4	L
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	X	3	L
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	X	7	M
Sinkhole/Expansive Soil	X	11	L
Landslide	X	10	L
Earthquake	X	11	L
Wildfire	X	1	L
Dam/Levee Failure	X	11	L

Sources: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey; Participating Jurisdictions

KEY

Hazard Identification: X Affects the Jurisdiction, N/A Not a threat to the jurisdiction

Priority: Hazards are prioritized with the highest threat of occurrence assigned number one based on hazardous events that have occurred within each jurisdiction over the past ten years, with the exception of wildfires that were based on events that have occurred over the past three years. Some natural hazards have equal threats to a jurisdiction; therefore, their threat number will be the same.

Vulnerability: NA – Not Applicable; not a hazard to the jurisdiction

L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction)

M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence)

H – High Risk; significant risk/major damage potential (damage to over 10% of jurisdiction, regular occurrence)

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Table 6-38: Cullman's Thunderstorm Events

36 Thunderstorm Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	I.Z.	Type	Mag	Dth	Inj	PrD	CrD
COUNTYWIDE	CULLMAN CO.	AL	06/11/2003	14:00	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	07/04/2004	16:30	CST	Thunderstorm Wind	50 kts. ES	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	06/04/2006	16:03	CST	Thunderstorm Wind	50 kts. ES	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	08/05/2006	17:30	CST	Thunderstorm Wind	70 kts. EG	0	0	200.00K	0.00K
CULLMAN	CULLMAN CO.	AL	08/17/2007	16:14	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/04/2008	10:13	CST-6	Thunderstorm Wind	96 kts. EG	0	1	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:18	CST-6	Thunderstorm Wind	56 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Thunderstorm Wind	61 kts. EG	0	0	3.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	52 kts. EG	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	61 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:45	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:05	CST-6	Thunderstorm Wind	56 kts. EG	0	0	1.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:08	CST-6	Thunderstorm Wind	70 kts. EG	0	0	5.00K	0.00K

CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:10	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
CULLMAN	CULLMAN CO.	AL	07/22/2008	12:50	CST-6	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K
CULLMAN	CULLMAN CO.	AL	05/24/2010	19:01	CST-6	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K
CULLMAN	CULLMAN CO.	AL	06/17/2010	14:50	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
CULLMAN	CULLMAN CO.	AL	08/03/2010	12:59	CST-6	Thunderstorm Wind	39 kts. EG	0	0	1.00K	0.00K
CULLMAN	CULLMAN CO.	AL	10/25/2010	01:57	CST-6	Thunderstorm Wind	70 kts. EG	0	0	200.00K	0.00K
CULLMAN	CULLMAN CO.	AL	02/24/2011	23:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
CULLMAN	CULLMAN CO.	AL	02/24/2011	23:20	CST-6	Thunderstorm Wind	44 kts. EG	0	0	0.50K	0.00K
CULLMAN	CULLMAN CO.	AL	02/24/2011	23:30	CST-6	Thunderstorm Wind	53 kts. MG	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/20/2011	04:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/20/2011	22:05	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:30	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	58 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:50	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN	AL	06/26/2011	13:51	CST-	Thunderstorm	52 kts. EG	0	0	5.00K	0.00K

	CO.				6	Wind					
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	56 kts. EG	0	0	15.00K	0.00K
CULLMAN	CULLMAN CO.	AL	01/30/2013	06:30	CST-6	Thunderstorm Wind	52 kts. EG	0	0	4.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/17/2013	11:10	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
Totals:								0	1	539.00K	0.00K

Table 6-39: Cullman's Lightning Events

2 Lightning Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN	CULLMAN CO.	AL	04/03/2006	02:54	CST	Lightning		0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/24/2011	15:25	CST-6	Lightning		0	0	1.00K	0.00K
Totals:								0	0	3.00K	0.00K

Table 6-40: Cullman's Hail Events

19 Hail Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN	CULLMAN CO.	AL	03/30/2004	13:30	CST	Hail	0.75 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	02/21/2005	19:33	CST	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/21/2005	16:30	CST	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/21/2005	16:34	CST	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/07/2006	22:51	CST	Hail	1.75 in.	0	0	30.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/19/2006	15:34	CST	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/20/2006	17:11	CST	Hail	1.75 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/03/2007	10:37	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN FOLSOM ARPT	CULLMAN CO.	AL	04/11/2008	12:45	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:50	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/10/2009	14:46	CST-6	Hail	1.25 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	06/15/2009	19:17	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	03/12/2010	05:24	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	03/12/2010	05:43	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:24	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:56	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	07/01/2012	17:20	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/30/2013	18:42	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
Totals:								0	0	30.00K	0.00K

Table 6-41: Cullman's Tornado Events

6 Tornado Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN	CULLMAN CO.	AL	04/07/2006	22:50	CST	Tornado	F1	0	0	125.00K	0.00K
CULLMAN FOLSOM ARPT	CULLMAN CO.	AL	04/11/2008	14:05	CST-6	Tornado	EF0	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:06	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:20	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Tornado	EF1	0	0	50.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:41	CST-6	Tornado	EF2	0	0	150.00K	0.00K
Totals:								0	0	370.00K	0.00K

Table 6-42: Cullman's Flood/Flash Flood Events

12 Flood/Flash Flood Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/05/2004	20:30	CST	Flood		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/05/2004	23:15	CST	Flood		0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	03/05/2004	23:05	CST	Flash Flood		0	0	0.00K	0.00K
COUNTYWIDE	CULLMAN CO.	AL	09/16/2004	15:30	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	10/19/2004	10:45	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	12/09/2004	09:30	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	09/25/2005	22:50	CST	Flash Flood		0	0	0.00K	0.00K

CULLMAN CO.	CULLMAN CO.	AL	05/27/2008	13:50	CST-6	Flash Flood		0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	05/03/2010	00:00	CST-6	Flash Flood		0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	04/20/2011	22:34	CST-6	Flash Flood		0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	01/13/2013	18:04	CST-6	Flash Flood		0	0	0.00K	0.00K
CULLMAN	CULLMAN CO.	AL	07/31/2013	05:10	CST-6	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-43: Cullman's Drought/Extreme Heat Events

23 Drought/Extreme Heat Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/27/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/28/2009	10:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/15/2010	00:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-44: Cullman's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events

28 Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2007	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/15/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/16/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/28/2008	22:24	CST-6	Frost/freeze		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2009	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2009	02:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/30/2011	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2012	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/31/2012	01:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/26/2013	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2009	02:20	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/02/2010	03:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/25/2010	05:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/09/2011	16:45	CST-6	Heavy Snow		0	0	0.10K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/17/2013	11:15	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2008	01:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/23/2008	08:25	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/04/2009	23:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/07/2010	05:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2010	09:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/12/2010	07:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/15/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/12/2010	08:01	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/15/2010	09:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/26/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/03/2011	14:30	CST-6	Winter Weather		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/09/2011	18:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-45: Cullman’s Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events

8 Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/29/2005	20:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/16/2004	11:50	CST	High Wind	50 kts. ES	0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2008	20:00	CST-6	High Wind	39 kts. ES	0	0	10.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/11/2009	12:45	CST-6	High Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2009	23:05	CST-6	High Wind	55 kts. EG	0	0	600.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/24/2009	16:00	CST-6	High Wind	35 kts. ES	0	0	20.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/20/2007	15:10	CST-6	Strong Wind	39 kts. EG	0	0	1.000M	0.00K
Totals:								0	0	1.645M	0.00K

Table 6-46: Cullman’s Sinkhole Events

0 Sinkhole Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: (Source: NOAA NCDC Storm Events Database/U.S.and AL Geological Survey)

No sinkhole events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-47: Cullman's Landslide Events

1 Landslide Event – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: Local)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	Southwest Cullman (Smith Lake Area)- Co. Road 950 that runs parallel to the lake	AL				Landslide		0	0	25.00K	0.00K
Totals:								0	0	25.00K	0.00K

No landslide events were reported to NOAA NCDC or U. S./AL Geological Survey during 01/01/2003 thru 12/31/2013.

Table 6-48: Cullman's Earthquake Events

0 Earthquake Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)

No earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-49: Countywide Wildfire Events

82 Wildfire Events – 2010 thru 2013

(Source: Alabama Forestry Commission)

County	Total # of Fires 2010-2013	Average # of Fires Per Year	Total Acres Burned 2010-2013	Average Acres Burned Per Year	Average Fire Size in Acres
Cullman	82	27.33	1,958.65	652.88	23.88

Table 6-50: Cullman's Dam/Levee Failure Events

0 Dam/Levee Failure Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/Local Input)

No dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-51: City of Cullman Hazard Probability Assessment				
Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	36	>100%	>10%	Citywide
Lightning	2	20%	5-10%	Citywide
Hail	19	>100%	<5%	Citywide
Tornado	6	60%	>10%	Citywide
Flood/Flash Flood	12	>100%	5-10%	Citywide
Drought/Extreme Heat	23	>100%	<5%	Citywide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	28	>100%	<5%	Citywide
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	8	80%	5-10%	Citywide
Sinkhole/Expansive Soil	0	0%	<5%	Citywide
Landslide	1	10%	<5%	Citywide
Earthquake	0	0%	<5%	Citywide
Wildfire (3 year study period)	82	>100%	<5%	Citywide
Dam/Levee Failure	0	0	<5%	Citywide
<i>Source: NOAA NCDC; U. S. Inflation Calculator/Consumer Price Index; USGS ; Local Input; USDA Census of Agriculture; Alabama Forestry Commission; and National Forestry Service; Participating Jurisdictions</i>				
Methodology: Number of historical occurrences is those reported by NOAA NCDC during the 10 year study period, with the exception of wildfire that is a 3 year study period. Probability is expressed by dividing the total number of occurrences by the study period in years. Extent is expressed as the percentage assigned by the jurisdictions' ranking in the vulnerability overview (Table 4-40). Zero denotes no data available to determine the probability, extent, or affected area.				

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Table 6-52: City of Cullman's Critical Facilities

CRITICAL FACILITIES – CITY OF CULLMAN	
FACILITY TYPE	REPLACEMENT VALUE
Main Terminal (14,000 sq. ft.)	\$600,000
Maintenance Hangar (14,000 sq. ft.)	\$400,000
Skydive Hangar (14,000 sq. ft.)	\$180,000
16 Bay T-hangar (1-16) (12,810 sq. ft.)	\$200,000
8 Bay T-hangar (4-12) (8,500 sq. ft.)	\$111,000
3 Bay Corporate hangar (1-3) (8,100 sq. ft.)	\$106,000
16 Bay T-hangar (17-32) (12,810 sq. ft.)	\$200,000
Air Evac EMS (75'x50') (3,750 sq. ft.)	\$80,000
State Troopers (75'x50') (3,750 sq. ft.)	\$80,000
Fuel Farm (2-12,000 tks.)	\$250,000
City Hall (Facility and Contents)	\$2,100,000
Civic Center (Facility and Contents)	\$2,100,000
Museum (Facility and Contents)	\$900,000
City Hall Annex (Facility and Contents)	\$320,000
Fire Station #2 (Facility and Contents)	\$390,000
Sanitation Office (Facility and Contents)	\$50,000
W. W. T. P. Admin (Facility and Contents)	\$775,000
W. W. T. P. Admin Storage (Facility and Contents)	\$160,000
Maintenance Building	\$100,000
Security Fence	\$10,000
Public Works Office (Facility and Contents)	\$780,000
Storage	\$60,000
Equipment Storage	\$140,000
Animal Shelter (Facility and Contents)	\$180,000
Park-Weiss Cottage (Facility and Contents)	\$81,000
Park-Richter Chapel (Facility and Contents)	\$27,000
Water Tank	\$200,000
Pump House	\$15,000
Water Tank	\$1,500,000
Water Tank	\$1,500,000
Water Tank	\$1,000,000
Tank	\$1,500,000
Senior Center (Facility and Contents)	\$1,060,000
Bath House	\$60,000
Heritage Park Building	\$750,000
Picnic Shelter	\$10,000
Picnic Shelter	\$10,000
Picnic Shelter	\$10,000
Picnic Shelter	\$10,000
Picnic Shelter	\$10,000
Picnic Shelter	\$10,000

Park Concession Stand	\$60,000
Shelter	\$40,000
Shelter	\$26,000
Maintenance Building (Facility and Contents)	\$100,000
Golf Club House (Facility and Contents)	\$300,000
Storage Building	\$350,000
Maintenance Building (Facility and Contents)	\$320,000
Office (Facility and Contents)	\$145,000
Office	\$50,000
Park Structure	\$33,000
Police Department/Traffic Department, 204 2 nd Ave., N.E.	\$2,520,000
City Garage (Facility and Contents)	\$310,000
Storage Shed	\$60,000
Storage Shed	\$30,000
Storage Shed	\$30,000
Public Works Office	\$750,000
Park Building	\$70,000
Park Building	\$75,000
Office	\$125,000
Shop	\$260,000
Park RR/Concessions	\$275,000
Storage	\$25,000
Park Building	\$40,000
Park Building	\$20,000
Market	\$750,000
Rest Room Storage	\$75,000
Parking Deck	\$1,700,000
W. W. T. P. Pump Station	\$6,000,000
W. W. T. P. Outfall MCC Building	\$1,500,000
W. W. T. P. MC #1 Building	\$1,200,000
Water Metering Building	\$20,000
Dewatering Building	\$20,000
Pump House #1	\$1,200,000
Pump House #2	\$750,000
Sludge Building	\$2,500
MCC Building #2	\$800,000
North Pump Station W. W. T. P.	\$6,000,000
6 Bay Maintenance Building	\$750,000
Digester Building	\$10,000,000
SO2 Building	\$60,000
U V Shed	\$100,000
New Fire Station (Facility and Contents)	\$1,850,000
Total	\$56,816,500

(Sources: HAZUS – MH 2.1; 2014, Cherrie Haney, Cullman County Economic Development)

**Table 6-53: City of Cullman
Estimated Loss Projections from Specified Hazards**

Natural Hazards	Average Occurrences (per year)	Total Deaths	Total Injuries	Average Death and Injury Loss (per event)	Average Crop and Property Loss (per event)	Projected Loss (per event)
Thunderstorm	3.6	0	1	\$23,175	\$14,972	\$41,580
Lightning	0.3	0	0	\$0	\$1,000	\$1,090
Hail	1.9	0	0	\$0	\$1,579	\$1,721
Tornado	0.6	0	0	\$0	\$61,667	\$67,217
Flood/Flash Flood	1.2	0	0	\$0	\$0	\$0
Drought/Extreme Heat	2.3	0	0	\$0	\$0	\$0
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	2.8	0	0	\$0	\$0	\$0
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	0.8	0	0	\$0	\$205,625	\$224,131
Sinkhole/Expansive Soils	0	0	0	\$0	\$0	\$0
Landslide	0.1	0	0	\$0	\$25,000	\$27,250
Earthquake	0	0	0	\$0	\$0	\$0
Wildfire (3 year study period)	27.3	0	0	\$0	\$45,372	\$49,456
Dam/Levee Failure	0	0	0	\$0	\$0	\$0

Sources: NOAA NCDC; U.S. Inflation Calculator/Consumer Price Index; Local Input; USDA Census of Agriculture; Alabama Forestry Commission and National Forestry Service; Alabama Geological Survey

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences during the ten-year period with the exception of wildfire which takes the average fire size as noted in Table 4-15 multiplied by average amount per acre (\$1,900). Projected loss expresses an estimated damage amount per future occurrence by converting the average loss figure from a midpoint of 2008 dollars to 2014 dollars (\$1 in 2008 = \$1.09 in 2014...a cumulative rate of inflation of 9%). Zero denotes no data available to determine the average occurrences, average loss or projected loss per event.

City of Cullman Mitigation Action Plan

The City of Cullman recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

Mitigation Status

During the plan update, mitigation actions were reviewed in order to identify completed, deferred, or deleted actions from the previous plan and incorporate actions added during annual updates. **Table 6-54** shows the City of Cullman's updated mitigation actions. During the plan update process, no new mitigation actions were identified and added to the plan.

Table 6-54: City of Cullman's Mitigation Actions	
Mitigation Action 1.1.1	Make application and/or commit/continue to participate in the NFIP, meeting all NFIP requirements
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	FL
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County's NFIP Coordinator
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	HMGP
Priority	High
Benchmark	<p>The City of Cullman is a NFIP participating community and plans on maintaining this status.</p> <p>Jon Brunner is the NFIP contact and Floodplain Manager for Cullman County.</p>

Mitigation Action 2.2.2	Promote drainage improvements on local streets and develop drainage maintenance program.
Type	Property Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	TH; T; FL; W; H; D/LF
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	City of Cullman
Estimated Time Frame for Completion	2018
Estimated Cost	N/A
Funding Sources	HMGP; Local
Priority	Medium
Benchmark	
Mitigation Action 5.2.1	Purchase emergency generators for post disaster mitigation.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; Local
Priority	High
Benchmark	CCEMA has procured additional generators including several small generators through ADECA: 2-5KW and 1-10KW/trailer mounted. In addition, the CCEMA houses and maintains 2-55KW generators/trailer mount provided by the AEMA. Generators remain an action item in the plan until all critical facilities' backup systems are completed.

Mitigation Action 5.2.2	Purchase, install, and test emergency warning sirens, as needed.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; Local
Priority	High
Benchmark: Purchase, install, and test emergency warning sirens, as needed. Upgrade existing equipment as needed.	<p>All existing equipment has been upgraded to meet FCC narrow-banding requirements. Mitigation grant funding was used to complete the upgrade. Therefore, this portion of Mitigation Action 5.2.2 is complete.</p> <p>This mitigation action has been revised accordingly.</p> <p>CCEMA tests all 42 sirens in Cullman County and is directly responsible for all maintenance on 26 sirens located in unincorporated areas of the jurisdiction. CCEMA works with all 11 municipalities to ensure that all sirens located in municipal jurisdictions are maintained and that any operational issues are resolved as soon as possible. Sirens are silent tested several times each month. Audible tests are conducted on the first Wednesday of each month or as required following maintenance service. Siren testing and maintenance will continue.</p>

Mitigation Action 6.1.1	Provide adequate individual storm shelters and community safe rooms.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	City of Cullman and Cullman County EMA
Estimated Time Frame for Completion	2020
Estimated Cost	\$4,000 - \$130,000 each
Funding Sources	HMGP; ADECA; Local; GERF when available
Priority	High
Benchmark	<p>The CCEMA has worked in association with the Cullman County Economic Development (CCED) Office to provide HMGP grant assistance to individuals for the construction of individual storm shelters. The CCED writes and manages the grants. The CCED was successful in the approval of 214 individual storm shelter grants, of which approximately 194 have been completed.</p> <p>The CCED was successful in the approval of 15 community safe room grants for safe rooms to be located at senior citizen sites, volunteer fire departments, and on municipal properties around the county. Approximately 12-13 have been completed with others under construction. One 5-unit community safe room in the City of Cullman is incomplete.</p> <p>The City of Cullman wishes to add individual storm shelters and community safe rooms as funding becomes available.</p>

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TOWN OF DODGE CITY

(Note: The Dodge City VFD serves as their own applicant, separate from the Town of Dodge City.)

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**Table 6-55: Dodge City
Risk and Vulnerability Overview**

Natural Hazards	Hazard Identification	Prioritized Occurrence Threat	Vulnerability
Thunderstorm	X	4	H
Lightning	X	8	M
Hail	X	6	M
Tornado	X	7	H
Flood/Flash Flood	X	7	L
Drought/Extreme Heat	X	3	L
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	X	2	L
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	X	5	H
Sinkhole/Expansive Soil	X	9	L
Landslide	X	9	L
Earthquake	X	9	L
Wildfire	X	1	L
Dam/Levee Failure	X	9	L

Sources: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey; Participating Jurisdictions

KEY

Hazard Identification: X Affects the Jurisdiction, N/A Not a threat to the jurisdiction

Priority: Hazards are prioritized with the highest threat of occurrence assigned number one based on hazardous events that have occurred within each jurisdiction over the past ten years, with the exception of wildfires that were based on events that have occurred over the past three years. Some natural hazards have equal threats to a jurisdiction; therefore, their threat number will be the same.

Vulnerability: NA – Not Applicable; not a hazard to the jurisdiction

L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction)

M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence)

H – High Risk; significant risk/major damage potential (damage to over 10% of jurisdiction, regular occurrence)

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Table 6-56: Dodge City's Thunderstorm Events

20 Thunderstorm Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	I.Z.	Type	Mag	Dth	Inj	PrD	CrD
COUNTYWIDE	CULLMAN CO.	AL	06/11/2003	14:00	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:18	CST-6	Thunderstorm Wind	56 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Thunderstorm Wind	61 kts. EG	0	0	3.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	52 kts. EG	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	61 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:45	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:05	CST-6	Thunderstorm Wind	56 kts. EG	0	0	1.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:08	CST-6	Thunderstorm Wind	70 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:10	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:30	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	58 kts. EG	0	0	2.00K	0.00K

CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:50	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	56 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/17/2013	11:10	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
Totals:								0	0	128,00K	0.00K

Table 6-57: Dodge City's Lightning Events

1 Lightning Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN CO.	CULLMAN CO.	AL	06/24/2011	15:25	CST-6	Lightning		0	0	1.00K	0.00K
Totals:								0	0	1.00K	0.00K

Table 6-58: Dodge City's Hail Events

5 Hail Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:50	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:24	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:56	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/30/2013	18:42	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-59: Dodge City's Tornado Events

4 Tornado Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:06	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:20	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Tornado	EF1	0	0	50.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:41	CST-6	Tornado	EF2	0	0	150.00K	0.00K
Totals:								2	0	240.00K	0.00K

Table 6-60: Dodge City's Flood/Flash Flood Events

4 Flood/Flash Flood Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/05/2004	20:30	CST	Flood		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/05/2004	23:15	CST	Flood		0	0	0.00K	0.00K
COUNTYWIDE	CULLMAN CO.	AL	09/16/2004	15:30	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/27/2008	13:50	CST-6	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-61: Dodge City's Drought/Extreme Heat Events

23 Drought/Extreme Heat Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/27/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/28/2009	10:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/15/2010	00:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-62: Dodge City's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events

28 Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2007	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/15/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/16/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/28/2008	22:24	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2009	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2009	02:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/30/2011	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2012	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/31/2012	01:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/26/2013	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2009	02:20	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/02/2010	03:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/25/2010	05:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/09/2011	16:45	CST-6	Heavy Snow		0	0	0.10K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/17/2013	11:15	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2008	01:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/23/2008	08:25	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/04/2009	23:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/07/2010	05:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2010	09:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/12/2010	07:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/15/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/12/2010	08:01	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/15/2010	09:30	CST-6	Winter Weather		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/26/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/03/2011	14:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/09/2011	18:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-63: Dodge City's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events

8 Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events –
01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/29/2005	20:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/16/2004	11:50	CST	High Wind	50 kts. ES	0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2008	20:00	CST-6	High Wind	39 kts. ES	0	0	10.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/11/2009	12:45	CST-6	High Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2009	23:05	CST-6	High Wind	55 kts. EG	0	0	600.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/24/2009	16:00	CST-6	High Wind	35 kts. ES	0	0	20.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/20/2007	15:10	CST-6	Strong Wind	39 kts. EG	0	0	1.000M	0.00K
Totals:								0	0	1.645M	0.00K

Table 6-64: Dodge City's Sinkhole Events

0 Sinkhole Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. and AL Geological Survey)

No sinkhole events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-65: Dodge City's Landslide Events

0 Landslide Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. and AL Geological Survey)

No landslide events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-66: Dodge City's Earthquake Events

0 Earthquake Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)

No earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-67: Countywide Wildfire Events

82 Wildfire Events – 2010 thru 2013

(Source: Alabama Forestry Commission)

County	Total # of Fires 2010-2013	Average # of Fires Per Year	Total Acres Burned 2010-2013	Average Acres Burned Per Year	Average Fire Size in Acres
Cullman	82	27.33	1,958.65	652.88	23.88

Source: Alabama Forestry Commission

Table 6-68: Dodge City's Dam/Levee Failure Events

0 Dam/Levee Failure Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/Local Input)

No dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

**Table 6-69: Dodge City
Hazard Probability Assessment**

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	20	>100%	>10%	Town wide
Lightning	1	10%	5-10%	Town wide
Hail	5	50%	5-10%	Town wide
Tornado	4	40%	>10%	Town wide
Flood/Flash Flood	4	40%	<5%	Town wide
Drought/Extreme Heat	23	>100%	<5%	Town wide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	28	>100%	<5%	Town wide
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	8	80%	>10%	Town wide
Sinkhole/Expansive Soil	0	0%	<5%	Town wide
Landslide	0	0%	<5%	Town wide
Earthquake	0	0%	<5%	Town wide
Wildfire (3 year study period)	82	>100%	<5%	Town wide
Dam/Levee Failure	0	0	<5%	Town wide

Source: NOAA NCDC; U. S. Inflation Calculator/Consumer Price Index; USGS ; Local Input; USDA Census of Agriculture; Alabama Forestry Commission; and National Forestry Service; Participating Jurisdictions

Methodology: Number of historical occurrences is those reported by NOAA NCDC during the 10 year study period, with the exception of wildfire that is a 3 year study period. Probability is expressed by dividing the total number of occurrences by the study period in years. Extent is expressed as the percentage assigned by the jurisdictions' ranking in the vulnerability overview (Table 4-40). Zero denotes no data available to determine the probability, extent, or affected area.

Table 6-70: Dodge City's Critical Facilities

CRITICAL FACILITIES – DODGE CITY	
FACILITY TYPE	REPLACEMENT VALUE
Town Hall Building	Building: \$802,356 Contents: \$40,117
Maintenance Shed	\$55,620
Pavilion, Tables, and Equipment	\$59,391
Public Restrooms	\$51,912
Caution Light	\$22,511
Traffic/Ramp Lights	\$551,499
Rental Building	\$320,000
John Deere Gator	\$9,950
Generator	\$7,567
2 Warning Sirens	\$60,000
Sewer Treatment Facility Plant, Building, and Monitoring System	\$838,395
Chain Link Fence	\$107,971
Effluent Discharge Structure	\$27,805
Outdoor Classroom	\$40,788
Fire Station #1	Building: \$193,000 Contents: \$40,000
Fire Station #2	Building: \$53,000 Contents: \$500
E-One Hurricane pumper with equipment	\$110,000
E-One Cyclone pumper with equipment	\$145,000
Mack Pumper with equipment	\$70,000
Ford Rescue with equipment	\$35,000
AME Brush with equipment	\$7,000
2001 Chevrolet Silverado Command Vehicle	\$30,000
2010 Dodge Charger Command Vehicle	\$30,000
Total	\$3,696,972

(Source: Local)

**Table 6-71: Dodge City
Estimated Loss Projections from Specified Hazards**

Natural Hazards	Average Occurrences (per year)	Total Deaths	Total Injuries	Average Death and Injury Loss (per event)	Average Crop and Property Loss (per event)	Projected Loss (per event)
Thunderstorm	2.0	0	0	\$0	\$6,400	\$6,976
Lightning	0.1	0	0	\$0	\$1,000	\$1,090
Hail	0.5	0	0	\$0	\$1,579	\$1,721
Tornado	0.4	0	0	\$0	\$60,000	\$65,400
Flood/Flash Flood	0.4	0	0	\$0	\$0	\$0
Drought/Extreme Heat	2.3	0	0	\$0	\$0	\$0
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	2.8	0	0	\$0	\$0	\$0
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	0.8	0	0	\$0	\$205,625	\$224,131
Sinkhole/Expansive Soils	0	0	0	\$0	\$0	\$0
Landslide	0	0	0	\$0	\$0	\$0
Earthquake	0	0	0	\$0	\$0	\$0
Wildfire (3 year study period)	27.3	0	0	\$0	\$45,372	\$49,456
Dam/Levee Failure	0	0	0	\$0	\$0	\$0

Sources: NOAA NCDC; U.S. Inflation Calculator/Consumer Price Index; Local Input; USDA Census of Agriculture; Alabama Forestry Commission and National Forestry Service; Alabama Geological Survey

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences during the ten-year period with the exception of wildfire which takes the average fire size as noted in Table 4-15 multiplied by average amount per acre (\$1,900). Projected loss expresses an estimated damage amount per future occurrence by converting the average loss figure from a midpoint of 2008 dollars to 2014 dollars (\$1 in 2008 = \$1.09 in 2014...a cumulative rate of inflation of 9%). Zero denotes no data available to determine the average occurrences, average loss or projected loss per event.

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Dodge City Mitigation Action Plan

The Town of Dodge City recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

Mitigation Status

During the plan update, mitigation actions were reviewed in order to identify completed, deferred, or deleted actions from the previous plan and incorporate actions added during annual updates. **Table 6-72** shows the Town of Dodge City's updated mitigation actions. During the plan update process, no new mitigation actions were identified and added to the plan.

Table 6-72: Town of Dodge City's Mitigation Actions	
Mitigation Action 1.1.1	Make application and/or commit/continue to participate in the NFIP, meeting all NFIP requirements
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	FL
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County's NFIP Coordinator
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	HMGP
Priority	High
Benchmark	<p>The Town of Dodge City is a NFIP participating community and plans on maintaining this status.</p> <p>Jon Brunner is the NFIP contact and Floodplain Manager for Cullman County.</p>

Mitigation Action 5.2.1	Purchase emergency generators for post disaster mitigation.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Dodge City and Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; Local
Priority	High
Benchmark	<p>The town purchased an emergency generator for the Town Hall. The Dodge City VFD purchased a generator for the VFD.</p> <p>CCEMA has procured additional generators including several small generators through ADECA: 2-5KW and 1-10KW/trailer mounted. In addition, the CCEMA houses and maintains 2-55KW generators/trailer mount provided by the AEMA.</p> <p>The town wishes to purchase additional generators as funding becomes available.</p>

Mitigation Action 5.2.2	Purchase, install, and test emergency warning sirens, as needed.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; Local
Priority	High
Benchmark: Purchase, install, and test emergency warning sirens, as needed. Upgrade existing equipment as needed.	<p>All existing equipment has been upgraded to meet FCC narrow-banding requirements. Mitigation grant funding was used to complete the upgrade. Therefore, this portion of Mitigation Action 5.2.2 is complete.</p> <p>This mitigation action has been revised accordingly.</p> <p>The town purchased two warning sirens and wish to purchase two more as funding becomes available.</p> <p>CCEMA tests all 42 sirens in Cullman County and is directly responsible for all maintenance on 26 sirens located in unincorporated areas of the jurisdiction. CCEMA works with all 11 municipalities to ensure that all sirens located in municipal jurisdictions are maintained and that any operational issues are resolved as soon as possible. Sirens are silent tested several times each month. Audible tests are conducted on the first Wednesday of each month or as required following maintenance service. Siren testing and maintenance will continue.</p>

Mitigation Action 6.1.1	Provide adequate individual storm shelters and community safe rooms.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Dodge City and Cullman County EMA
Estimated Time Frame for Completion	2020
Estimated Cost	\$4,000 - \$130,000 each
Funding Sources	HMGP; ADECA; Local; GERF when available
Priority	High
Benchmark	<p>The CCEMA has worked in association with the Cullman County Economic Development (CCED) Office to provide HMGP grant assistance to individuals for the construction of individual storm shelters. The CCED writes and manages the grants. The CCED was successful in the approval of 214 individual storm shelter grants, of which approximately 194 have been completed.</p> <p>The CCED was successful in the approval of 15 community safe room grants for safe rooms to be located at senior citizen sites, volunteer fire departments, and on municipal properties around the county. Approximately 12-13 have been completed with others under construction. The Dodge City VFD has installed one community safe room at the VFD. The Town of Dodge City has installed one community safe room.</p> <p>The Town of Dodge City wishes to add community safe rooms as funding becomes available.</p>

TOWN OF FAIRVIEW

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**Table 6-73: Town of Fairview
Risk and Vulnerability Overview**

Natural Hazards	Hazard Identification	Prioritized Occurrence Threat	Vulnerability
Thunderstorm	X	3	H
Lightning	X	8	M
Hail	X	5	M
Tornado	X	7	H
Flood/Flash Flood	X	7	M
Drought/Extreme Heat	X	4	L
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	X	2	L
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	X	6	M
Sinkhole/Expansive Soil	X	9	L
Landslide	X	9	L
Earthquake	X	9	L
Wildfire	X	1	L
Dam/Levee Failure	X	9	L

Sources: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey; Participating Jurisdictions

KEY

Hazard Identification: X Affects the Jurisdiction, N/A Not a threat to the jurisdiction

Priority: Hazards are prioritized with the highest threat of occurrence assigned number one based on hazardous events that have occurred within each jurisdiction over the past ten years, with the exception of wildfires that were based on events that have occurred over the past three years. Some natural hazards have equal threats to a jurisdiction; therefore, their threat number will be the same.

Vulnerability: NA – Not Applicable; not a hazard to the jurisdiction

L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction)

M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence)

H – High Risk; significant risk/major damage potential (damage to over 10% of jurisdiction, regular occurrence)

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Table 6-74: Fairview's Thunderstorm Events
26 Thunderstorm Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
COUNTYWIDE	CULLMAN CO.	AL	06/11/2003	14:00	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	12/07/2004	05:55	CST	Thunderstorm Wind	60 kts. ES	0	0	5.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	05/19/2005	17:45	CST	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:18	CST-6	Thunderstorm Wind	56 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Thunderstorm Wind	61 kts. EG	0	0	3.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	52 kts. EG	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	61 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:45	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:05	CST-6	Thunderstorm Wind	56 kts. EG	0	0	1.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:08	CST-6	Thunderstorm Wind	70 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:10	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	05/01/2009	20:55	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	06/15/2009	19:15	CST-6	Thunderstorm Wind	56 kts. EG	0	0	14.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:30	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K

CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	58 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:50	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	56 kts. EG	0	0	15.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	08/08/2011	13:28	CST-6	Thunderstorm Wind	60 kts. EG	0	0	5.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	09/02/2012	17:56	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/17/2013	11:10	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
Totals:								0	0	164.00K	0.00K

Table 6-75: Fairview's Lightning Events

2 Lightning Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>I.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
FAIRVIEW	CULLMAN CO.	AL	05/15/2009	19:20	CST-6	Lightning		0	1	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/24/2011	15:25	CST-6	Lightning		0	0	1.00K	0.00K
Totals:								0	1	1.00K	0.00K

Table 6-76: Fairview's Hail Events

9 Hail Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>I.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
FAIRVIEW	CULLMAN CO.	AL	08/02/2008	16:00	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	08/02/2008	16:05	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	05/15/2009	19:02	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	03/12/2010	06:05	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	02/28/2011	14:39	CST-6	Hail	1.75 in.	0	0	1.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:24	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:56	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
FAIRVIEW	CULLMAN CO.	AL	04/05/2012	17:56	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/30/2013	18:42	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
Totals:								0	0	1.00K	0.00K

Table 6-77: Fairview's Tornado Events

4 Tornado Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:06	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:20	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Tornado	EF1	0	0	50.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:41	CST-6	Tornado	EF2	0	0	150.00K	0.00K
Totals:								0	0	240.00K	0.00K

Table 6-78: Fairview's Flood/Flash Flood Events

4 Flood/Flash Flood Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/05/2004	20:30	CST	Flood		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/05/2004	23:15	CST	Flood		0	0	0.00K	0.00K
COUNTYWIDE	CULLMAN CO.	AL	09/16/2004	15:30	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/27/2008	13:50	CST-6	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-79: Fairview's Drought/Extreme Heat Events

23 Drought/Extreme Heat Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/27/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/28/2009	10:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/15/2010	00:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-80: Fairview's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events

28 Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2007	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/15/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/16/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/28/2008	22:24	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2009	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2009	02:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/30/2011	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2012	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/31/2012	01:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/26/2013	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2009	02:20	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/02/2010	03:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/25/2010	05:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/09/2011	16:45	CST-6	Heavy Snow		0	0	0.10K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/17/2013	11:15	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2008	01:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/23/2008	08:25	CST-6	Winter Weather		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/04/2009	23:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/07/2010	05:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2010	09:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/12/2010	07:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/15/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/12/2010	08:01	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/15/2010	09:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/26/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/03/2011	14:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/09/2011	18:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-81: Fairview's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events

8 Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events –
01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/29/2005	20:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/16/2004	11:50	CST	High Wind	50 kts. ES	0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2008	20:00	CST-6	High Wind	39 kts. ES	0	0	10.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/11/2009	12:45	CST-6	High Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2009	23:05	CST-6	High Wind	55 kts. EG	0	0	600.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/24/2009	16:00	CST-6	High Wind	35 kts. ES	0	0	20.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/20/2007	15:10	CST-6	Strong Wind	39 kts. EG	0	0	1.000M	0.00K
Totals:								0	0	1.645M	0.00K

Table 6-82: Fairview's Sinkhole Events

0 Sinkhole Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. and AL Geological Survey)

No sinkhole events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-83: Fairview's Landslide Events

0 Landslide Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. and AL Geological Survey)

No sinkhole events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-84: Fairview's Earthquake Events

0 Earthquake Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)

No earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-85: Countywide Wildfire Events

82 Wildfire Events – 2010 thru 2013

(Source: Alabama Forestry Commission)

County	Total # of Fires 2010-2013	Average # of Fires Per Year	Total Acres Burned 2010-2013	Average Acres Burned Per Year	Average Fire Size in Acres
Cullman	82	27.33	1,958.65	652.88	23.88

Source: Alabama Forestry Commission

Table 6-86: Dam/Levee Failure Events

0 Dam/Levee Failure Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/Local Input)

No dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

**Table 6-87: Town of Fairview
Hazard Probability Assessment**

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	26	>100%	>10%	Town wide
Lightning	2	20%	5-10%	Town wide
Hail	9	90%	5-10%	Town wide
Tornado	4	40%	>10%	Town wide
Flood/Flash Flood	4	40%	5-10%	Town wide
Drought/Extreme Heat	23	>100%	<5%	Town wide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	28	>100%	<5%	Town wide
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	8	80%	5-10%	Town wide
Sinkhole/Expansive Soil	0	0%	<5%	Town wide
Landslide	0	0%	<5%	Town wide
Earthquake	0	0%	<5%	Town wide
Wildfire (3 year study period)	82	>100%	<5%	Town wide
Dam/Levee Failure	0	0	<5%	Town wide

Source: NOAA NCDC; U. S. Inflation Calculator/Consumer Price Index; USGS ; Local Input; USDA Census of Agriculture; Alabama Forestry Commission; and National Forestry Service; Participating Jurisdictions

Methodology: Number of historical occurrences is those reported by NOAA NCDC during the 10 year study period, with the exception of wildfire that is a 3 year study period. Probability is expressed by dividing the total number of occurrences by the study period in years. Extent is expressed as the percentage assigned by the jurisdictions' ranking in the vulnerability overview (Table 4-40). Zero denotes no data available to determine the probability, extent, or affected area.

Table 6-88: Fairview's Critical Facilities'

CRITICAL FACILITIES – FAIRVIEW	
FACILITY TYPE	REPLACEMENT VALUE
Fairview VFD	\$180,000
Total	\$180,000

**Table 6-89: Town of Fairview
Estimated Loss Projections from Specified Hazards**

Natural Hazards	Average Occurrences (per year)	Total Deaths	Total Injuries	Average Death and Injury Loss (per event)	Average Crop and Property Loss (per event)	Projected Loss (per event)
Thunderstorm	2.6	0	0	\$0	\$6,308	\$6,875
Lightning	0.2	0	0	\$0	\$500	\$545
Hail	0.9	0	0	\$0	\$111	\$121
Tornado	0.4	0	0	\$0	\$60,000	\$65,400
Flood/Flash Flood	0.4	0	0	\$0	\$0	\$0
Drought/Extreme Heat	2.3	0	0	\$0	\$0	\$0
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	2.8	0	0	\$0	\$0	\$0
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	0.8	0	0	\$0	\$205,625	\$224,131
Sinkhole/Expansive Soils	0	0	0	\$0	\$0	\$0
Landslide	0	0	0	\$0	\$0	\$0
Earthquake	0	0	0	\$0	\$0	\$0
Wildfire (3 year study period)	27.3	0	0	\$0	\$45,372	\$49,456
Dam/Levee Failure	0	0	0	\$0	\$0	\$0

Sources: NOAA NCDC; U.S. Inflation Calculator/Consumer Price Index; Local Input; USDA Census of Agriculture; Alabama Forestry Commission and National Forestry Service; Alabama Geological Survey

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences during the ten-year period with the exception of wildfire which takes the average fire size as noted in Table 4-15 multiplied by average amount per acre (\$1,900). Projected loss expresses an estimated damage amount per future occurrence by converting the average loss figure from a midpoint of 2008 dollars to 2014 dollars (\$1 in 2008 = \$1.09 in 2014...a cumulative rate of inflation of 9%). Zero denotes no data available to determine the average occurrences, average loss or projected loss per event.

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Town of Fairview Mitigation Action Plan

The Town of Fairview recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

Mitigation Status

During the plan update, mitigation actions were reviewed in order to identify completed, deferred, or deleted actions from the previous plan and incorporate actions added during annual updates. **Table 6-90** shows the Town of Fairview's updated mitigation actions. During the plan update process, no new mitigation actions were identified and added to the plan.

Table 6-90: Town of Fairview's Mitigation Actions	
Mitigation Action 1.1.1	Make application and/or commit/continue to participate in the NFIP, meeting all NFIP requirements
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	FL
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County's NFIP Coordinator
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	HMGP
Priority	High
Benchmark	<p>Local planning and development issues have prevented the Town of Fairview from becoming a member of the NFIP. The town wishes to become a member in the future.</p> <p>Jon Brunner is the NFIP contact and Floodplain Manager for Cullman County.</p>

Mitigation Action 1.1.2 COMPLETE	Encourage the development of zoning and building codes, in county and small jurisdictions
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T; FL; H; E
Applies to new/existing asset(s)	New
Local Planning Mechanism	Town of Fairview
Estimated Time Frame for Completion	2017
Estimated Cost	N/A
Funding Sources	HMGP; Local
Priority	Low
Benchmark	The county and municipalities have zoning regulations under development. Subdivision regulations are in place and enforced. This mitigation action is complete.
Mitigation Action 1.1.3	Develop and implement clean-up plan.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New
Local Planning Mechanism	Town of Fairview
Estimated Time Frame for Completion	2018
Estimated Cost	N/A
Funding Sources	HMGP; Local
Priority	Medium
Benchmark	The Town of Fairview has developed a disaster recovery initiative and established a planning committee to complete this action in the future.

Mitigation Action 1.1.4	Develop a pre-disaster contract for clean-up.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T; W; H
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Town of Fairview
Estimated Time Frame for Completion	2015
Estimated Cost	N/A
Funding Sources	HMGP; Local
Priority	Medium
Benchmark	The Town of Fairview has developed a disaster recovery initiative and established a planning committee to complete this action in the future.
Mitigation Action 2.2.2	Promote drainage improvements on local streets and develop drainage maintenance program.
Type	Property Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	TH; T; FL; W; H; D/LF
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Cullman County NFIP Coordinator and the Town of Fairview
Estimated Time Frame for Completion	2018
Estimated Cost	N/A
Funding Sources	HMGP; CDBG; ADEM; EPA; USDA; Local
Priority	Medium
Benchmark	Lack of funding and research has prevented progress during the last five years on this mitigation action. The town is currently analyzing potential drainage improvement projects.

Mitigation Action 5.2.1	Purchase emergency generators for post disaster mitigation.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Town of Fairview and the Cullman County EMA
Estimated Time Frame for Completion	2018
Estimated Cost	\$1,000 - \$5,000 each
Funding Sources	HMGP; ADECA; Local
Priority	High
Benchmark	<p>No emergency generators were purchased during the past five years due to lack of funding. The Town of Fairview wishes to purchase generators as funding becomes available.</p> <p>CCEMA has procured additional generators including several small generators through ADECA: 2-5KW and 1-10KW/trailer mounted. In addition, the CCEMA houses and maintains 2-55KW generators/trailer mount provided by the AEMA.</p>

Mitigation Action 5.2.2	Purchase, install, and test emergency warning sirens, as needed.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; Local
Priority	High
Benchmark: Purchase, install, and test emergency warning sirens, as needed. Upgrade existing equipment as needed.	<p>All existing equipment has been upgraded to meet FCC narrow-banding requirements. Mitigation grant funding was used to complete the upgrade. Therefore, this portion of Mitigation Action 5.2.2 is complete.</p> <p>This mitigation action has been revised accordingly.</p> <p>CCEMA tests all 42 sirens in Cullman County and is directly responsible for all maintenance on 26 sirens located in unincorporated areas of the jurisdiction. CCEMA works with all 11 municipalities to ensure that all sirens located in municipal jurisdictions are maintained and that any operational issues are resolved as soon as possible. Sirens are silent tested several times each month. Audible tests are conducted on the first Wednesday of each month or as required following maintenance service. Siren testing and maintenance will continue.</p>

Mitigation Action 6.1.1	Provide adequate individual storm shelters and community safe rooms.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	The Town of Fairview and Cullman County EMA
Estimated Time Frame for Completion	2020
Estimated Cost	\$4,000 - \$130,000 each
Funding Sources	HMGP; ADECA; Local; GERP when available
Priority	High
Benchmark	<p>The CCEMA has worked in association with the Cullman County Economic Development (CCED) Office to provide HMGP grant assistance to individuals for the construction of individual storm shelters. The CCED writes and manages the grants. The CCED was successful in the approval of 214 individual storm shelter grants, of which approximately 194 have been completed.</p> <p>The CCED was successful in the approval of 15 community safe room grants for safe rooms to be located at senior citizen sites, volunteer fire departments, and on municipal properties around the county. Approximately 12-13 have been completed with others under construction.</p> <p>The Town of Fairview wishes to add individual storm shelters and community safe rooms as funding becomes available.</p>

TOWN OF GARDEN CITY

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**Table 6-91: Town of Garden City
Risk and Vulnerability Overview**

Natural Hazards	Hazard Identification	Prioritized Occurrence Threat	Vulnerability
Thunderstorm	X	3	H
Lightning	X	8	M
Hail	X	7	L
Tornado	X	6	H
Flood/Flash Flood	X	7	M
Drought/Extreme Heat	X	4	L
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	X	2	L
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	X	5	H
Sinkhole/Expansive Soil	X	9	L
Landslide	X	9	L
Earthquake	X	9	L
Wildfire	X	1	L
Dam/Levee Failure	X	9	L

Sources: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey; Participating Jurisdictions

KEY

Hazard Identification: X Affects the Jurisdiction, N/A Not a threat to the jurisdiction

Priority: Hazards are prioritized with the highest threat of occurrence assigned number one based on hazardous events that have occurred within each jurisdiction over the past ten years, with the exception of wildfires that were based on events that have occurred over the past three years. Some natural hazards have equal threats to a jurisdiction; therefore, their threat number will be the same.

Vulnerability: NA – Not Applicable; not a hazard to the jurisdiction

L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction)

M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence)

H – High Risk; significant risk/maior damage potential (damage to over 10% of iurisdiction, regular occurrence)

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Table 6-92: Garden City's Thunderstorm Events

26 Thunderstorm Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
COUNTYWIDE	CULLMAN CO.	AL	06/11/2003	14:00	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	04/30/2005	02:40	CST	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	08/24/2007	13:05	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.000M	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:18	CST-6	Thunderstorm Wind	56 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Thunderstorm Wind	61 kts. EG	0	0	3.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	52 kts. EG	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	61 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:45	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:05	CST-6	Thunderstorm Wind	56 kts. EG	0	0	1.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:08	CST-6	Thunderstorm Wind	70 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:10	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	12/10/2008	00:43	CST-6	Thunderstorm Wind	52 kts. EG	0	0	1.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	05/02/2010	09:53	CST-6	Thunderstorm Wind	43 kts. EG	0	0	3.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	04/04/2011	17:33	CST-6	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	04/04/2011	17:35	CST-6	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	04/11/2011	18:00	CST-6	Thunderstorm Wind	60 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:30	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K

CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	58 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:50	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	56 kts. EG	0	0	15.00K	0.00K
Totals:								0	0	1.141M	0.00K

Table 6-93: Garden City's Lightning Events

1 Lightning Event – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN CO.	CULLMAN CO.	AL	06/24/2011	15:25	CST-6	Lightning		0	0	1.00K	0.00K
Totals:								0	0	1.00K	0.00K

Table 6-94: Garden City's Hail Events

5 Hail Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:50	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:24	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:56	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/30/2013	18:42	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-95: Garden City's Tornado Events

6 Tornado Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:06	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:20	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Tornado	EF1	0	0	50.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:41	CST-6	Tornado	EF2	0	0	150.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	04/27/2011	16:19	CST-6	Tornado	EF1	0	0	0.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	04/27/2011	16:22	CST-6	Tornado	EF1	0	0	0.00K	0.00K
Totals:								0	0	240.0K	0.00K

Table 6-96: Garden City's Flood/Flash Flood Events

5 Flood/Flash Flood Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/05/2004	20:30	CST	Flood		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/05/2004	23:15	CST	Flood		0	0	0.00K	0.00K
GARDEN CITY	CULLMAN CO.	AL	05/16/2003	15:45	CST	Flash Flood		0	0	0.00K	0.00K
COUNTYWIDE	CULLMAN CO.	AL	09/16/2004	15:30	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/27/2008	13:50	CST-6	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-97: Garden City's Drought/Extreme Heat Events

23 Drought/Extreme Heat Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/27/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/28/2009	10:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/15/2010	00:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-98: Garden City's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events

28 Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2007	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/15/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/16/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/28/2008	22:24	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2009	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2009	02:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/30/2011	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2012	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/31/2012	01:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/26/2013	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2009	02:20	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/02/2010	03:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/25/2010	05:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/09/2011	16:45	CST-6	Heavy Snow		0	0	0.10K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/17/2013	11:15	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2008	01:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/23/2008	08:25	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/04/2009	23:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/07/2010	05:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2010	09:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/12/2010	07:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/15/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/12/2010	08:01	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/15/2010	09:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/26/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/03/2011	14:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/09/2011	18:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-99: Garden City's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events

8 Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events –
01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/29/2005	20:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/16/2004	11:50	CST	High Wind	50 kts. ES	0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2008	20:00	CST-6	High Wind	39 kts. ES	0	0	10.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/11/2009	12:45	CST-6	High Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2009	23:05	CST-6	High Wind	55 kts. EG	0	0	600.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/24/2009	16:00	CST-6	High Wind	35 kts. ES	0	0	20.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/20/2007	15:10	CST-6	Strong Wind	39 kts. EG	0	0	1.000M	0.00K
Totals:								0	0	1.645M	0.00K

Table 6-100: Garden City's Sinkhole Events

0 Sinkhole Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: (Source: NOAA NCDC Storm Events Database/U.S.and AL Geological Survey)

No sinkhole events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-101: Garden City's Landslide Events

0 Landslide Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: (Source: NOAA NCDC Storm Events Database/U.S. and AL Geological Survey)

No landslide events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-102: Garden City's Earthquake Events

0 Earthquake Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)

No earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-103: Countywide Wildfire Events

82 Wildfire Events – 2010 thru 2013

(Source: Alabama Forestry Commission)

County	Total # of Fires 2010-2013	Average # of Fires Per Year	Total Acres Burned 2010-2013	Average Acres Burned Per Year	Average Fire Size in Acres
Cullman	82	27.33	1,958.65	652.88	23.88

Table 6-104: Garden City's Dam/Levee Failure Events

0 Dam/Levee Failure Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/Local Input)

No dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

**Table 6-105: Garden City
Hazard Probability Assessment**

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	26	>100%	>10%	Town wide
Lightning	1	10%	5-10%	Town wide
Hail	5	50%	<5%	Town wide
Tornado	6	60%	>10%	Town wide
Flood/Flash Flood	5	50%	5-10%	Town wide
Drought/Extreme Heat	23	>100%	<5%	Town wide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	28	>100%	<5%	Town wide
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	8	80%	>10%	Town wide
Sinkhole/Expansive Soil	0	0%	<5%	Town wide
Landslide	0	00%	<5%	Town wide
Earthquake	0	0%	<5%	Town wide
Wildfire (3 year study period)	82	>100%	<5%	Town wide
Dam/Levee Failure	0	0	<5%	Town wide
<i>Source: NOAA NCDC; U. S. Inflation Calculator/Consumer Price Index; USGS ; Local Input; USDA Census of Agriculture; Alabama Forestry Commission; and National Forestry Service; Participating Jurisdictions</i>				
Methodology: Number of historical occurrences is those reported by NOAA NCDC during the 10 year study period, with the exception of wildfire that is a 3 year study period. Probability is expressed by dividing the total number of occurrences by the study period in years. Extent is expressed as the percentage assigned by the jurisdictions' ranking in the vulnerability overview (Table 4-40). Zero denotes no data available to determine the probability, extent, or affected area.				

Table 6-106: Garden City's Critical Facilities

CRITICAL FACILITIES – GARDEN CITY	
FACILITY TYPE	REPLACEMENT VALUE
Town Hall	Building: \$180,307 Contents: \$67,774
Fire Station	Building: \$95,000 Contents: \$285,000 (includes 3 trucks)
Generator	\$4,277
Storm Shelter	\$307,000
Municipal Warehouse	\$257,500
Sewer Station	\$307,000
Sewer Lagoon	\$2,000,000
Sewer Lift Stations (2) each	\$150,000
Sewer Lift Stations (2) each	\$75,000
Water Tank	\$250,000
Water Pump Stations (2) each	\$55,000
Total	\$3,730,234

**Table 6-107: Town of Garden City
Estimated Loss Projections from Specified Hazards**

Natural Hazards	Average Occurrences (per year)	Total Deaths	Total Injuries	Average Death and Injury Loss (per event)	Average Crop and Property Loss (per event)	Projected Loss (per event)
Thunderstorm	2.6	0	0	\$0	\$43,885	\$47,834
Lightning	0.1	0	0	\$0	\$1,000	\$1,090
Hail	0.5	0	0	\$0	\$0	\$0
Tornado	0.6	0	0	\$0	\$40,000	\$43,600
Flood/Flash Flood	0.5	0	0	\$0	\$0	\$0
Drought/Extreme Heat	2.3	0	0	\$0	\$0	\$0
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	2.8	0	0	\$0	\$0	\$0
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	0.8	0	0	\$0	\$205,625	\$224,131
Sinkhole/Expansive Soils	0	0	0	\$0	\$0	\$0
Landslide	0	0	0	\$0	\$0	\$0
Earthquake	0	0	0	\$0	\$0	\$0
Wildfire (3 year study period)	27.3	0	0	\$0	\$45,372	\$49,456
Dam/Levee Failure	0	0	0	\$0	\$0	\$0

Sources: NOAA NCDC; U.S. Inflation Calculator/Consumer Price Index; Local Input; USDA Census of Agriculture; Alabama Forestry Commission and National Forestry Service; Alabama Geological Survey

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences during the ten-year period with the exception of wildfire which takes the average fire size as noted in Table 4-15 multiplied by average amount per acre (\$1,900). Projected loss expresses an estimated damage amount per future occurrence by converting the average loss figure from a midpoint of 2008 dollars to 2014 dollars (\$1 in 2008 = \$1.09 in 2014...a cumulative rate of inflation of 9%). Zero denotes no data available to determine the average occurrences, average loss or projected loss per event.

Town of Garden City Mitigation Action Plan

The Town of Garden City recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

Mitigation Status

During the plan update, mitigation actions were reviewed in order to identify completed, deferred, or deleted actions from the previous plan and incorporate actions added during annual updates. **Table 6-108** shows the Town of Garden City's updated mitigation actions. During the plan update process, no new mitigation actions were identified and added to the plan.

Table 6-108: Town of Garden City's Mitigation Actions	
Mitigation Action 1.1.1	Make application and/or commit/continue to participate in the NFIP, meeting all NFIP requirements
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	FL
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County's NFIP Coordinator
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	HMGP
Priority	High
Benchmark	<p>The Town of Garden City is a NFIP participating community and plans on maintaining this status.</p> <p>Jon Brunner is the NFIP contact and Floodplain Manager for Cullman County.</p>

Mitigation Action 2.2.2	Promote drainage improvements on local streets and develop drainage maintenance program.
Type	Property Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	TH; T; FL; W; H; D/LF
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Town of Garden City
Estimated Time Frame for Completion	2018
Estimated Cost	N/A
Funding Sources	HMGP; Local
Priority	High
Benchmark	
Mitigation Action 3.4.1	Educate property owners on the affordable individual mitigation and preparedness to be taken before disaster events.
Type	Public Education and Awareness
Goal	Reduce Cullman County's vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Town of Garden City and Cullman County EMA
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	Local
Priority	Medium
Benchmark	

Mitigation Action 3.4.2	Increase public awareness and advise the public about safety precautions to guard against injury and loss of life from hazards.
Type	Public Education and Awareness
Goal	Reduce Cullman County's vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Town of Garden City and Cullman County EMA
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	Local
Priority	Medium
Benchmark	
Mitigation Action 3.5.1	Provide public involvement activities and publish public information brochures on natural hazards and emergency situations.
Type	Public Education and Awareness
Goal	Foster public support and acceptance of hazard mitigation
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Town of Garden City and Cullman County EMA
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	Local
Priority	Medium
Benchmark	

Mitigation Action 5.2.1	Purchase emergency generators for post disaster mitigation.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Town of Garden City and Cullman County EMA
Estimated Time Frame for Completion	2018
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; ADECA; Local
Priority	High
Benchmark	<p>CCEMA has procured additional generators including several small generators through ADECA: 2-5KW and 1-10KW/trailer mounted. In addition, the CCEMA houses and maintains 2-55KW generators/trailer mount provided by the AEMA. The CCEMA has not identified a funding source for the 2500 KW generator required by CRMC. Generators remain an action item in the plan until all critical facilities' backup systems are completed.</p>

Mitigation Action 5.2.2	Purchase, install, and test emergency warning sirens, as needed.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Town of Garden City and Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; Local
Priority	High
Benchmark: Purchase, install, and test emergency warning sirens, as needed. Upgrade existing equipment as needed.	<p>All sirens have been upgraded to meet FCC narrow-banding requirements. Mitigation grant funding was used to complete the upgrade. Therefore, this portion of Mitigation Action 5.2.2 is complete.</p> <p>This mitigation action has been revised accordingly.</p> <p>CCEMA tests all 42 sirens in Cullman County and is directly responsible for all maintenance on 26 sirens located in unincorporated areas of the jurisdiction. CCEMA works with all 11 municipalities to ensure that all sirens located in municipal jurisdictions are maintained and that any operational issues are resolved as soon as possible. Sirens are silent tested several times each month. Audible tests are conducted on the first Wednesday of each month or as required following maintenance service. Siren testing and maintenance will continue.</p>

Mitigation Action 6.1.1	Provide adequate tornado shelters and community safe rooms.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Town of Garden City and Cullman County EMA
Estimated Time Frame for Completion	2018
Estimated Cost	\$4,000 - \$130,000 each
Funding Sources	HMGP; ADECA; Local; GERF when available
Priority	High
Benchmark	<p>The CCEMA has worked in association with the Cullman County Economic Development (CCED) Office to provide HMGP grant assistance to individuals for the construction of individual storm shelters. The CCED writes and manages the grants. The CCED was successful in the approval of 214 individual storm shelter grants, of which approximately 194 have been completed.</p> <p>The CCED was successful in the approval of 15 community safe room grants for safe rooms to be located at senior citizen sites, volunteer fire departments, and on municipal properties around the county. Approximately 12-13 have been completed with others under construction.</p> <p>The Town of Garden City would like to add individual storm shelters and community safe rooms as funding becomes available.</p>

Mitigation Action 6.4.1	Maintain and upgrade public infrastructures and services.
Type	Structural Projects
Goal	Reduce Cullman County's vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Town of Garden City
Estimated Time Frame for Completion	2019
Estimated Cost	N/A
Funding Sources	HMGP; CDBG; DOT; Local
Priority	Medium
Benchmark	

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TOWN OF GOOD HOPE

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Table 6-109: Town of Good Hope Risk and Vulnerability Overview			
Natural Hazards	Hazard Identification	Prioritized Occurrence Threat	Vulnerability
Thunderstorm	X	3	H
Lightning	X	9	M
Hail	X	6	L
Tornado	X	8	H
Flood/Flash Flood	X	7	M
Drought/Extreme Heat	X	4	L
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	X	2	L
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	X	5	M
Sinkhole/Expansive Soil	X	10	L
Landslide	X	10	L
Earthquake	X	10	L
Wildfire	X	1	L
Dam/Levee Failure	X	10	L
<i>Sources: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey; Participating Jurisdictions</i>			
<p>KEY</p> <p><u>Hazard Identification:</u> X Affects the Jurisdiction, N/A Not a threat to the jurisdiction</p> <p><u>Priority:</u> Hazards are prioritized with the highest threat of occurrence assigned number one based on hazardous events that have occurred within each jurisdiction over the past ten years, with the exception of wildfires that were based on events that have occurred over the past three years. Some natural hazards have equal threats to a jurisdiction; therefore, their threat number will be the same.</p> <p><u>Vulnerability:</u> NA – Not Applicable; not a hazard to the jurisdiction</p> <p>L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction)</p> <p>M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence)</p> <p>H – High Risk; significant risk/major damage potential (damage to over 10% of jurisdiction, regular occurrence)</p>			

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Table 6-110: Good Hope's Thunderstorm Events

26 Thunderstorm Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	I.Z.	Type	Mag	Dth	Inj	PrD	CrD
COUNTYWIDE	CULLMAN CO.	AL	06/11/2003	14:00	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	12/09/2004	07:50	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	07/19/2006	13:33	CST	Thunderstorm Wind	60 kts. EG	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:18	CST-6	Thunderstorm Wind	56 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Thunderstorm Wind	61 kts. EG	0	0	3.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	52 kts. EG	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	61 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:45	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:05	CST-6	Thunderstorm Wind	56 kts. EG	0	0	1.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:08	CST-6	Thunderstorm Wind	70 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:10	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	05/24/2010	19:06	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.20K	0.00K
GOOD HOPE	CULLMAN CO.	AL	08/13/2010	14:35	CST-6	Thunderstorm Wind	52 kts. EG	0	0	8.00K	0.00K

CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:30	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	58 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:50	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	56 kts. EG	0	0	15.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	03/18/2013	13:55	CST-6	Thunderstorm Wind	43 kts. EG	0	0	5.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	03/18/2013	14:04	CST-6	Thunderstorm Wind	87 kts. EG	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/17/2013	11:10	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
Totals:								0	0	141,20K	0.00K

Table 6-111: Good Hope's Lightning Events

2 Lightning Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
GOOD HOPE	CULLMAN CO.	AL	05/15/2009	19:50	CST-6	Lightning		0	1	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/24/2011	15:25	CST-6	Lightning		0	0	1.00K	0.00K
Totals:								0	1	1.00K	0.00K

Table 6-112: Good Hope's Hail Events

7 Hail Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
GOOD HOPE	CULLMAN CO.	AL	05/02/2003	16:18	CST	Hail	1.75 in.	0	0	0.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	05/03/2006	13:40	CST	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:50	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:24	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:56	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/30/2013	18:42	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-113: Good Hope's Tornado Events

4 Tornado Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:06	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:20	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Tornado	EF1	0	0	50.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:41	CST-6	Tornado	EF2	0	0	150.00K	0.00K
Totals:								0	0	240.00K	0.00K

Table 6-114: Good Hope's Flood/Flash Flood Events

5 Flood/Flash Flood Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
COUNTYWIDE	CULLMAN CO.	AL	09/16/2004	15:30	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/27/2008	13:50	CST-6	Flash Flood		0	0	0.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	05/06/2009	04:15	CST-6	Flash Flood		0	0	0.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	12/09/2009	01:10	CST-6	Flash Flood		0	0	0.00K	0.00K
GOOD HOPE	CULLMAN CO.	AL	01/13/2013	18:20	CST-6	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-115: Good Hope's Drought/Extreme Heat Events

23 Drought/Extreme Heat Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/27/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/28/2009	10:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/15/2010	00:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-116: Good Hope's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events

28 Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2007	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/15/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/16/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/28/2008	22:24	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2009	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2009	02:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/30/2011	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2012	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/31/2012	01:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/26/2013	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2009	02:20	CST-6	Heavy Snow		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/02/2010	03:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/25/2010	05:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/09/2011	16:45	CST-6	Heavy Snow		0	0	0.10K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/17/2013	11:15	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2008	01:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/23/2008	08:25	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/04/2009	23:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/07/2010	05:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2010	09:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/12/2010	07:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/15/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/12/2010	08:01	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/15/2010	09:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/26/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/03/2011	14:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/09/2011	18:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-117: Good Hope's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events

8 Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events –
01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/29/2005	20:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/16/2004	11:50	CST	High Wind	50 kts. ES	0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2008	20:00	CST-6	High Wind	39 kts. ES	0	0	10.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/11/2009	12:45	CST-6	High Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2009	23:05	CST-6	High Wind	55 kts. EG	0	0	600.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/24/2009	16:00	CST-6	High Wind	35 kts. ES	0	0	20.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/20/2007	15:10	CST-6	Strong Wind	39 kts. EG	0	0	1.000M	0.00K
Totals:								0	0	1.645M	0.00K

Table 6-118: Good Hope's Sinkhole Events

0 Sinkhole Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. and AL Geological Survey)

No sinkhole events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-119: Good Hope's Landslide Events

0 Landslide Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. and AL Geological Survey)

No landslide events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-120: Good Hope's Earthquake Events

0 Earthquake Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)

No earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-121: Countywide Wildfire Events

82 Wildfire Events – 2010 thru 2013

(Source: Alabama Forestry Commission)

County	Total # of Fires 2010-2013	Average # of Fires Per Year	Total Acres Burned 2010-2013	Average Acres Burned Per Year	Average Fire Size in Acres
Cullman	82	27.33	1,958.65	652.88	23.88

Table 6-122: Good Hope's Dam/Levee Failure Events

0 Dam/Levee Failure Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/Local Input)

No dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

**Table 6-123: Town of Good Hope
Hazard Probability Assessment**

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	26	>100%	>10%	Town wide
Lightning	2	20%	5-10%	Town wide
Hail	7	70%	<5%	Town wide
Tornado	4	40%	>10%	Town wide
Flood/Flash Flood	5	50%	5-10%	Town wide
Drought/Extreme Heat	23	>100%	<5%	Town wide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	28	>100%	<5%	Town wide
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	8	80%	5-10%	Town wide
Sinkhole/Expansive Soil	0	0%	<5%	Town wide
Landslide	0	0%	<5%	Town wide
Earthquake	0	0%	<5%	Town wide
Wildfire (3 year study period)	82	>100%	<5%	Town wide
Dam/Levee Failure	0	0	<5%	Town wide

Source: NOAA NCDC; U. S. Inflation Calculator/Consumer Price Index; USGS ; Local Input; USDA Census of Agriculture; Alabama Forestry Commission; and National Forestry Service; Participating Jurisdictions

Methodology: Number of historical occurrences is those reported by NOAA NCDC during the 10 year study period, with the exception of wildfire that is a 3 year study period. Probability is expressed by dividing the total number of occurrences by the study period in years. Extent is expressed as the percentage assigned by the jurisdictions' ranking in the vulnerability overview (Table 4-40). Zero denotes no data available to determine the probability, extent, or affected area.

Table 6-124: Good Hope's Critical Facilities

CRITICAL FACILITIES – GOOD HOPE	
FACILITY TYPE	REPLACEMENT VALUE
Good Hope VFD	\$180,000
Total	\$180,000

**Table 6-125: Town of Good Hope
Estimated Loss Projections from Specified Hazards**

Natural Hazards	Average Occurrences (per year)	Total Deaths	Total Injuries	Average Death and Injury Loss (per event)	Average Crop and Property Loss (per event)	Projected Loss (per event)
Thunderstorm	2.6	0	0	\$0	\$5,431	\$5,920
Lightning	0.2	0	0	\$0	\$500	\$545
Hail	0.7	0	0	\$0	\$0	\$0
Tornado	0.4	0	0	\$0	\$60,000	\$65,400
Flood/Flash Flood	0.5	0	0	\$0	\$0	\$0
Drought/Extreme Heat	2.3	0	0	\$0	\$0	\$0
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	2.8	0	0	\$0	\$0	\$0
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	0.8	0	0	\$0	\$205,625	\$224,131
Sinkhole/Expansive Soils	0	0	0	\$0	\$0	\$0
Landslide	0	0	0	\$0	\$0	\$0
Earthquake	0	0	0	\$0	\$0	\$0
Wildfire (3 year study period)	27.3	0	0	\$0	\$45,372	\$49,456
Dam/Levee Failure	0	0	0	\$0	\$0	\$0

Sources: NOAA NCDC; U.S. Inflation Calculator/Consumer Price Index; Local Input; USDA Census of Agriculture; Alabama Forestry Commission and National Forestry Service; Alabama Geological Survey

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences during the ten-year period with the exception of wildfire which takes the average fire size as noted in Table 4-15 multiplied by average amount per acre (\$1,900). Projected loss expresses an estimated damage amount per future occurrence by converting the average loss figure from a midpoint of 2008 dollars to 2014 dollars (\$1 in 2008 = \$1.09 in 2014...a cumulative rate of inflation of 9%). Zero denotes no data available to determine the average occurrences, average loss or projected loss per event.

Town of Good Hope Mitigation Action Plan

The Town of Good Hope recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

Mitigation Status

During the plan update, mitigation actions were reviewed in order to identify completed, deferred, or deleted actions from the previous plan and incorporate actions added during annual updates. **Table 6-126** shows the Town of Good Hope's updated mitigation actions. During the plan update process, no new mitigation actions were identified and added to the plan.

Table 6-126: Town of Good Hope's Mitigation Actions	
Mitigation Action 1.1.1	Make application and/or commit/continue to participate in the NFIP, meeting all NFIP requirements
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	FL
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County's NFIP Coordinator
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	HMGP
Priority	High
Benchmark	The Town of Good Hope is a NFIP participating community and plans on maintaining this status. Jon Brunner is the NFIP contact and Floodplain Manager for Cullman County.

Mitigation Action 1.1.3	Develop and implement clean-up plan for the county and participating jurisdictions.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Town of Good Hope
Estimated Time Frame for Completion	2019
Estimated Cost	N/A
Funding Sources	Local
Priority	Low
Benchmark	<p>The county has the option to use a pre-disaster contract developed by the Alabama County Commission Association. The County Engineer is the primary contact for clean-up. The town also utilizes the City of Hanceville for help with cleanup.</p> <p>The town wishes to leave their options open to developing their own clean-up plan; therefore, this mitigation action will remain.</p>

Mitigation Action 1.1.4	Develop a pre-disaster contract for clean-up.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T; W; H
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Town of Good Hope
Estimated Time Frame for Completion	2019
Estimated Cost	N/A
Funding Sources	Local
Priority	Low
Benchmark	<p>The county has the option to use a pre-disaster contract developed by the Alabama County Commission Association. The County Engineer is the primary contact for clean-up. The town also utilizes the City of Hanceville for help with cleanup.</p> <p>The town wishes to leave their options open to developing their own clean-up plan; therefore, this mitigation action will remain</p>
Mitigation Action 2.2.2	Promote drainage improvements on local streets and develop drainage maintenance program.
Type	Property Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	TH; T; FL; W; H; D/LF
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Town of Good Hope
Estimated Time Frame for Completion	2018
Estimated Cost	N/A
Funding Sources	HMGP; Local
Priority	Medium
Benchmark	The Town of Good Hope has completed some drainage work without help of a grant.

Mitigation Action 5.2.1	Purchase emergency generators for post disaster mitigation.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Town of Good Hope and Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; ADECA; Local
Priority	High
Benchmark	<p>The Town of Good Hope has purchased a generator for the Town Hall and will be installing it in the near future.</p> <p>This mitigation action remains to purchase additional generators if funding becomes available.</p> <p>CCEMA has procured additional generators including several small generators through ADECA: 2-5KW and 1-10KW/trailer mounted. In addition, the CCEMA houses and maintains 2-55KW generators/trailer mount provided by the AEMA. Generators remain an action item in the plan until all critical facilities' backup systems are completed.</p>

Mitigation Action 5.2.2	Purchase, install, and test emergency warning sirens, as needed.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Town of Good Hope and Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; Local
Priority	High
Benchmark: Purchase, install, and test emergency warning sirens, as needed. Upgrade existing equipment as needed.	<p>The Town of Good Hope has two existing sirens and wishes to purchase and install more if funding is available.</p> <p>All sirens have been upgraded to meet FCC narrow-banding requirements. Mitigation grant funding was used to complete the upgrade. Therefore, this portion of Mitigation Action 5.2.2 is complete.</p> <p>This mitigation action has been revised accordingly.</p> <p>CCEMA tests all 42 sirens in Cullman County and is directly responsible for all maintenance on 26 sirens located in unincorporated areas of the jurisdiction. CCEMA works with all 11 municipalities to ensure that all sirens located in municipal jurisdictions are maintained and that any operational issues are resolved as soon as possible. Sirens are silent tested several times each month. Audible tests are conducted on the first Wednesday of each month or as required following maintenance service. Siren testing and maintenance will continue.</p>

Mitigation Action 6.1.1	Provide adequate tornado shelters and community safe rooms.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Town of Good Hope and Cullman County EMA
Estimated Time Frame for Completion	2020
Estimated Cost	\$4,000 - \$130,000 each
Funding Sources	HMGP; ADECA; Local; GERF when available
Priority	High
Benchmark	<p>The CCEMA has worked in association with the Cullman County Economic Development (CCED) Office to provide HMGP grant assistance to individuals for the construction of individual storm shelters. The CCED writes and manages the grants. The CCED was successful in the approval of 214 individual storm shelter grants, of which approximately 194 have been completed.</p> <p>The CCED was successful in the approval of 15 community safe room grants for safe rooms to be located at senior citizen sites, volunteer fire departments, and on municipal properties around the county. Approximately 12-13 have been completed with others under construction. The Town of Good Hope has installed two community safe rooms.</p> <p>The Town of Good Hope wishes to add more individual storm shelters and community safe rooms as funding becomes available.</p>

CITY OF HANCEVILLE

(Note: The Hanceville Water and Sewer Board will serve as their own applicant agent, separate from the City of Hanceville.)

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**Table 6-127: City of Hanceville
Risk and Vulnerability Overview**

Natural Hazards	Hazard Identification	Prioritized Occurrence Threat	Vulnerability
Thunderstorm	X	2	H
Lightning	X	9	M
Hail	X	5	L
Tornado	X	7	H
Flood/Flash Flood	X	8	M
Drought/Extreme Heat	X	4	L
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	X	3	L
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	X	6	H
Sinkhole/Expansive Soil	X	10	L
Landslide	X	10	L
Earthquake	X	10	L
Wildfire	X	1	L
Dam/Levee Failure	X	10	L

Sources: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey; Participating Jurisdictions

KEY

Hazard Identification: X Affects the Jurisdiction, N/A Not a threat to the jurisdiction

Priority: Hazards are prioritized with the highest threat of occurrence assigned number one based on hazardous events that have occurred within each jurisdiction over the past ten years, with the exception of wildfires that were based on events that have occurred over the past three years. Some natural hazards have equal threats to a jurisdiction; therefore, their threat number will be the same.

Vulnerability: NA – Not Applicable; not a hazard to the jurisdiction

L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction)

M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence)

H – High Risk; significant risk/major damage potential (damage to over 10% of jurisdiction, regular occurrence)

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Table 6-128: City of Hanceville's Thunderstorm Events

29 Thunderstorm Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>I.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
COUNTYWIDE	CULLMAN CO.	AL	06/11/2003	14:00	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	02/05/2004	19:35	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	01/13/2005	10:00	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	08/21/2005	15:30	CST	Thunderstorm Wind	55 kts. EG	0	0	40.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	08/17/2007	17:01	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:18	CST-6	Thunderstorm Wind	56 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Thunderstorm Wind	61 kts. EG	0	0	3.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	52 kts. EG	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	61 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:45	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:05	CST-6	Thunderstorm Wind	56 kts. EG	0	0	1.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:08	CST-6	Thunderstorm Wind	70 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:10	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K

HANCEVILLE	CULLMAN CO.	AL	12/08/2009	22:10	CST-6	Thunderstorm Wind	52 kts. EG	0	0	8.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	04/20/2011	22:15	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
HANCEVILLE	CULLMAN CO.	AL	05/13/2011	09:48	CST-6	Thunderstorm Wind	50 kts. EG	0	0	50.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:30	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	58 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:50	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	56 kts. EG	0	0	15.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	06/11/2012	18:55	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	03/18/2013	14:14	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/17/2013	11:10	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
Totals:								0	0	246,50K	0.00K

Table 6-129: City of Hanceville's Lightning Events

1 Lightning Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN CO.	CULLMAN CO.	AL	06/24/2011	15:25	CST-6	Lightning		0	0	1.00K	0.00K
Totals:								0	0	1.00K	0.00K

Table 6-130: City of Hanceville's Hail Events

18 Hail Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
HANCEVILLE	CULLMAN CO.	AL	05/02/2003	16:15	CST	Hail	0.75 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	05/02/2003	16:17	CST	Hail	1.00 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	05/02/2003	16:20	CST	Hail	0.75 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	05/02/2003	16:20	CST	Hail	1.75 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	03/13/2005	19:15	CST	Hail	0.75 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	03/13/2005	19:20	CST	Hail	1.75 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	04/19/2006	16:18	CST	Hail	1.00 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	04/19/2006	16:41	CST	Hail	0.88 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	04/19/2006	19:09	CST	Hail	0.75 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	03/01/2007	04:40	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	08/17/2007	17:01	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:50	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K

HANCEVILLE	CULLMAN CO.	AL	04/19/2009	18:53	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:24	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:56	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	07/30/2012	23:14	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/30/2013	18:42	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-131: City of Hanceville's Tornado Events

7 Tornado Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
HANCEVILLE	CULLMAN CO.	AL	03/13/2006	18:45	CST	Tornado	F0	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	03/13/2006	18:47	CST	Tornado	F0	0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	03/13/2006	18:50	CST	Tornado	F0	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:06	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:20	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Tornado	EF1	0	0	50.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:41	CST-6	Tornado	EF2	0	0	150.00K	0.00K
Totals:								0	0	240.00K	0.00K

Table 6-132: City of Hanceville's Flood/Flash Flood Events

5 Flood/Flash Flood Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
COUNTYWIDE	CULLMAN CO.	AL	09/16/2004	15:30	CST	Flash Flood		0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	10/19/2004	09:40	CST	Flash Flood		0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	04/19/2006	20:37	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/27/2008	13:50	CST-6	Flash Flood		0	0	0.00K	0.00K
HANCEVILLE	CULLMAN CO.	AL	04/15/2011	15:16	CST-6	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-133: City of Hanceville's Drought/Extreme Heat Events

23 Drought/Extreme Heat Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/27/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/28/2009	10:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/15/2010	00:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-134: City of Hanceville's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events

28 Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2007	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/15/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/16/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/28/2008	22:24	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2009	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2009	02:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/30/2011	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2012	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/31/2012	01:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/26/2013	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2009	02:20	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/02/2010	03:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/25/2010	05:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/09/2011	16:45	CST-6	Heavy Snow		0	0	0.10K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/17/2013	11:15	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2008	01:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/23/2008	08:25	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/04/2009	23:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/07/2010	05:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2010	09:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/12/2010	07:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/15/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/12/2010	08:01	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/15/2010	09:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/26/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/03/2011	14:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/09/2011	18:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-135: City of Hanceville’s Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events

8 Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events –
01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	I.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/29/2005	20:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/16/2004	11:50	CST	High Wind	50 kts. ES	0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2008	20:00	CST-6	High Wind	39 kts. ES	0	0	10.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/11/2009	12:45	CST-6	High Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2009	23:05	CST-6	High Wind	55 kts. EG	0	0	600.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/24/2009	16:00	CST-6	High Wind	35 kts. ES	0	0	20.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/20/2007	15:10	CST-6	Strong Wind	39 kts. EG	0	0	1.000M	0.00K
Totals:								0	0	1.645M	0.00K

Table 6-136: City of Hanceville’s Sinkhole Events

0 Sinkhole Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S.and AL Geological Survey)

No sinkhole events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-137: City of Hanceville’s Landslide Events

0 Landslide Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S.and AL Geological Survey)

No landslide events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-138: City of Hanceville’s Earthquake Events

0 Earthquake Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)

No earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-139: Countywide Wildfire Events

82 Wildfire Events – 2010 thru 2013
(Source: Alabama Forestry Commission)

County	Total # of Fires 2010-2013	Average # of Fires Per Year	Total Acres Burned 2010-2013	Average Acres Burned Per Year	Average Fire Size in Acres
Cullman	82	27.33	1,958.65	652.88	23.88

Table 6-140: City of Hanceville's Dam/Levee Failure Events

0 Dam/Levee Failure Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database/Local Input)

No dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

**Table 6-141: City of Hanceville
Hazard Probability Assessment**

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	29	>100%	>10%	Citywide
Lightning	1	10%	5-10%	Citywide
Hail	18	>100%	<5%	Citywide
Tornado	7	70%	>10%	Citywide
Flood/Flash Flood	5	50%	5-10%	Citywide
Drought/Extreme Heat	23	>100%	<5%	Citywide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	28	>100%	<5%	Citywide
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	8	80%	>10%	Citywide
Sinkhole/Expansive Soil	0	0%	<5%	Citywide
Landslide	0	0%	<5%	Citywide
Earthquake	0	0%	<5%	Citywide
Wildfire (3 year study period)	82	>100%	<5%	Citywide
Dam/Levee Failure	0	0	<5%	Citywide

Source: NOAA NCDC; U. S. Inflation Calculator/Consumer Price Index; USGS ; Local Input; USDA Census of Agriculture; Alabama Forestry Commission; and National Forestry Service; Participating Jurisdictions

Methodology: Number of historical occurrences is those reported by NOAA NCDC during the 10 year study period, with the exception of wildfire that is a 3 year study period. Probability is expressed by dividing the total number of occurrences by the study period in years. Extent is expressed as the percentage assigned by the jurisdictions' ranking in the vulnerability overview (Table 4-40). Zero denotes no data available to determine the probability, extent, or affected area.

Table 6-142: City of Hanceville's Critical Facilities

CRITICAL FACILITIES – HANCEVILLE	
FACILITY TYPE	REPLACEMENT VALUE
City Hall	
City Hall Building	\$900,000
Storage Building	\$27,000
Depot	\$180,000
3 Sirens	\$100,000
Law Enforcement	
Police Department	1,260,000
Street Department	
Street Department Garage	\$75,000
Veterans Park	
Picnic Shed	\$9,900
Pavillion	\$10,000
Memorial Monument	\$35,000
Playground Equipment	\$7,500
2 Restrooms	\$12,000
C. W. Day Park	
Recreation Equipment	\$48,000
2 Restrooms	\$35,000
Concessions	\$300,000
4 Picnic Sheds	\$50,000
Equipment Shed	\$14,000
Pool Building	\$75,000
Pool	\$300,000
Playground Equipment	\$125,000
Fire Department	
Fire Station 2 & 3	\$500,000
Sparkman Fire Truck	\$300,000
E-1 Fire Engine #2	\$200,000
KME Fire Truck	\$300,000
International EMS 1	\$45,000
Food Service Truck	\$45,000
Breathing Air Compressor	\$35,000
Water and Sewer Board	
Sewage Treatment Plant	\$629,100
4 Sewage Pumping Stations	\$167,000
Office/Shop	\$440,558
1 Deep Ground Water Wells	\$1,428,700
2 Ground Water Storage Tank	\$955,242
1 Water Booster Pump Station	\$41,792
Grav/Pres Sewer Mains	\$14,000,000
Water Mains Fire/Pro	\$15,000,000

8 Utility Trucks	\$25,000
Motorized Equipment	\$45,000
Sewer Machine Storage and Shed	\$40,000
Hamby Park	
Gazebo	\$14,000
Library	
Library Building	\$400,000
Total	\$38,174,792

(Source: HAZUS-MH 2.1; Local, 2014)

Table 6-143: City of Hanceville
Estimated Loss Projections from Specified Hazards

Natural Hazards	Average Occurrences (per year)	Total Deaths	Total Injuries	Average Death and Injury Loss (per event)	Average Crop and Property Loss (per event)	Projected Loss (per event)
Thunderstorm	2.9	0	0	\$0	\$8,500	\$9,265
Lightning	0.1	0	0	\$0	\$1,000	\$1,090
Hail	1.8	0	0	\$0	\$0	\$0
Tornado	0.7	0	0	\$0	\$34,286	\$37,371
Flood/Flash Flood	0.5	0	0	\$0	\$0	\$0
Drought/Extreme Heat	2.3	0	0	\$0	\$0	\$0
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	2.8	0	0	\$0	\$0	\$0
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	0.8	0	0	\$0	\$205,625	\$224,131
Sinkhole/Expansive Soils	0	0	0	\$0	\$0	\$0
Landslide	0	0	0	\$0	\$0	\$0
Earthquake	0	0	0	\$0	\$0	\$0
Wildfire (3 year study period)	27.3	0	0	\$0	\$45,372	\$49,456
Dam/Levee Failure	0	0	0	\$0	\$0	\$0

Sources: NOAA NCDC; U.S. Inflation Calculator/Consumer Price Index; Local Input; USDA Census of Agriculture; Alabama Forestry Commission and National Forestry Service; Alabama Geological Survey

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences during the ten-year period with the exception of wildfire which takes the average fire size as noted in Table 4-15 multiplied by average amount per acre (\$1,900). Projected loss expresses an estimated damage amount per future occurrence by converting the average loss figure from a midpoint of 2008 dollars to 2014 dollars (\$1 in 2008 = \$1.09 in 2014...a cumulative rate of inflation of 9%). Zero denotes no data available to determine the average occurrences, average loss or projected loss per event.

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City of Hanceville Mitigation Action Plan

The City of Hanceville recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

Mitigation Status

During the plan update, mitigation actions were reviewed in order to identify completed, deferred, or deleted actions from the previous plan and incorporate actions added during annual updates. **Table 6-144** shows the City of Hanceville's updated mitigation actions. During the plan update process, no new mitigation actions were identified and added to the plan.

Table 6-144: City of Hanceville's Mitigation Actions	
Mitigation Action 1.1.1	Make application and/or commit/continue to participate in the NFIP, meeting all NFIP requirements
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	FL
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County's NFIP Coordinator
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	HMGP
Priority	High
Benchmark	<p>The City of Hanceville is a NFIP participating community and plans on maintaining this status.</p> <p>Jon Brunner is the NFIP contact and Floodplain Manager for Cullman County.</p>

Mitigation Action 1.2.1	Analyze Hanceville's municipal drainage system in flood prone areas to determine adequate sizes of ditches, culverts, and swales.
Type	Prevention
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	TH; T; FL; W; H; D/LF
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	City of Hanceville
Estimated Time Frame for Completion	2018
Estimated Cost	N/A
Funding Sources	HMGP; CDBG; ADEM; EPA; USDA; Local
Priority	High
Benchmark	
Mitigation Action 1.3.1 COMPLETE	Implement good construction practices and code enforcement to eliminate most structural problems during natural disaster events.
Type	Prevention
Goal	Reduce vulnerability for new and future development
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	City of Hanceville
Estimated Time Frame for Completion	2017
Estimated Cost	N/A
Funding Sources	Local
Priority	Low
Benchmark	The county and municipalities have zoning regulations under development. Subdivision regulations are in place and enforced. This mitigation action is complete.

Mitigation Action 1.4.1	Consider parking lot landscaping standards in zoning ordinances to encourage infiltration of rainwater where there are large expanses of impervious surfaces, such as concrete or asphalt.
Type	Prevention
Goal	Reduce Cullman County's vulnerability to natural hazards
Hazard(s) Addressed	TH; T; FL; W; H; D/LF
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	City of Hanceville
Estimated Time Frame for Completion	2019
Estimated Cost	N/A
Funding Sources	HMGP; Local
Priority	Medium
Benchmark	
Mitigation Action 2.2.1	Acquire buildings in flood prone areas (evaluate elevation as an alternative mitigation measure). Increase open space acquisitions in flood prone areas.
Type	Property Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	TH; T; FL; W; H; D/LF
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	City of Hanceville, Cullman County NFIP Coordinator, and Cullman County EMA
Estimated Time Frame for Completion	2020
Estimated Cost	N/A
Funding Sources	HMGP; CDBG; Local
Priority	Medium
Benchmark	To date, no funding has been allocated to address any existing structures in flood prone areas.

Mitigation Action 2.2.2	Promote drainage improvements on local streets and develop drainage maintenance program.
Type	Property Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	TH; T; FL; W; H; D/LF
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	City of Hanceville
Estimated Time Frame for Completion	2018
Estimated Cost	N/A
Funding Sources	HMGP; Local
Priority	Medium
Benchmark	
Mitigation Action 3.1.1	Publicize the availability and promote the purchase of flood insurance coverage by property owners and renters in flood damage high risk areas.
Type	Public Education and Awareness
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	FL
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County NFIP Coordinator
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	Local
Priority	Low
Benchmark	

Mitigation Action 5.2.1	Purchase emergency generators for post disaster mitigation.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	City of Hanceville and Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; Local
Priority	High
Benchmark	CCEMA has procured additional generators including several small generators through ADECA: 2-5KW and 1-10KW/trailer mounted. In addition, the CCEMA houses and maintains 2-55KW generators/trailer mount provided by the AEMA. Generators remain an action item in the plan until all critical facilities' backup systems are completed.

Mitigation Action 5.2.2	Purchase, install, and test emergency warning sirens, as needed.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; Local
Priority	High
Benchmark: Purchase, install, and test emergency warning sirens, as needed. Upgrade existing equipment as needed.	<p>All sirens have been upgraded to meet FCC narrow-banding requirements. Mitigation grant funding was used to complete the upgrade. Therefore, this portion of Mitigation Action 5.2.2 is complete.</p> <p>This mitigation action has been revised accordingly.</p> <p>CCEMA tests all 42 sirens in Cullman County and is directly responsible for all maintenance on 26 sirens located in unincorporated areas of the jurisdiction. CCEMA works with all 11 municipalities to ensure that all sirens located in municipal jurisdictions are maintained and that any operational issues are resolved as soon as possible. Sirens are silent tested several times each month. Audible tests are conducted on the first Wednesday of each month or as required following maintenance service. Siren testing and maintenance will continue.</p>

Mitigation Action 6.1.1	Provide adequate tornado shelters and community safe rooms.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	City of Hanceville and Cullman County EMA
Estimated Time Frame for Completion	2020
Estimated Cost	\$4,000 - \$130,000 each
Funding Sources	HMGP; ADECA; Local; GERP when available
Priority	High
Benchmark	<p>The CCEMA has worked in association with the Cullman County Economic Development (CCED) Office to provide HMGP grant assistance to individuals for the construction of individual storm shelters. The CCED writes and manages the grants. The CCED was successful in the approval of 214 individual storm shelter grants, of which approximately 194 have been completed.</p> <p>The CCED was successful in the approval of 15 community safe room grants for safe rooms to be located at senior citizen sites, volunteer fire departments, and on municipal properties around the county. Approximately 12-13 have been completed with others under construction.</p> <p>The City of Hanceville wishes to add individual storm shelters and community safe rooms as funding becomes available.</p>

Mitigation Action 6.2.1	Clean ditches, replace and repair drain pipes identified as inadequate.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T; FL; W; H; D/LF
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	City of Hanceville
Estimated Time Frame for Completion	2017
Estimated Cost	N/A
Funding Sources	HMGP; Local
Priority	Medium
Benchmark	
Mitigation Action 6.2.2	Modify drainage structures to increase the size and integrity of drainage system on Highway 31 North of Highway 91.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T; FL; W; H; D/LF
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	City of Hanceville
Estimated Time Frame for Completion	2017
Estimated Cost	N/A
Funding Sources	HMGP; Local
Priority	Medium
Benchmark	

TOWN OF HOLLY POND

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**Table 6-145: Town of Holly Pond
Risk and Vulnerability Overview**

Natural Hazards	Hazard Identification	Prioritized Occurrence Threat	Vulnerability
Thunderstorm	X	2	H
Lightning	X	4	M
Hail	X	4	L
Tornado	X	6	H
Flood/Flash Flood	X	7	M
Drought/Extreme Heat	X	3	L
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	X	2	L
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	X	5	H
Sinkhole/Expansive Soil	X	8	L
Landslide	X	8	L
Earthquake	X	8	L
Wildfire	X	1	L
Dam/Levee Failure	X	8	L

Sources: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey; Participating Jurisdictions

KEY

Hazard Identification: X Affects the Jurisdiction, N/A Not a threat to the jurisdiction

Priority: Hazards are prioritized with the highest threat of occurrence assigned number one based on hazardous events that have occurred within each jurisdiction over the past ten years, with the exception of wildfires that were based on events that have occurred over the past three years. Some natural hazards have equal threats to a jurisdiction; therefore, their threat number will be the same.

Vulnerability: NA – Not Applicable; not a hazard to the jurisdiction

L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction)

M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence)

H – High Risk; significant risk/major damage potential (damage to over 10% of jurisdiction, regular occurrence)

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Table 6-146: Holly Pond's Thunderstorm Events

28 Thunderstorm Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
COUNTYWIDE	CULLMAN CO.	AL	06/11/2003	14:00	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	06/27/2005	15:30	CST	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	06/27/2005	15:30	CST	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	08/06/2005	00:10	CST	Thunderstorm Wind	50 kts. EG	0	0	50.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	08/22/2005	12:50	CST	Thunderstorm Wind	50 kts. EG	0	0	25.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	11/15/2005	21:20	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	07/01/2007	13:30	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	08/17/2007	13:05	CST-6	Thunderstorm Wind	55 kts. EG	0	0	1.000M	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:18	CST-6	Thunderstorm Wind	56 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Thunderstorm Wind	61 kts. EG	0	0	3.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	52 kts. EG	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	61 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:45	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:05	CST-6	Thunderstorm Wind	56 kts. EG	0	0	1.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:08	CST-6	Thunderstorm Wind	70 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:10	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	12/08/2009	22:10	CST-6	Thunderstorm Wind	52 kts. EG	0	0	8.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:30	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K

CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	58 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:50	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	56 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/17/2013	11:10	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
Totals:								0	0	1.211M	0.00K

Table 6-147: Holly Pond's Lightning Events

1 Lightning Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN CO.	CULLMAN CO.	AL	06/24/2011	15:25	CST-6	Lightning		0	0	1.00K	0.00K
Totals:								0	0	1.00K	0.00K

Table 6-148: Holly Pond's Hail Events

12 Hail Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
HOLLY POND	CULLMAN CO.	AL	08/22/2005	12:45	CST	Hail	0.75 in.	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	08/22/2005	12:50	CST	Hail	1.00 in.	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	04/20/2006	16:36	CST	Hail	1.00 in.	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	04/20/2006	16:48	CST	Hail	0.88 in.	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	04/03/2007	11:15	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:50	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	07/13/2010	11:48	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
HOLLY POND	CULLMAN CO.	AL	10/24/2010	21:56	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:24	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:56	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/30/2013	18:42	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-149: Holly Pond's Tornado Events

4 Tornado Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:06	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:20	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Tornado	EF1	0	0	50.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:41	CST-6	Tornado	EF2	0	0	150.00K	0.00K
Totals:								0	0	240.00K	0.00K

Table 6-150: Holly Pond's Flood/Flash Flood Events

2 Flood/Flash Flood Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
COUNTYWIDE	CULLMAN CO.	AL	09/16/2004	15:30	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/27/2008	13:50	CST-6	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-151: Holly Pond's Drought/Extreme Heat Events

23 Drought/Extreme Heat Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/27/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/28/2009	10:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/15/2010	00:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-152: Holly Pond's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events

28 Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2007	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/15/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/16/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/28/2008	22:24	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2009	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2009	02:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/30/2011	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2012	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/31/2012	01:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/26/2013	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2009	02:20	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/02/2010	03:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/25/2010	05:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/09/2011	16:45	CST-6	Heavy Snow		0	0	0.10K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/17/2013	11:15	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2008	01:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/23/2008	08:25	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/04/2009	23:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/07/2010	05:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2010	09:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/12/2010	07:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/15/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/12/2010	08:01	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/15/2010	09:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/26/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/03/2011	14:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/09/2011	18:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-153: Holly Pond's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events

8 Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events –
01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/29/2005	20:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/16/2004	11:50	CST	High Wind	50 kts. ES	0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2008	20:00	CST-6	High Wind	39 kts. ES	0	0	10.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/11/2009	12:45	CST-6	High Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2009	23:05	CST-6	High Wind	55 kts. EG	0	0	600.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/24/2009	16:00	CST-6	High Wind	35 kts. ES	0	0	20.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/20/2007	15:10	CST-6	Strong Wind	39 kts. EG	0	0	1.000M	0.00K
Totals:								0	0	1.645M	0.00K

Table 6-154: Holly Pond's Sinkhole Events

0 Sinkhole Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. and AL Geological Survey)

No sinkhole events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-155: Holly Pond's Landslide Events

Landslide Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. and AL Geological Survey)

No landslide events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-156: Holly Pond's Earthquake Events

0 Earthquake Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)

No earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-157: Countywide Wildfire Events

82 Wildfire Events – 2010 thru 2013

(Source: Alabama Forestry Commission)

County	Total # of Fires 2010-2013	Average # of Fires Per Year	Total Acres Burned 2010-2013	Average Acres Burned Per Year	Average Fire Size in Acres
Cullman	82	27.33	1,958.65	652.88	23.88

Table 6-158: Holly Pond's Dam/Levee Failure Events

0 Dam/Levee Failure Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/Local Input)

No dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

**Table 6-159: Town of Holly Pond
Hazard Probability Assessment**

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	28	>100%	>10%	Town wide
Lightning	12	>100%	5-10%	Town wide
Hail	12	>100%	<5%	Town wide
Tornado	4	40%	>10%	Town wide
Flood/Flash Flood	2	20%	5-10%	Town wide
Drought/Extreme Heat	23	>100%	<5%	Town wide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	28	>100%	<5%	Town wide
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	8	80%	>10%	Town wide
Sinkhole/Expansive Soil	0	0%	<5%	Town wide
Landslide	0	0%	<5%	Town wide
Earthquake	0	0%	<5%	Town wide
Wildfire (3 year study period)	82	>100%	<5%	Town wide
Dam/Levee Failure	0	0	<5%	Town wide

Source: NOAA NCDC; U. S. Inflation Calculator/Consumer Price Index; USGS ; Local Input; USDA Census of Agriculture; Alabama Forestry Commission; and National Forestry Service; Participating Jurisdictions

Methodology: Number of historical occurrences is those reported by NOAA NCDC during the 10 year study period, with the exception of wildfire that is a 3 year study period. Probability is expressed by dividing the total number of occurrences by the study period in years. Extent is expressed as the percentage assigned by the jurisdictions' ranking in the vulnerability overview (Table 4-40). Zero denotes no data available to determine the probability, extent, or affected area.

Table 6-160: Holly Pond's Critical Facilities

CRITICAL FACILITIES – TOWN OF HOLLY POND	
FACILITY TYPE	FACILITY VALUE
City Hall	Building: \$150,000 Contents: \$20,000
Community Center	Building: \$140,000 Contents: \$35,000
Fire Station	Building: \$350,000 Contents: \$100,000
Rescue #1	\$100,000
Rescue #2	\$30,000
Engine #1	\$500,000
Engine #2	\$250,000
Engine #3	\$350,000
Truck #1	\$50,000
Truck #4	\$70,000
Truck #5	\$70,000
Sewage Treatment Plant	\$750,000
Lift Pump #1	\$90,000
Lift Pump #2	\$90,000
Lift Pump #3	\$130,000
Lift Pump #4	\$90,000
Shop Building (Storage) (2)	Building: \$50,000 Contents: \$15,000
Recreation Equipment	\$145,000
Bleachers	\$20,000
Concessions	Building: \$200,000 Contents: \$25,000
Press Box Fields 1,2, & 3	\$15,000
Picnic Sheds & Stage	\$65,000
Dugouts	\$15,000
Fences	\$45,000
Lights & Poles	\$110,000
Statue	\$50,000
Gazebo	\$14,000
Bridge	\$8,000
Bridge	\$2,000
Pavilion	\$10,000
Benches	\$1,250
Backhoe	\$27,000
Lawn Mowers (2) Diesel	\$24,000
Tractor & Bush Hog	\$75,000
Maintenance Building	Building: \$200,000

	Contents: \$18,000
Red Light	\$50,000
Sirens	\$35,000
Total	\$4,584,250

**Table 6-161: Town of Holly Pond
Estimated Loss Projections from Specified Hazards**

Natural Hazards	Average Occurrences (per year)	Total Deaths	Total Injuries	Average Death and Injury Loss (per event)	Average Crop and Property Loss (per event)	Projected Loss (per event)
Thunderstorm	2.8	0	0	\$0	\$43,250	\$41,580
Lightning	1.2	0	0	\$0	\$1,000	\$1,090
Hail	1.2	0	0	\$0	\$0	\$0
Tornado	0.4	0	0	\$0	\$60,000	\$65,400
Flood/Flash Flood	0.2	0	0	\$0	\$0	\$0
Drought/Extreme Heat	2.3	0	0	\$0	\$0	\$0
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	2.8	0	0	\$0	\$0	\$0
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	0.8	0	0	\$0	\$205,625	\$224,131
Sinkhole/Expansive Soils	0	0	0	\$0	\$0	\$0
Landslide	0	0	0	\$0	\$0	\$0
Earthquake	0	0	0	\$0	\$0	\$0
Wildfire (3 year study period)	27.3	0	0	\$0	\$45,372	\$49,456
Dam/Levee Failure	0	0	0	\$0	\$0	\$0

Sources: NOAA NCDC; U.S. Inflation Calculator/Consumer Price Index; Local Input; USDA Census of Agriculture; Alabama Forestry Commission and National Forestry Service; Alabama Geological Survey

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences during the ten-year period with the exception of wildfire which takes the average fire size as noted in Table 4-15 multiplied by average amount per acre (\$1,900). Projected loss expresses an estimated damage amount per future occurrence by converting the average loss figure from a midpoint of 2008 dollars to 2014 dollars (\$1 in 2008 = \$1.09 in 2014...a cumulative rate of inflation of 9%). Zero denotes no data available to determine the average occurrences, average loss or projected loss per event.

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Town of Holly Pond Mitigation Action Plan

The Town of Holly Pond recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

Mitigation Status

During the plan update, mitigation actions were reviewed in order to identify completed, deferred, or deleted actions from the previous plan and incorporate actions added during annual updates. **Table 6-162** shows the Town of Holly Pond's updated mitigation actions. During the plan update process, no new mitigation actions were identified and added to the plan.

Table 6-162: Town of Holly Pond's Mitigation Actions	
Mitigation Action 1.1.1	Make application and/or commit/continue to participate in the NFIP, meeting all NFIP requirements
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	FL
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County's NFIP Coordinator
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	HMGP
Priority	Medium
Benchmark	<p>The Town of Holly Pond is a NFIP participating community and plans on maintaining this status.</p> <p>Jon Brunner is the NFIP contact and Floodplain Manager for Cullman County.</p>

Mitigation Action 5.2.1	Purchase emergency generators for post disaster mitigation.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Town of Holly Pond and Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; Local
Priority	High
Benchmark	CCEMA has procured additional generators including several small generators through ADECA: 2-5KW and 1-10KW/trailer mounted. In addition, the CCEMA houses and maintains 2-55KW generators/trailer mount provided by the AEMA. Generators remain an action item in the plan until all critical facilities' backup systems are completed.

Mitigation Action 5.2.2	Purchase, install, and test emergency warning sirens, as needed.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Town of Holly Pond and Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; Local
Priority	High
Benchmark: Purchase, install, and test emergency warning sirens, as needed. Upgrade existing equipment as needed.	<p>All sirens have been upgraded to meet FCC narrow-banding requirements. Mitigation grant funding was used to complete the upgrade. Therefore, this portion of Mitigation Action 5.2.2 is complete.</p> <p>This mitigation action has been revised accordingly.</p> <p>CCEMA tests all 42 sirens in Cullman County and is directly responsible for all maintenance on 26 sirens located in unincorporated areas of the jurisdiction. CCEMA works with all 11 municipalities to ensure that all sirens located in municipal jurisdictions are maintained and that any operational issues are resolved as soon as possible. Sirens are silent tested several times each month. Audible tests are conducted on the first Wednesday of each month or as required following maintenance service. Siren testing and maintenance will continue.</p>

Mitigation Action 6.1.1	Provide adequate tornado shelters and community safe rooms.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Town of Holly Pond and Cullman County EMA
Estimated Time Frame for Completion	2019
Estimated Cost	\$4,000 - \$130,000 each
Funding Sources	HMGP; ADECA; Local; GERF when available
Priority	High
Benchmark	<p>The CCEMA has worked in association with the Cullman County Economic Development (CCED) Office to provide HMGP grant assistance to individuals for the construction of individual storm shelters. The CCED writes and manages the grants. The CCED was successful in the approval of 214 individual storm shelter grants, of which approximately 194 have been completed.</p> <p>The CCED was successful in the approval of 15 community safe room grants for safe rooms to be located at senior citizen sites, volunteer fire departments, and on municipal properties around the county. Approximately 12-13 have have been completed with others under construction.</p> <p>The Town of Holly Pond wishes to add individual storm shelters and community safe rooms as funding becomes available.</p>

TOWN OF SOUTH VINEMONT

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**Table 6-163: Town of South Vinemont
Risk and Vulnerability Overview**

Natural Hazards	Hazard Identification	Prioritized Occurrence Threat	Vulnerability
Thunderstorm	X	3	H
Lightning	X	8	M
Hail	X	4	L
Tornado	X	6	H
Flood/Flash Flood	X	7	M
Drought/Extreme Heat	X	3	L
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	X	2	L
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	X	5	H
Sinkhole/Expansive Soil	X	9	L
Landslide	X	9	L
Earthquake	X	9	L
Wildfire	X	1	L
Dam/Levee Failure	X	9	L

Sources: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey; Participating Jurisdictions

KEY

Hazard Identification: X Affects the Jurisdiction, N/A Not a threat to the jurisdiction

Priority: Hazards are prioritized with the highest threat of occurrence assigned number one based on hazardous events that have occurred within each jurisdiction over the past ten years, with the exception of wildfires that were based on events that have occurred over the past three years. Some natural hazards have equal threats to a jurisdiction; therefore, their threat number will be the same.

Vulnerability: NA – Not Applicable; not a hazard to the jurisdiction

L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction)

M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence)

H – High Risk; significant risk/major damage potential (damage to over 10% of jurisdiction, regular occurrence)

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Table 6-164: South Vinemont's Thunderstorm Events

23 Thunderstorm Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	I.Z.	Type	Mag	Dth	Inj	PrD	CrD
VINEMONT	CULLMAN CO.	AL	05/05/2003	12:15	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
COUNTYWIDE	CULLMAN CO.	AL	06/11/2003	14:00	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
VINEMONT	CULLMAN CO.	AL	06/30/2007	14:30	CST-6	Thunderstorm Wind	56 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:18	CST-6	Thunderstorm Wind	56 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Thunderstorm Wind	61 kts. EG	0	0	3.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	52 kts. EG	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	61 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:45	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:05	CST-6	Thunderstorm Wind	56 kts. EG	0	0	1.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:08	CST-6	Thunderstorm Wind	70 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:10	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
VINEMONT	CULLMAN CO.	AL	06/14/2009	10:04	CST-6	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:30	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K

CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	58 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:50	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	56 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/17/2013	11:10	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
Totals:								0	0	135.00K	0.00K

Table 6-165: South Vinemont's Lightning Events

1 Lightning Event – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN CO.	CULLMAN CO.	AL	06/24/2011	15:25	CST-6	Lightning		0	0	1.00K	0.00K
Totals:								0	0	1.00K	0.00K

Table 6-166: South Vinemont's Hail Events

9 Hail Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
VINEMONT	CULLMAN CO.	AL	07/07/2004	15:15	CST	Hail	0.75 in.	0	0	0.00K	0.00K
VINEMONT	CULLMAN CO.	AL	07/07/2004	15:35	CST	Hail	0.75 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:50	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
VINEMONT	CULLMAN CO.	AL	04/10/2009	14:03	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
NORTH VINEMONT	CULLMAN CO.	AL	04/10/2009	14:06	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:24	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:56	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/30/2013	18:42	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-167: South Vinemont's Tornado Events

5 Tornado Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
VINEMONT	CULLMAN CO.	AL	04/11/2008	12:46	CST-6	Tornado	EF0	0	0	2.000M	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:06	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:20	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Tornado	EF1	0	0	50.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:41	CST-6	Tornado	EF2	0	0	150.00K	0.00K
Totals:								0	0	2.240M	0.00K

Table 6-168: South Vinemont's Flood/Flash Flood Events

5 Flood/Flash Flood Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/05/2004	20:30	CST	Flood		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/05/2004	23:15	CST	Flood		0	0	0.00K	0.00K
VINEMONT	CULLMAN CO.	AL	09/18/2012	02:00	CST-6	Flood		0	0	10.00K	0.00K
COUNTYWIDE	CULLMAN CO.	AL	09/16/2004	15:30	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/27/2008	13:50	CST-6	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	10.00K	0.00K

Table 6-169: Drought/Extreme Heat Events

23 Drought/Extreme Heat Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/27/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/28/2009	10:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/15/2010	00:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-170: South Vinemont's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events

28 Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2007	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/15/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/16/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/28/2008	22:24	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2009	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2009	02:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/30/2011	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2012	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/31/2012	01:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/26/2013	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2009	02:20	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/02/2010	03:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/25/2010	05:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/09/2011	16:45	CST-6	Heavy Snow		0	0	0.10K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/17/2013	11:15	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2008	01:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/23/2008	08:25	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/04/2009	23:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/07/2010	05:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2010	09:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/12/2010	07:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/15/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/12/2010	08:01	CST-6	Winter Weather		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/15/2010	09:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/26/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/03/2011	14:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/09/2011	18:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-171: South Vinemont's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events

8 Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events –
01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/29/2005	20:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/16/2004	11:50	CST	High Wind	50 kts. ES	0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2008	20:00	CST-6	High Wind	39 kts. ES	0	0	10.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/11/2009	12:45	CST-6	High Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2009	23:05	CST-6	High Wind	55 kts. EG	0	0	600.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/24/2009	16:00	CST-6	High Wind	35 kts. ES	0	0	20.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/20/2007	15:10	CST-6	Strong Wind	39 kts. EG	0	0	1.000M	0.00K
Totals:								0	0	1.645M	0.00K

Table 6-172: South Vinemont's Sinkhole Events

0 Sinkhole Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. and AL Geological Survey)

No sinkhole events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-173: South Vinemont's Landslide Events

1 Landslide Event – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. and AL Geological Survey)

No landslide events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-174: South Vinemont's Earthquake Events

0 Earthquake Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)

No earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-175: Countywide Wildfire Events

82 Wildfire Events – 2010 thru 2013

(Source: Alabama Forestry Commission)

County	Total # of Fires 2010-2013	Average # of Fires Per Year	Total Acres Burned 2010-2013	Average Acres Burned Per Year	Average Fire Size in Acres
Cullman	82	27.33	1,958.65	652.88	23.88

Table 6-176: South Vinemont's Dam/Levee Failure Events

0 Dam/Levee Failure Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/Local Input)

No dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

**Table 6-177: Town of South Vinemont
Hazard Probability Assessment**

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	23	>100%	>10%	Town wide
Lightning	1	10%	5-10%	Town wide
Hail	9	90%	<5%	Town wide
Tornado	5	50%	>10%	Town wide
Flood/Flash Flood	5	50%	5-10%	Town wide
Drought/Extreme Heat	23	>100%	<5%	Town wide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	28	>100%	<5%	Town wide
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	8	80%	>10%	Town wide
Sinkhole/Expansive Soil	0	0%	<5%	Town wide
Landslide	0	0%	<5%	Town wide
Earthquake	0	0%	<5%	Town wide
Wildfire (3 year study period)	82	>100%	<5%	Town wide
Dam/Levee Failure	0	0	<5%	Town wide

Source: NOAA NCDC; U. S. Inflation Calculator/Consumer Price Index; USGS ; Local Input; USDA Census of Agriculture; Alabama Forestry Commission; and National Forestry Service; Participating Jurisdictions

Methodology: Number of historical occurrences is those reported by NOAA NCDC during the 10 year study period, with the exception of wildfire that is a 3 year study period. Probability is expressed by dividing the total number of occurrences by the study period in years. Extent is expressed as the percentage assigned by the jurisdictions' ranking in the vulnerability overview (Table 4-40). Zero denotes no data available to determine the probability, extent, or affected area.

Table 6-178: South Vinemont's Critical Facilities

CRITICAL FACILITIES – VINEMONT	
FACILITY TYPE	REPLACEMENT VALUE
Vinemont/Providence VFD	\$235,884
Repeater Tower	\$12,979
Warning Siren	\$30,417
Community Safe Room	\$121,664
Interstate Repeater Tower	\$10,816
1993 E-One Pumper	\$130,000
1996 E-One Teleboom	\$125,000
1996 Spartan Pumper	\$40,000
1996 E-One	\$50,000
1990 Military 5-ton	\$10,000
2007 Chevy Rescue	\$20,000
2009 E-One	\$160,000
2011 Ford Rescue	\$95,000
2014 Kenworth	\$246,334
2004 Gulfstream Travel Trailer	\$10,000
2004 Skyline Travel Trailer	\$10,000
2012 Kubota RTV	\$14,000
Total	\$1,042,094

**Table 6-179: Town of South Vinemont
Estimated Loss Projections from Specified Hazards**

Natural Hazards	Average Occurrences (per year)	Total Deaths	Total Injuries	Average Death and Injury Loss (per event)	Average Crop and Property Loss (per event)	Projected Loss (per event)
Thunderstorm	2.3	0	0	\$0	\$5,870	\$6,398
Lightning	0.1	0	0	\$0	\$1,000	\$1,090
Hail	0.9	0	0	\$0	\$0	\$0
Tornado	0.5	0	0	\$0	\$448,000	\$488,320
Flood/Flash Flood	0.5	0	0	\$0	\$2,000	\$2,180
Drought/Extreme Heat	2.3	0	0	\$0	\$0	\$0
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	2.8	0	0	\$0	\$0	\$0
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	0.8	0	0	\$0	\$205,625	\$224,131
Sinkhole/Expansive Soils	0	0	0	\$0	\$0	\$0
Landslide	0	0	0	\$0	\$0	\$0
Earthquake	0	0	0	\$0	\$0	\$0
Wildfire (3 year study period)	27.3	0	0	\$0	\$45,372	\$49,456
Dam/Levee Failure	0	0	0	\$0	\$0	\$0

Sources: NOAA NCDC; U.S. Inflation Calculator/Consumer Price Index; Local Input; USDA Census of Agriculture; Alabama Forestry Commission and National Forestry Service; Alabama Geological Survey

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences during the ten-year period with the exception of wildfire which takes the average fire size as noted in Table 4-15 multiplied by average amount per acre (\$1,900). Projected loss expresses an estimated damage amount per future occurrence by converting the average loss figure from a midpoint of 2008 dollars to 2014 dollars (\$1 in 2008 = \$1.09 in 2014...a cumulative rate of inflation of 9%). Zero denotes no data available to determine the average occurrences, average loss or projected loss per event.

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Town of South Vinemont Mitigation Action Plan

The Town of South Vinemont recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

Mitigation Status

During the plan update, mitigation actions were reviewed in order to identify completed, deferred, or deleted actions from the previous plan and incorporate actions added during annual updates. **Table 6-180** shows the Town of South Vinemont's updated mitigation actions. During the plan update process, no new mitigation actions were identified and added to the plan.

Table 6-180: Town of South Vinemont's Mitigation Actions	
Mitigation Action 1.1.1	Make application and/or commit/continue to participate in the NFIP, meeting all NFIP requirements
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	FL
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County's NFIP Coordinator
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	HMGP
Priority	Medium
Benchmark	<p>The Town of South Vinemont is a NFIP participating community and plans on maintaining this status.</p> <p>Jon Brunner is the NFIP contact and Floodplain Manager for Cullman County.</p>

Mitigation Action 5.2.1	Purchase emergency generators for post disaster mitigation.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Town of South Vinemont and Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; Local
Priority	High
Benchmark	CCEMA has procured additional generators including several small generators through ADECA: 2-5KW and 1-10KW/trailer mounted. In addition, the CCEMA houses and maintains 2-55KW generators/trailer mount provided by the AEMA. Generators remain an action item in the plan until all critical facilities' backup systems are completed.

Mitigation Action 5.2.2	Purchase, install, and test emergency warning sirens, as needed.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Town of South Vinemont and Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; Local
Priority	Medium
Benchmark: Purchase, install, and test emergency warning sirens, as needed. Upgrade existing equipment as needed.	<p>All sirens have been upgraded to meet FCC narrow-banding requirements. Mitigation grant funding was used to complete the upgrade. Therefore, this portion of Mitigation Action 5.2.2 is complete.</p> <p>This mitigation action has been revised accordingly.</p> <p>CCEMA tests all 42 sirens in Cullman County and is directly responsible for all maintenance on 26 sirens located in unincorporated areas of the jurisdiction. CCEMA works with all 11 municipalities to ensure that all sirens located in municipal jurisdictions are maintained and that any operational issues are resolved as soon as possible. Sirens are silent tested several times each month. Audible tests are conducted on the first Wednesday of each month or as required following maintenance service. Siren testing and maintenance will continue.</p>

Mitigation Action 6.1.1	Provide adequate tornado shelters and community safe rooms.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Town of South Vinemont and Cullman County EMA
Estimated Time Frame for Completion	2020
Estimated Cost	\$4,000 - \$130,000 each
Funding Sources	HMGP; ADECA; Local; GERP when available
Priority	High
Benchmark	<p>The CCEMA has worked in association with the Cullman County Economic Development (CCED) Office to provide HMGP grant assistance to individuals for the construction of individual storm shelters. The CCED writes and manages the grants. The CCED was successful in the approval of 214 individual storm shelter grants, of which approximately 194 have been completed.</p> <p>The CCED was successful in the approval of 15 community safe room grants for safe rooms to be located at senior citizen sites, volunteer fire departments, and on municipal properties around the county. Approximately 12-13 have been completed with others under construction. Two community safe rooms have been installed in the Town of South Vinemont.</p> <p>The Town of South Vinemont wishes to add individual storm shelters and community safe rooms as funding becomes available.</p>

TOWN OF WEST POINT

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**Table 6-181: Town of West Point
Risk and Vulnerability Overview**

Natural Hazards	Hazard Identification	Prioritized Occurrence Threat	Vulnerability
Thunderstorm	X	3	H
Lightning	X	9	M
Hail	X	5	L
Tornado	X	8	H
Flood/Flash Flood	X	7	M
Drought/Extreme Heat	X	4	L
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	X	2	L
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	X	6	H
Sinkhole/Expansive Soil	X	10	L
Landslide	X	10	L
Earthquake	X	10	L
Wildfire	X	1	L
Dam/Levee Failure	X	10	L

Sources: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey; Participating Jurisdictions

KEY

Hazard Identification: X Affects the Jurisdiction, N/A Not a threat to the jurisdiction

Priority: Hazards are prioritized with the highest threat of occurrence assigned number one based on hazardous events that have occurred within each jurisdiction over the past ten years, with the exception of wildfires that were based on events that have occurred over the past three years. Some natural hazards have equal threats to a jurisdiction; therefore, their threat number will be the same.

Vulnerability: NA – Not Applicable; not a hazard to the jurisdiction

L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction)

M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence)

H – High Risk; significant risk/major damage potential (damage to over 10% of jurisdiction, regular occurrence)

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Table 6-182: West Point's Thunderstorm Events

25 Thunderstorm Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	I.Z.	Type	Mag	Dth	Inj	PrD	CrD
WEST PT	CULLMAN CO.	AL	05/05/2003	12:42	CST	Thunderstorm Wind	50 kts. ES	0	0	2.00K	0.00K
COUNTYWIDE	CULLMAN CO.	AL	06/11/2003	14:00	CST	Thunderstorm Wind	60 kts. ES	0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	11/28/2005	13:54	CST	Thunderstorm Wind	70 kts. ES	0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	08/17/2007	16:14	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:18	CST-6	Thunderstorm Wind	56 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Thunderstorm Wind	61 kts. EG	0	0	3.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	52 kts. EG	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:47	CST-6	Thunderstorm Wind	61 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:45	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:05	CST-6	Thunderstorm Wind	56 kts. EG	0	0	1.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:08	CST-6	Thunderstorm Wind	70 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	16:10	CST-6	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
WEST PT	CULLMAN CO.	AL	06/14/2009	10:02	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K

CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:30	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/21/2011	14:58	CST-6	Thunderstorm Wind	58 kts. EG	0	0	2.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:50	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:51	CST-6	Thunderstorm Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	14:00	CST-6	Thunderstorm Wind	56 kts. EG	0	0	15.00K	0.00K
WEST PT	CULLMAN CO.	AL	08/03/2011	23:55	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/17/2013	11:10	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
Totals:								0	0	140.00K	0.00K

Table 6-183: West Point's Lightning Events

1 Lightning Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN CO.	CULLMAN CO.	AL	06/24/2011	15:25	CST-6	Lightning		0	0	1.00K	0.00K
Totals:								0	0	1.00K	0.00K

Table 6-184: West Point's Hail Events

9 Hail Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
WEST PT	CULLMAN CO.	AL	05/03/2006	13:10	CST	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:40	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/20/2008	15:50	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	04/10/2009	14:45	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	10/24/2010	22:10	CST-6	Hail	1.50 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/16/2011	16:24	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/26/2011	13:56	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	08/07/2011	18:45	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	06/30/2013	18:42	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-185: West Point's Tornado Events

5 Tornado Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
WEST PT	CULLMAN CO.	AL	05/06/2003	10:16	CST	Tornado	F0	0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:06	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:20	CST-6	Tornado	EF1	0	0	20.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/08/2008	13:40	CST-6	Tornado	EF1	0	0	50.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/10/2008	23:41	CST-6	Tornado	EF2	0	0	150.00K	0.00K
Totals:								0	0	240.00K	0.00K

Table 6-186: West Point's Flood/Flash Flood Events

7 Flood/Flash Flood Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
WEST PT	CULLMAN CO.	AL	07/04/2013	18:00	CST-6	Flood		0	0	0.00K	0.00K
COUNTYWIDE	CULLMAN CO.	AL	09/16/2004	15:30	CST	Flash Flood		0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	10/19/2004	09:40	CST	Flash Flood		0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	12/09/2004	07:15	CST	Flash Flood		0	0	0.00K	0.00K
CULLMAN CO.	CULLMAN CO.	AL	05/27/2008	13:50	CST-6	Flash Flood		0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	07/10/2008	16:55	CST-6	Flash Flood		0	0	0.00K	0.00K
WEST PT	CULLMAN CO.	AL	12/09/2009	01:10	CST-6	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-187: West Point's Drought/Extreme Heat Events

23 Drought/Extreme Heat Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/27/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	11/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	06/28/2009	10:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/15/2010	00:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-188: West Point's Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events

28 Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2007	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/15/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/16/2008	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/28/2008	22:24	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/07/2009	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/19/2009	02:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/30/2011	03:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2012	04:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/31/2012	01:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	10/26/2013	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/01/2009	02:20	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	03/02/2010	03:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/25/2010	05:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/09/2011	16:45	CST-6	Heavy Snow		0	0	0.10K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/17/2013	11:15	CST-6	Heavy Snow		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/01/2008	01:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/23/2008	08:25	CST-6	Winter Weather		0	0	0.00K	0.00K

CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/04/2009	23:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/07/2010	05:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2010	09:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/12/2010	07:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/15/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/12/2010	08:01	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/15/2010	09:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/26/2010	01:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/03/2011	14:30	CST-6	Winter Weather		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/09/2011	18:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Table 6-189: West Point's Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events

8 Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events –
01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	08/29/2005	20:00	CST	Tropical Storm		0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	09/16/2004	11:50	CST	High Wind	50 kts. ES	0	0	0.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	01/29/2008	20:00	CST-6	High Wind	39 kts. ES	0	0	10.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	02/11/2009	12:45	CST-6	High Wind	52 kts. EG	0	0	15.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	04/12/2009	23:05	CST-6	High Wind	55 kts. EG	0	0	600.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/24/2009	16:00	CST-6	High Wind	35 kts. ES	0	0	20.00K	0.00K
CULLMAN (ZONE)	CULLMAN (ZONE)	AL	12/20/2007	15:10	CST-6	Strong Wind	39 kts. EG	0	0	1.000M	0.00K
Totals:								0	0	1.645M	0.00K

Table 6-190: West Point's Sinkhole Events

0 Sinkhole Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. and AL Geological Survey)

No sinkhole events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-191: West Point's Landslide Events

0 Landslide Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. and AL Geological Survey)

No landslide events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-192: West Point's Earthquake Events

0 Earthquake Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)

No earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013.

Table 6-193: Countywide Wildfire Events

82 Wildfire Events – 2010 thru 2013

(Source: Alabama Forestry Commission)

County	Total # of Fires 2010-2013	Average # of Fires Per Year	Total Acres Burned 2010-2013	Average Acres Burned Per Year	Average Fire Size in Acres
Cullman	82	27.33	1,958.65	652.88	23.88

Table 6-194: West Point's Dam/Levee Failure Events

0 Dam/Levee Failure Events – 01/01/2003 thru 12/31/2013 (4018 days)

(Source: NOAA NCDC Storm Events Database/Local Input)

No dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

**Table 6-195: Town of West Point
Hazard Probability Assessment**

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	25	>100%	>10%	Town wide
Lightning	1	10%	5-10%	Town wide
Hail	9	90%	<5%	Town wide
Tornado	5	50%	>10%	Town wide
Flood/Flash Flood	7	70%	5-10%	Town wide
Drought/Extreme Heat	23	>100%	<5%	Town wide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	28	>100%	<5%	Town wide
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	8	80%	>10%	Town wide
Sinkhole/Expansive Soil	0	0%	<5%	Town wide
Landslide	0	0%	<5%	Town wide
Earthquake	0	0%	<5%	Town wide
Wildfire (3 year study period)	82	>100%	<5%	Town wide
Dam/Levee Failure	0	0	<5%	Town wide

Source: NOAA NCDC; U. S. Inflation Calculator/Consumer Price Index; USGS ; Local Input; USDA Census of Agriculture; Alabama Forestry Commission; and National Forestry Service; Participating Jurisdictions

Methodology: Number of historical occurrences is those reported by NOAA NCDC during the 10 year study period, with the exception of wildfire that is a 3 year study period. Probability is expressed by dividing the total number of occurrences by the study period in years. Extent is expressed as the percentage assigned by the jurisdictions' ranking in the vulnerability overview (Table 4-40). Zero denotes no data available to determine the probability, extent, or affected area.

Table 6-196: West Point's Critical Facilities

CRITICAL FACILITIES – WEST POINT	
FACILITY TYPE	REPLACEMENT VALUE
West Point VFD	\$180,000
Total	\$180,000

**Table 6-197: Town of West Point
Estimated Loss Projections from Specified Hazards**

Natural Hazards	Average Occurrences (per year)	Total Deaths	Total Injuries	Average Death and Injury Loss (per event)	Average Crop and Property Loss (per event)	Projected Loss (per event)
Thunderstorm	2.5	0	0	\$0	\$5,600	\$6,104
Lightning	0.1	0	0	\$0	\$1,000	\$1,090
Hail	0.9	0	0	\$0	\$0	\$0
Tornado	0.5	0	0	\$0	\$48,000	\$52,320
Flood/Flash Flood	0.7	0	0	\$0	\$0	\$0
Drought/Extreme Heat	2.3	0	0	\$0	\$0	\$0
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	2.8	0	0	\$0	\$0	\$0
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	0.8	0	0	\$0	\$205,625	\$224,131
Sinkhole/Expansive Soils	0	0	0	\$0	\$0	\$0
Landslide	0	0	0	\$0	\$0	\$0
Earthquake	0	0	0	\$0	\$0	\$0
Wildfire (3 year study period)	27.3	0	0	\$0	\$45,372	\$49,456
Dam/Levee Failure	0	0	0	\$0	\$0	\$0

Sources: NOAA NCDC; U.S. Inflation Calculator/Consumer Price Index; Local Input; USDA Census of Agriculture; Alabama Forestry Commission and National Forestry Service; Alabama Geological Survey

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences during the ten-year period with the exception of wildfire which takes the average fire size as noted in Table 4-15 multiplied by average amount per acre (\$1,900). Projected loss expresses an estimated damage amount per future occurrence by converting the average loss figure from a midpoint of 2008 dollars to 2014 dollars (\$1 in 2008 = \$1.09 in 2014...a cumulative rate of inflation of 9%). Zero denotes no data available to determine the average occurrences, average loss or projected loss per event.

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Town of West Point Mitigation Action Plan

The Town of West Point recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

Mitigation Status

During the plan update, mitigation actions were reviewed in order to identify completed, deferred, or deleted actions from the previous plan and incorporate actions added during annual updates. **Table 6-198** shows the Town of West Point's updated mitigation actions. During the plan update process, no new mitigation actions were identified and added to the plan.

Table 6-198: Town of West Point's Mitigation Actions	
Mitigation Action 1.1.1	Make application and/or commit/continue to participate in the NFIP, meeting all NFIP requirements
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	FL
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Cullman County's NFIP Coordinator
Estimated Time Frame for Completion	2016
Estimated Cost	N/A
Funding Sources	HMGP
Priority	High
Benchmark	The Town of West Point is a NFIP participating community and plans on maintaining this status. Jon Brunner is the NFIP contact and Floodplain Manager for Cullman County.

Mitigation Action 5.2.1	Purchase emergency generators for post disaster mitigation.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Town of West Point and Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; ADECA; Local
Priority	High
Benchmark	CCEMA has procured additional generators including several small generators through ADECA: 2-5KW and 1-10KW/trailer mounted. In addition, the CCEMA houses and maintains 2-55KW generators/trailer mount provided by the AEMA. Generators remain an action item in the plan until all critical facilities' backup systems are completed.

Mitigation Action 5.2.2	Purchase, install, and test emergency warning sirens, as needed.
Type	Emergency Services Protection
Goal	Reduce Cullman County's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Town of West Point and Cullman County EMA
Estimated Time Frame for Completion	2017
Estimated Cost	\$1,500 - \$30,000 each
Funding Sources	HMGP; Local
Priority	Medium
Benchmark: Purchase, install, and test emergency warning sirens, as needed. Upgrade existing equipment as needed.	<p>All sirens have been upgraded to meet FCC narrow-banding requirements. Mitigation grant funding was used to complete the upgrade. Therefore, this portion of Mitigation Action 5.2.2 is complete.</p> <p>This mitigation action has been revised accordingly.</p> <p>CCEMA tests all 42 sirens in Cullman County and is directly responsible for all maintenance on 26 sirens located in unincorporated areas of the jurisdiction. CCEMA works with all 11 municipalities to ensure that all sirens located in municipal jurisdictions are maintained and that any operational issues are resolved as soon as possible. Sirens are silent tested several times each month. Audible tests are conducted on the first Wednesday of each month or as required following maintenance service. Siren testing and maintenance will continue.</p>

Mitigation Action 6.1.1	Provide adequate individual storm shelters and community safe rooms.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	TH; T
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Town of West Point and Cullman County EMA
Estimated Time Frame for Completion	2020
Estimated Cost	\$4,000 - \$130,000 each
Funding Sources	HMGP; ADECA; Local; GERP when available
Priority	High
Benchmark	<p>The CCCEMA has worked in association with the Cullman County Economic Development (CCED) Office to provide HMGP grant assistance to individuals for the construction of individual storm shelters. The CCED writes and manages the grants. The CCED was successful in the approval of 214 individual storm shelter grants, of which approximately 194 have been completed.</p> <p>The CCED was successful in the approval of 15 community safe room grants for safe rooms to be located at senior citizen sites, volunteer fire departments, and on municipal properties around the county. Approximately 12-13 have been completed with others under construction. Two Community Safe Rooms have been installed in the Town of West Point.</p> <p>The Town of West Point wishes to add more individual storm shelters and community safe rooms as funding becomes available.</p>

Cullman County Board of Education

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Cullman County Board of Education Action Plan

The Cullman County Board of Education recognizes the importance of Mitigation Planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

Mitigation Status

In order to track the progress of identified actions, the Cullman County Board of Education's Mitigation Action Plan has been added to this plan update.

Table 6-199 shows the Cullman County Board of Education's mitigation actions.

Table 6-199: Cullman County BOE Mitigation Actions

Mitigation Action NEW	Construct storm retrofits to educational buildings
Hazard(s) Addressed	Thunderstorms, Tornados, Hurricanes
Applies to new/existing asset	Existing
Local Planning Mechanism	Cullman County BOE
Time frame for Completion	One year from funding availability
Estimated Cost	\$400,000 each
Funding Sources	Grants, local
Priority	Low
Mitigation Action NEW	Construct/install community safe rooms to educational buildings to include generators
Hazard(s) Addressed	Thunderstorm, Tornado
Applies to new/existing asset	New and Existing
Local Planning Mechanism	Cullman County BOE
Time frame for Completion	One year from funding availability
Estimated Cost	\$100,000 each
Funding Sources	Local; Grants
Priority	High
Mitigation Action NEW	Construct/install individual storm shelters to educational buildings
Hazard(s) Addressed	Thunderstorm, Tornado
Applies to new/existing asset	New and Existing
Local Planning Mechanism	Cullman County BOE
Time frame for Completion	One year from funding availability
Estimated Cost	\$5,000 each
Funding Sources	Local; Grants
Priority	Low
Mitigation Action NEW	Provide generators for educational buildings
Hazard(s) Addressed	All
Applies to new/existing asset	Existing
Local Planning Mechanism	Cullman County BOE
Time frame for Completion	One year from funding availability
Estimated Cost	\$25,000 ea
Funding Sources	Grants, local
Priority	High

Cullman City Schools

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Cullman City Schools Action Plan

The Cullman City Schools recognizes the importance of Mitigation Planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

Mitigation Status

In order to track the progress of identified actions, the Cullman City Schools' Mitigation Action Plan has been added to this plan update.

Table 6-200 shows the Cullman City Schools' mitigation actions.

Table 6-200: Cullman City Schools Mitigation Actions

Mitigation Action NEW	Construct storm retrofits to educational buildings
Hazard(s) Addressed	Thunderstorms, Tornados, Hurricanes
Applies to new/existing asset	Existing
Local Planning Mechanism	Cullman City Schools
Time frame for Completion	One year from funding availability
Estimated Cost	\$400,000 each
Funding Sources	Grants, local
Priority	Low
Mitigation Action NEW	Construct/install community safe rooms to educational buildings to include generators
Hazard(s) Addressed	Thunderstorm, Tornado
Applies to new/existing asset	New and Existing
Local Planning Mechanism	Cullman City Schools
Time frame for Completion	One year from funding availability
Estimated Cost	\$100,000 each
Funding Sources	Local; Grants
Priority	High
Mitigation Action NEW	Construct/install individual storm shelters to educational buildings
Hazard(s) Addressed	Thunderstorm, Tornado
Applies to new/existing asset	New and Existing
Local Planning Mechanism	Cullman City Schools
Time frame for Completion	One year from funding availability
Estimated Cost	\$5,000 each
Funding Sources	Local; Grants
Priority	Low
Mitigation Action NEW	Provide generators for educational buildings
Hazard(s) Addressed	All
Applies to new/existing asset	Existing
Local Planning Mechanism	Cullman City Schools
Time frame for Completion	One year from funding availability
Estimated Cost	\$25,000 ea
Funding Sources	Grants, local
Priority	High

Dodge City Volunteer Fire Department

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Dodge City VFD Action Plan

The Dodge City VFD recognizes the importance of Mitigation Planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

Mitigation Status

In order to track the progress of identified actions, the Bibb County Fire Association's Mitigation Plan has been added to this plan update.

Table 6-201 shows the Dodge City VFD's mitigation actions.

Table 6-201: Dodge City VFD Mitigation Actions

Mitigation Action NEW	Construct storm retrofits to fire buildings
Hazard(s) Addressed	Thunderstorms, Tornados, Hurricanes
Applies to new/existing asset	Existing
Local Planning Mechanism	Dodge City VFD
Time frame for Completion	One year from funding availability
Estimated Cost	\$250,000 each
Funding Sources	Grants, local
Priority	Low
Mitigation Action NEW	Construct/install community safe rooms to fire buildings to
Hazard(s) Addressed	Thunderstorm, Tornado
Applies to new/existing asset	New and Existing
Local Planning Mechanism	Dodge City VFD
Time frame for Completion	One year from funding availability
Estimated Cost	\$100,000 each
Funding Sources	Local; Grants
Priority	High
Mitigation Action NEW	Construct/install individual storm shelters to fire buildings
Hazard(s) Addressed	Thunderstorm, Tornado
Applies to new/existing asset	New and Existing
Local Planning Mechanism	Dodge City VFD
Time frame for Completion	One year from funding availability
Estimated Cost	\$5,000 each
Funding Sources	Local; Grants
Priority	Low
Mitigation Action NEW	Provide generators for fire buildings
Hazard(s) Addressed	All
Applies to new/existing asset	Existing
Local Planning Mechanism	Dodge City VFD
Time frame for Completion	One year from funding availability
Estimated Cost	\$25,000 ea
Funding Sources	Grants, local
Priority	High

Hanceville Water and Sewer Board

East Cullman Water System

VAW Water System

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Water and Sewer Boards' Action Plan

The Water and Sewer Boards recognizes the importance of Mitigation Planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

Mitigation Status

In order to track the progress of identified actions, the Water and Sewer Boards' Mitigation Plan has been added to this plan update.

Table 6-202 shows the Water and Sewer Boards' mitigation actions.

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Table 6-202: Water and Sewer Boards' Mitigation Actions	
Mitigation Action 6.2.3 NEW	Install freestanding community safe rooms in vulnerable locations.
Type	Structural Projects
Goal	Reduce risk from natural hazards
Hazard(s) Addressed	Tornadoes, Thunderstorms, Hail, High Wind, Strong Wind
Applies to new/existing asset(s)	New
Local Planning Mechanism	Water and Sewer Board
Estimated Time Frame for Completion	One year from funding availability
Estimated Cost	\$100,000 - \$125,000 each
Funding Sources	HMGP; ADECA
Priority	Low
Benchmark	NEW ACTION
Mitigation Action 6.2.4 NEW	Encourage the construction of storm shelters in new and existing construction. Construct/install individual storm shelters as needed at water facilities.
Type	Structural Projects
Goal	Reduce risk from natural hazards
Hazard(s) Addressed	Tornadoes, Thunderstorms, Hail, High Wind, Strong Wind
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Water and Sewer Board
Estimated Time Frame for Completion	One year from funding availability
Estimated Cost	\$5,000 each
Funding Sources	HMGP; ADECA
Priority	High
Benchmark	NEW ACTION

Mitigation Action 5.4.1 NEW	Purchase emergency generators for post- disaster mitigation and conduct routine tests on backup generators for all critical facilities, to include lift stations.
Type	Emergency Services Protection
Goal	Reduce the water and sewer athorities' vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Water and Sewer Board
Estimated Time Frame for Completion	One year from available funding
Estimated Cost	\$5,000 - \$30,000 each
Funding Sources	HMGP; ADECA
Priority	High
Benchmark	NEW ACTION

SECTION 7: MITIGATION PLAN MAINTENANCE

The FR Subsection 201.6 (d) (3) (4) requires the County Hazard Mitigation Plan to be revised and updated every five years. “A local jurisdiction must review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit it for approval within 5 years in order to continue to be eligible for mitigation project grant funding.....Managing states will review the plans within 45 days of receipt of the plans, whenever possible, and provide a copy of the approved plans to the Regional Office.”

The Hazard Mitigation Planning Committee may re-evaluate the plan after a disaster has occurred to make sure that mitigation of the hazard was addressed properly. The plan may be reviewed at any time at the request of any local government at the discretion of the Cullman County EMA Director in coordination with the Hazard Mitigation Planning Committee. Local governments may submit a formal letter to the Cullman County EMA Director requesting a review of the plan. The public may also request review of the plan by submitting a formal letter to the Cullman County EMA Director. In the future, the County EMA will strive to get jurisdictions with websites to post the Hazard Mitigation Plan and provide a way for the public to comment online. The Hazard Mitigation Planning Committee may re-evaluate the plan after a disaster has occurred to make sure that mitigation of a particular hazard was addressed properly.

The method for monitoring the plan remains the same. Regular plan monitoring will be achieved through the Cullman County EMA’s efforts to track mitigation activities. The Director of the Cullman County EMA is the responsible person for the review of the plan to include monitoring, evaluating, and updating of the plan, reconvening the committee only if additional information is available or the EMA Director requires assistance. The annual review of the plan occurs in June of each year following this plan update. Although the entire plan’s progress was monitored, evaluated, and updated on a continuous basis throughout the five-year timeframe, the annual review is initiated by the Cullman County EMA Director/HMPC Chairperson or LHA representative emailing an Annual Review and Monitoring Survey Form, as shown in **Figure 7-1**, to the Hazard Mitigation Planning Committee members asking them for their input and giving them a two-week deadline on

returning the information. Following the two-week deadline, the Cullman County EMA Director consolidates the survey forms and acts upon the findings as needed.

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Figure 7-1: Annual Review and Monitoring Survey Form

ANNUAL REVIEW AND MONITORING SURVEY FORM FOR THE _____ COUNTY HAZARD MITIGATION PLAN		
County:	HMPC Member:	Date:
Have there been any changes in the level of risk to citizens? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please explain.		
Have there been any changes in laws, policies, or regulations at your level? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please list.		
Have there been any changes in your agency/jurisdiction or in procedures that will affect how mitigation programs or funds are administered? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please explain.		
Have there been significant changes in funding sources or capabilities? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please explain.		
Have there been any changes in your agency/jurisdiction in regards to representation on this committee? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, list new representative(s).		
<p style="text-align: center;">Please review the mitigation projects for your agency/jurisdiction and complete the information beginning on the next page: (This form can be completed on a computer or hand-written [print clearly] using additional paper if necessary.)</p> <p>Instructions on accessing your plan online: Go to www.ema.alabama.gov. Click on the "County EMA" tab at the top left of screen. Scroll to your county and click on "View Hazard Mitigation Plan" at the far right of your screen.</p>		

Mitigation Measure #:	Has project been accomplished? Yes <input type="checkbox"/> No <input type="checkbox"/>	Should project continue or be removed from plan? Continue <input type="checkbox"/> Remove <input type="checkbox"/> If project is to be removed, please explain the reason(s) for removal.	Updated status on the project? List tasks that have and have not been completed on this project. For those tasks not completed, explain why.
Mitigation Measure #:	Has project been accomplished? Yes <input type="checkbox"/> No <input type="checkbox"/>	Should project continue or be removed from plan? Continue <input type="checkbox"/> Remove <input type="checkbox"/> If project is to be removed, please explain the reason(s) for removal.	Updated status on the project? List tasks that have and have not been completed on this project. For those tasks not completed, explain why.

The following samples represent the messages that accompanied the annual survey forms:

TO: Cullman County HMPC Members:

It is time to conduct an annual review of the Cullman County Hazard Mitigation Plan. If you have information that needs to be updated in the current Hazard Mitigation Plan (plan is on file at the Cullman County EMA Office) or changed in any way, please send this information to the Cullman County EMA Office with a copy (mail, fax, or email) to Renee Helms of Lee Helms Associates at the contact info below.

There is a copy of the plan for review at the Cullman County EMA Office; however, you can view the plan online by going to www.ema.alabama.gov, click on “Links” and under County Information click on “County EMAs.” Once you reach the page for County EMAs, go to the county you want to view (Cullman, in this case!) and on the far right you can click on “View Mitigation Plan.”

If you have any questions, you may contact your local EMA Office or Renee Helms of LHA. Thank you for your cooperation!

TO: LOCAL COUNTY EMAs

The Cullman County EMA is conducting an annual review of their Hazard Mitigation Plan and offering the surrounding counties a chance to participate in this process. If you have information that needs to be updated in their current Hazard Mitigation Plan or changed in any way, please send this information to the Cullman County EMA Office and a copy (mail, fax, or email) to Renee Helms of Lee Helms Associates at the contact info below.

There is a copy of the plan for review at the Cullman County EMA Office; however, you can view the plan online by going to www.ema.alabama.gov, click on “Links” and under County Information click on “County EMAs.” Once you reach the page for County EMAs, go to the county you want to view (Cullman, in this case!) and on the far right you can click on “View Mitigation Plan.”

If you have any questions, you may contact your local EMA Office or Renee Helms of LHA. Thank you for your cooperation!

During the past five years, no responses were received as a result of the annual reviews.

At the minimum, the Cullman County EMA Director/HMPC Chairperson will annually monitor and evaluate this plan, making amendments in coordination with the Hazard Mitigation Planning Committee if necessary. The Cullman County EMA Director will document the annual evaluation and note the findings, if any. In the event modifications to the plan are warranted as a result of the annual review or other conditions, the Cullman County EMA Director in coordination with the Hazard Mitigation Planning Committee will oversee and approve all revisions to the plan. Conditions which might warrant revisions to this plan would include, but

not be limited to, special opportunities for funding, a response to a natural disaster, and changes in jurisdictions' capabilities to implement the plan. Before any revisions are submitted to the jurisdictions for adoption, a notice will be placed in the local newspaper or publicly posted, allowing an opportunity for the public to review the proposed amendments at the EMA offices, submit written comments, and present comments at a public meeting. The Hazard Mitigation Planning Committee will then submit all revisions for adoption by jurisdictions affected by the changes. A copy of the plan revisions will be submitted to all holders of the original plan in a timely manner.

The EMA Director will serve as the point of contact for all amendments to the plan and will coordinate all additions, deletions or amendments of actions to the plan, as needed. The EMA Director will be responsible for informing the local governing bodies of any amendments made to the plan. Any local government seeking to add an action to the plan will be responsible for providing support for the action in the form of a resolution if, and only if, the funding source(s) requires so. The entire plan will be updated on a five-year planning cycle. The method and schedule of the five-year update of the plan will be determined by the Cullman County EMA Director. The EMA Director will elect to either contract the update of the plan or utilize Cullman County EMA staff to perform the update. The plan update will be scheduled well in advance of the plan expiration date in order to allow adequate time for the planning process to be completed.

Incorporation into Existing Planning Mechanisms

The Cullman County Hazard Mitigation Plan is administered by the Cullman County Emergency Management Agency. The Cullman County Hazard Mitigation Plan update has also been incorporated into the North Central Alabama Council of Governments (NARGOG) Comprehensive Economic Development Strategy (CEDS) - NARCOG.

Incorporation of the hazard mitigation plan will vary for each jurisdiction based on existing planning methods and processes. Jurisdictions with planning commissions and respective zoning ordinances and building codes will incorporate mitigation plan elements as appropriate into their review of new developments. This plan update will be cross-referenced by the HMPC members with other existing plans during the annual review.

Many jurisdictions have no zoning or existing plans of any type other than this mitigation

plan (see **Table 1-1**) and do not have the resources or funding to prepare them. In these cases, where applicable, the mitigation plan elements will be incorporated into local development decisions by the appropriate local coordinating body in order to determine funding, prioritization, and review of new development activities. At such time as the jurisdiction does adopt zoning and building codes they will reflect the goals and objectives set forth in this plan. Further, any jurisdiction preparing or updating a comprehensive plan will reflect their hazard mitigation goals and objectives in their plan. These updates will occur as budget and time allow.

Continued Public Participation

The plan will be available for the public to view at the Cullman County Emergency Operations Center. The Cullman County EMA will hold public meetings annually that coincide with the Local Emergency Planning Committee (LEPC) meetings to keep the public involved in the planning process. The notification of meetings will include, but not be limited to, advertisement in a paper of local circulation. Meeting advertisements will include contact information for those wishing to submit comments.

SECTION 8: APPROVAL AND IMPLEMENTATION

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APPROVAL & IMPLEMENTATION

The purpose of hazard mitigation is to implement action that eliminate the risk from hazards, or reduce the severity of the effects of hazards on people and property. Mitigation actions are both short-term and long-term activities that reduce the cause or occurrence of hazards; reduce exposure to hazards; or reduce effects of hazards through various means to include preparedness, response and recovery measures.

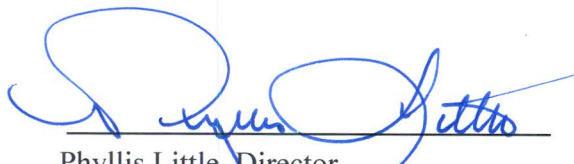
This plan update applies to all local agencies, boards, commissions, and departments assigned mitigation responsibilities, and to others as designated by the Cullman County Commission or Director of the Cullman County Emergency Management Agency.

The Cullman County Hazard Mitigation Plan update was prepared in compliance with Public Law 106-390, *Disaster Mitigation Act of 2000*, as amended. This plan update implements hazard mitigation measures intended to eliminate or reduce the effects of future disasters throughout Cullman County, and was developed in a joint and cooperative venture by members of the Cullman County Hazard Mitigation Planning Committee.

Cullman County will comply with all applicable state and federal statutes and regulations in effect with respect to the periods for which it receives grant funding, in compliance with 44 Code of Federal Regulations (CFR) 13.11c. Cullman County will amend its plan whenever necessary to reflect changes in local/state and/or federal laws and statutes as required in 44 CFR, 13.11d. At a minimum, the Cullman County EMA will review and if necessary, update the plan every five years from the date of approval in accordance with 44 CFR, 201.6 (5) (d) (3) in order to continue program eligibility.

As the Director of the Cullman County Emergency Management Agency, I hereby adopt this plan update in accordance to the powers delegated to me and accept this plan update for implementation in order to protect the lives and property of the citizens of Cullman County, Alabama.

8/25/2015
Date



Phyllis Little, Director
Cullman County Emergency Management Agency

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Resolution 2015-50

County of Cullman

Adoption of 2015 Cullman County Hazard Mitigation Plan Update

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the County of Cullman participated in the updating of a multi-jurisdictional plan, the Cullman County Hazard Mitigation Plan; and

WHEREAS, the County of Cullman is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the County of Cullman has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the County Commission that the County of Cullman adopts the 2015 Cullman County Hazard Mitigation Plan update, and resolves to execute the actions in the plan.

ADOPTED, this 25th day of August, 2015 at the meeting of the Cullman County Commission.



Chairman, Cullman County Commission

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Town of Baileyton

2015 Cullman County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Town of Baileyton participated in the updating of a multi-jurisdictional plan, the Cullman County Hazard Mitigation Plan; and

WHEREAS, the Town of Baileyton is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the Town of Baileyton has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the Town Council that the Town of Baileyton adopts the 2015 Cullman County Hazard Mitigation Plan update, and resolves to execute the actions in the plan.

ADOPTED, this 7th day of September, 2015 at the meeting of the Town Council.


Mayor, Town of Baileyton

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Town of Colony

2015 Cullman County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Town of Colony participated in the updating of a multi-jurisdictional plan, the Cullman County Hazard Mitigation Plan; and

WHEREAS, the Town of Colony is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the Town of Colony has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the Town Council that the Town of Colony adopts the 2015 Cullman County Hazard Mitigation Plan update, and resolves to execute the actions in the plan.

ADOPTED, this 8th day of September, 2015 at the meeting of the Town Council.



Mayor, Town of Colony

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RESOLUTION NO. 2015 - 82
TO ADOPT THE 2015 CULLMAN COUNTY HAZARD MITIGATION PLAN UPDATE

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the City of Cullman participated in the updating of a multi-jurisdictional plan, the Cullman County Hazard Mitigation Plan; and

WHEREAS, the City of Cullman is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the City of Cullman has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the Cullman City Council in the State of Alabama hereby adopts the 2015 Cullman County Hazard Mitigation Plan Update and resolves to execute the actions in the plan.

ADOPTED BY THE CITY COUNCIL this the 17th day of September, 2015.


President of the City Council

ATTEST:


City Clerk

APPROVED BY THE MAYOR this the 17th day of September, 2015.


Mayor

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DRAFT

Town of Dodge City
2015 Cullman County Hazard Mitigation Plan Update
Resolution of Adoption

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Town of Dodge City participated in the updating of a multi-jurisdictional plan, the Cullman County Hazard Mitigation Plan; and

WHEREAS, the Town of Dodge City is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the Town of Dodge City has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the Town Council that the Town of Dodge City adopts the 2015 Cullman County Hazard Mitigation Plan update, and resolves to execute the actions in the plan.

ADOPTED, this 10 day of September 2015 at the meeting of the Town Council.

Aubana Canada
Mayor, Town of Dodge City

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Town of Fairview
2015 Cullman County Hazard Mitigation Plan Update
Resolution of Adoption

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Town of Fairview participated in the updating of a multi-jurisdictional plan, the Cullman County Hazard Mitigation Plan; and

WHEREAS, the Town of Fairview is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the Town of Fairview has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the Town Council that the Town of Fairview adopts the 2015 Cullman County Hazard Mitigation Plan update, and resolves to execute the actions in the plan.

ADOPTED, this 4 day of August, 2015 at the meeting of the Town Council.



Mayor, Town of Fairview

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TOWN OF GARDEN CITY
RESOLUTION #2015-346
2015 CULLMAN COUNTY HAZARD MITIGATION PLAN UPDATE
RESOLUTION OF ADOPTION

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Town of Garden City participated in the updating of a multi-jurisdictional plan, the Cullman County Hazard Mitigation Plan; and

WHEREAS, the Town of Garden City is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the Town of Garden City has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW, THEREFORE BE IT RESOLVED, by the Town Council that the Town of Garden City adopts the 2015 Cullman County Hazard Mitigation Plan update, and resolves to execute the actions in the plan.

ADOPTED this 21st day of September, 2015 at the meeting of the Town Council.



Tim Eskew, Mayor



Councilmember



Councilmember



Councilmember



Councilmember



Councilmember

Councilmember

ATTEST:



Pam Leslie, Clerk

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DRAFT

RESOLUTION NO: 011-2015
Cullman County Hazard Mitigation Plan
Resolution of Adoption

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R.201.6; and

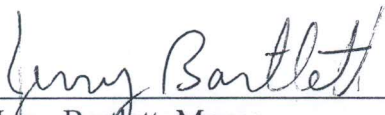
WHEREAS, the City of Good Hope participated in the in the updating of a multi-jurisdictional plan, the Cullman County Hazard Mitigation Plan; and

WHEREAS, the City of Good Hope as a local unit of government that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the City of Good Hope has reviewed the plan and affirms that the plan will be updated no less than every five years.


NOW, THEREFORE, BE IT RESOLVED by the City Council and the City of Good Hope adopts the 2015 Cullman County Hazard Mitigation Plan update, and resolves to execute the actions in the plan.

READ AND ADOPTED this the 14th day of **September, 2015**.



Jerry Bartlett, Mayor

Attest:



Christie Chamblee, City Clerk

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City of Hanceville

2015 Cullman County Hazard Mitigation Plan Update

Resolution of Adoption No. 607

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the City of Hanceville participated in the updating of a multi-jurisdictional plan, the Cullman County Hazard Mitigation Plan; and

WHEREAS, the City of Hanceville is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the City of Hanceville has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the City Council that the City of Hanceville adopts the 2015 Cullman County Hazard Mitigation Plan update, and resolves to execute the actions in the plan.

ADOPTED, this 27th day of August, 2015 at the meeting of the City Council.


Mayor, City of Hanceville

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Town of Holly Pond
2015 Cullman County Hazard Mitigation Plan Update
Resolution of Adoption

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Town of Holly Pond participated in the updating of a multi-jurisdictional plan, the Cullman County Hazard Mitigation Plan; and

WHEREAS, the Town of Holly Pond is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the Town of Holly Pond has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the Town Council that the Town of Holly Pond adopts the 2015 Cullman County Hazard Mitigation Plan update, and resolves to execute the actions in the plan.

ADOPTED, this 2 day of Sept., 2015 at the meeting of the
Town Council.

Herman Nail
Mayor, Town of Holly Pond

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Town of South Vinemont

2015 Cullman County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Town of South Vinemont participated in the updating of a multi-jurisdictional plan, the Cullman County Hazard Mitigation Plan; and

WHEREAS, the Town of South Vinemont is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the Town of South Vinemont has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the Town Council that the Town of South Vinemont adopts the 2015 Cullman County Hazard Mitigation Plan update, and resolves to execute the actions in the plan.

ADOPTED, this 8th day of September, 2015 at the meeting of the Town Council.


Mayor, Town of South Vinemont

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Town of West Point**2015 Cullman County Hazard Mitigation Plan Update****Resolution of Adoption**

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

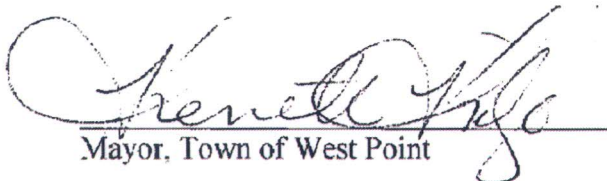
WHEREAS, the Town of West Point participated in the updating of a multi-jurisdictional plan, the Cullman County Hazard Mitigation Plan; and

WHEREAS, the Town of West Point is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the Town of West Point has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the Town Council that the Town of West Point adopts the 2015 Cullman County Hazard Mitigation Plan update, and resolves to execute the actions in the plan.

ADOPTED, this 21st day of September 2015 at the meeting of the Town Council.


Mayor, Town of West Point

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Cullman County Board of Education
2015 Cullman County Hazard Mitigation Plan Update
Resolution of Adoption

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Cullman County School Board participated in the updating of a multi-jurisdictional plan, the Cullman County Hazard Mitigation Plan; and

WHEREAS, the Cullman County School Board is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the Cullman County School Board has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the Cullman County School Board that the Board adopts the 2015 Cullman County Hazard Mitigation Plan update, and resolves to execute the actions in the plan.

ADOPTED, this 3rd day of September, 2015 at the meeting of the Cullman County Commission.



Superintendent, Cullman County Schools

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Cullman City Board of Education
2015 Cullman County Hazard Mitigation Plan Update
Resolution of Adoption

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Cullman City School Board participated in the updating of a multi-jurisdictional plan, the Cullman County Hazard Mitigation Plan; and

WHEREAS, the Cullman City School Board is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the Cullman City School Board has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the Cullman City School Board that the Board adopts the 2015 Cullman County Hazard Mitigation Plan update, and resolves to execute the actions in the plan.

ADOPTED, this 15th day of September, 2015 at the meeting of the Cullman City School Board.



Superintendent, Cullman City Schools

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Hanceville Water and Sewer Board
2015 Cullman County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

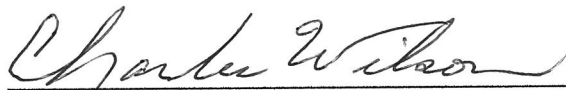
WHEREAS, the Hanceville Water and Sewer Board participated in the updating of a multi-jurisdictional plan, the Cullman County Hazard Mitigation Plan; and

WHEREAS, the Hanceville Water and Sewer Board has afforded its members an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the Hanceville Water and Sewer Board has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the Hanceville Water and Sewer Board, the Hanceville Water and Sewer Board adopts the 2015 Cullman County Hazard Mitigation Plan update, and resolves to execute the actions in the plan.

ADOPTED, this 10 day of Nov, 2015 at the meeting of the Hanceville Water and Sewer Board.



Hanceville Water and Sewer Board

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Dodge City Volunteer Fire Department
2015 Cullman County Hazard Mitigation Plan Update
Resolution of Adoption

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Dodge City VFD participated in the updating of a multi-jurisdictional plan, Cullman County Hazard Mitigation Plan; and

WHEREAS, the Dodge City VFD is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the Dodge City VFD has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the President that the Dodge City VFD adopts the 2015 Cullman County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the Dodge City VFD.

Dodge City VFD

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East Cullman Water System

2015 Cullman County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the East Cullman Water System participated in the updating of a multi-jurisdictional plan, the Cullman County Hazard Mitigation Plan; and

WHEREAS, the East Cullman Water System has afforded its members an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the East Cullman Water System has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the East Cullman Water System Board, the East Cullman Water System adopts the 2015 Cullman County Hazard Mitigation Plan update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the East Cullman Water System Board.

East Cullman Water System

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DRAFT

VAW Water System

2015 Cullman County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Cullman County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the VAW Water System participated in the updating of a multi-jurisdictional plan, the Cullman County Hazard Mitigation Plan; and

WHEREAS, the VAW Water System has afforded its members an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the VAW Water System has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the VAW Water System Board, the VAW Water System adopts the 2015 Cullman County Hazard Mitigation Plan update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the VAW Water System Board.

VAW Water System

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APPENDIX I

Local Mitigation Plan Review Tool

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APPENDIX I:

LOCAL MITIGATION PLAN REVIEW TOOL

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The Regulation Checklist provides a summary of FEMA's evaluation of whether the Plan has addressed all requirements.
- The Plan Assessment identifies the plan's strengths as well as documents areas for future improvement.
- The Multi-jurisdiction Summary Sheet is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction: Cullman County, Alabama	Title of Plan: 2015 Cullman County Hazard Mitigation Plan	Date of Plan: 2015
Local Point of Contact: Phyllis Little	Address: 2020 Beech Ave. S. E. / P. O. Box 924 Cullman, AL 35055	
Title: Director		
Agency: Cullman County EMA		
Phone Number: 256-739-5410	E-Mail: plittle@cullmanema.org	

State Reviewer: Linda Egger	Title:	Date:
FEMA Reviewer:	Title:	Date:
Date Received in FEMA Region (insert #)		
Plan Not Approved		
Plan Approvable Pending Adoption		
Plan Approved		

SECTION 1:

REGULATION CHECKLIST

INSTRUCTIONS: The Regulation Checklist must be completed by FEMA. The purpose of the Checklist is to identify the location of relevant or applicable content in the Plan by Element/sub-element and to determine if each requirement has been 'Met' or 'Not Met.' The 'Required Revisions' summary at the bottom of each Element must be completed by FEMA to provide a clear explanation of the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is 'Not Met.' Sub-elements should be referenced in each summary by using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each Element and sub-element are described in detail in this *Plan Review Guide* in Section 4, Regulation Checklist.

1. REGULATION CHECKLIST		Location in Plan		
Regulation (44 CFR 201.6 Local Mitigation Plans)	(section and/or page number)	Met	Not Met	
ELEMENT A. PLANNING PROCESS				
A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))	Section 2: Pages 19 process; 22-26 and 33-36 sign in sheets Added HMPC list P21-23	✓		x
A2. Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))	Section 2: Pages 27-30 newspaper advertisements; all surrounding counties and local municipalities were invited and encouraged to attend the HMPC meetings All were invited and those who participated are listed in plan P31-34	✓		x
A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))	Section 2: Pages 37-39 summary of citizen input & continued public participation Documented in plan P41-45	✓		x
A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))	Section 1: Page 41; Table 2-1 on page 43	✓		
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))	Section 7: Page 453 Documented in plan P497-504	✓		x

1. REGULATION CHECKLIST		Location in Plan	
Regulation (44 CFR 201.6 Local Mitigation Plans)		(section and/or page number)	Not Met Met
A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))	Section 7: Page 447-452; Figure 7-1 on page 448 Addressed in plan. Added information. All groups were included. P499	✓	x
<u>ELEMENT A: REQUIRED REVISIONS</u>			
<p>A1: Not Met</p> <p>Jurisdictions that will adopt the plan are not included. Jurisdictions representatives are not included. See sign-in sheets (P26-39). The HMPG chairperson is implied but not identified. Identified P21-23. Unable to verify attendance at meetings. County and city school boards should be included and adopt the plan. Added P21-23. The plan states the Dodge City VFD and the Hanceville Water & Sewer Board will do their own applications for mitigation projects—they must participate and adopt the plan to be eligible. Added P21-23. All other water systems that are non-city or county owned must also participate and adopt the plan to be eligible for HMPG funding. Added VAW and East Cullman Water System P21-23</p> <p>The plan did not address annual reviews from 2010 to current date—if not done, this must be addressed. These are addressed. P502</p> <p>A2: Not Met</p> <p>The plan does not provide documentation for neighboring communities, academia, businesses, and regularoty agencies to be part of the planning process. The newspaper advertisement is not adequate. The plan provides a list of agencies that contributed to the plan update. The Cullman County citizens know that if a meeting is announced in the newspaper, they can attend and participate. It is a public announcement. P21-39</p> <p>A3: Not Met</p> <p>The plan states that a survery was completed by 12 members of the public. This was done after the meeting. There is no documentation to show how the public was invited and encouraged to participate. The newspaper advertisement is not adequate. The plan states that forms were available at all meetings for the public to complete, as well as provided to the HMPC members to hand out to interested citizens and return to them for the HMPC's review. P41-43</p> <p>A4: Met</p> <p>SEE ADDITIONAL PAGES – ATTACHED P47</p>			
ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT			

1. REGULATION CHECKLIST		Location in Plan	
Regulation (44 CFR 201.6 Local Mitigation Plans)	(section and/or page number)	Met	Not Met
B1. Does the Plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement §201.6(c)(2)(i))	<p>Section 4: Hazard Profiles beginning on Page 97 – Thunderstorms; Page 99 Lightning; Page 103 Hail; Page 107 Tornadoes; Page 115 Floods/Flash Floods; Page 123 Drought/Extreme Heat; Page 131 Winter Storms/Frost Freezes/Heavy Snows/Ice Storms/Winter Weather/Extreme Cold; Page 135 Hurricanes/Tropical Storms/Tropical Depressions/High Winds/Strong Winds; Page 141 Sinkholes/Expansive Soils; Page 147 Landslides; Page 153 Earthquakes; Page 165 Wildfires; Page 169 Dam/Levee Failures</p> <p>Section 4: Table 4-30 on page 177 summarizes the risk determinations/vulnerabilities</p>	✓	
B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))	Section 4: Pages 98, 100-101, 105, 109, 119, 127, 132, 138, 146, 151, 158, 167, 175	✓	

1. REGULATION CHECKLIST		Location in Plan	
Regulation (44 CFR 201.6 Local Mitigation Plans)	(section and/or page number)	Met	Not Met
B3. Is there a description of each identified hazard’s impact on the community as well as an overall summary of the community’s vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii))	Section 4: Hazard Profiles beginning on Page 97 – Thunderstorms; Page 99 Lightning; Page 103 Hail; Page 107 Tornadoes; Page 115 Floods/Flash Floods; Page 123 Drought/Extreme Heat; Page 131 Winter Storms/Frost Freezes/Heavy Snows/Ice Storms/Winter Weather/Extreme Cold; Page 135 Hurricanes/Tropical Storms/Tropical Depressions/High Winds/Strong Winds; Page 141 Sinkholes/Expansive Soils; Page 147 Landslides; Page 153 Earthquakes; Page 165 Wildfires; Page 169 Dam/Levee Failures	✓	
B4. Does the Plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii))	Section 4: Page 121 – There are no Severe Repetitive Loss properties in Cullman County at this time. Added statement P125	✓	x

1. REGULATION CHECKLIST		Location in Plan		Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)		(section and/or page number)	Met	
ELEMENT B: REQUIRED REVISIONS				
B1: Met				
<i>The plan list storm surge as a hazard for Cullman county—an inland county. Storm surge is not applicable for Cullman County. This information was removed from plan. P115</i>				
B2: Met				
<i>The plan used a 10 year time frame for hazards (2003-2013.) The plan update is for 2010 to 2015, but the data cut-off is 2013. Significant hazards occurrences in 2014 are not included in the hazard profiles—ie.. Jan 2014 ice/winter storm. The HMPC agreed upon a ten year study period of 2003-2013. The award was made in 2013; therefore, 2013 events would be the most current for this plan update. 2014 will be included in the next plan update. P17</i>				
B3: Met.				
B4: Not Met				
<i>The plan does not identify the number and type of structures in the county and its jurisdiction that have been repetitively flooded. It does state there are no severe repetitive loss properties Added statement. P115</i>				
ELEMENT C. MITIGATION STRATEGY				
C1. Does the plan document each jurisdiction’s existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement §201.6(c)(3))	Section 1: Pages 17-18; Section 2: Table 2-1 on page 43 Added in plan P21-23&47	✓	x	
C2. Does the Plan address each jurisdiction’s participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement §201.6(c)(3)(ii))	Section 4: Table 4-22 on page 122 Addressed in plan P127	✓	x	

1. REGULATION CHECKLIST		Location in Plan	
Regulation (44 CFR 201.6 Local Mitigation Plans)		(section and/or page number)	Met Not Met Met
C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))		Section 5: Cullman County Table 5-1 on page 211; Section 6: Baileyton Table 6-18 on page 241, Colony Table 6-36 on page 261, Cullman Table 6-54 on page 281, Dodge City Table 6-72 on page 299, Fairview Table 6-90 on page 317, Garden City Table 6-108 on page 337, Good Hope Table 6-126 on page 359, Hanceville Table 6-144 on page 383, Holly Pond Table 6-162 on page 407, South Vinemont Table 6-180 on page 425, West Point Table 6-198 on page 443 School boards, water systems, and Dodge City VFD were added. P479-496	✓ x
C4. Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement §201.6(c)(3)(ii)) Mitigation action items are specific to each jurisdiction, as they are the items chosen by the participating jurisdiction. In this plan, we are identifying mitigation needs. The jurisdictions do not have a specific need list as in how many are needed and where they need to be located. If a jurisdiction has added any of these items within the last five years, it is so noted in this plan. There is also an outdoor warning siren list in this plan that includes their locations.		Section 5: Cullman County Table 5-1 on page 211; Section 6: Baileyton Table 6-18 on page 241, Colony Table 6-36 on page 261, Cullman Table 6-54 on page 281, Dodge City Table 6-72 on page 299, Fairview Table 6-90 on page 317, Garden City Table 6-108 on page 337, Good Hope Table 6-126 on page 359, Hanceville Table 6-144 on page 383, Holly Pond Table 6-162 on page 407, South Vinemont Table 6-180 on page 425, West Point Table 6-198 on page 443 County and city school boards, water systems, and Dodge City VFD mitigation action items were added. P479-496	✓ x

1. REGULATION CHECKLIST	Location in Plan		Not
Regulation (44 CFR 201.6 Local Mitigation Plans)	(section and/or page number)	Met	Met
C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))	Section 5: Cullman County Table 5-1 on page 211; Section 6: Baileyton Table 6-18 on page 241, Colony Table 6-36 on page 261, Cullman Table 6-54 on page 281, Dodge City Table 6-72 on page 299, Fairview Table 6-90 on page 317, Garden City Table 6-108 on page 337, Good Hope Table 6-126 on page 359, Hanceville Table 6-144 on page 383, Holly Pond Table 6-162 on page 407, South Vinemont Table 6-180 on page 425, West Point Table 6-198 on page 443 School boards, water systems, and the Dodge City VFD were added to the plan. P479-496	✓	x
C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii))	Section 2: Page 41 Table 2-1 on page 43 Added to plan P45&47	✓	X

1. REGULATION CHECKLIST	Location in Plan		
Regulation (44 CFR 201.6 Local Mitigation Plans)	(section and/or page number)	Met	Not Met
<u>ELEMENT C: REQUIRED REVISIONS</u>			
C1: Not Met			
The plan provides a listing of each jurisdiction's authorities, laws and regulations but it does not expand on abilities to improve. Added information. P479-496			
C2: Not Met			
The plan identifies the jurisdiction that do and do not participate in the NFIP. The plan does not identify the action plans for each jurisdiction to continue to comply with NFIP requirements This is located in the plan. and it does not identify the action plans for those jurisdictions to meet NFIP compliance requirements. Statement was added to mitigation action item. P127			
C3: Not Met			
The plan identifies common goals for all jurisdictions—school boards, water sytems and VFDs are not included in jurisdictions. School boards, water systems, and the Dodge City VFD were added to the plan. P479-496			
C4: Not Met			
The mitigation action plans are not specific to a jurisdiction. Each jurisdiction has the same plans. As an example: The mitigtstion action plans should identify how many sirens, how many shelters, how many generators are needed and where they are needed. Mitigation action items are specific to each jurisdiction, as they are the items chosen by the participating jurisdiction. In this plan, we are identifying mitigation needs. The jurisdictions do not have a specific need list as in how many are needed and where they need to be located. If a jurisdiction has added any of these items within the last five years, it is so noted in this plan. There is also an outdoor warning siren list in this plan that includes their locations. In addition, the county and city school boards and non-gov water systems need their own mitigation action plans. Added to plan. The Dodge City VFD wants to apply for mitigation action on its own; but it is not covered by the plan. Added to plan. The Hanceville Water and Sewer System wants to apply on its own but it also is not covered by the plan. Added to plan. P479-496			
SEE ADDITONAL PAGES ATTACHED			

1. REGULATION CHECKLIST		Location in Plan	
Regulation (44 CFR 201.6 Local Mitigation Plans)		(section and/or page number)	Not Met Met
ELEMENT D. PLAN REVIEW, EVALUATION, AND IMPLEMENTATION (applicable to plan updates only)			
D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3))	Section 3: Page 45 Section 4: Pages 177 and 189 Added statement.P479&198	✓	X
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3))	Section 5: Cullman County Table 5-1 on page 211; Section 6: Baileyton Table 6- 18 on page 241, Colony Table 6-36 on page 261, Cullman Table 6-54 on page 281, Dodge City Table 6-72 on page 299, Fairview Table 6-90 on page 317, Garden City Table 6-108 on page 337, Good Hope Table 6-126 on page 359, Hanceville Table 6- 144 on page 383, Holly Pond Table 6-162 on page 407, South Vinemont Table 6-180 on page 425, West Point Table 6-198 on page 443 There is a benchmark for every mitigation action item from previous plan updates. The jurisdictions do not have a specific need list as in how many are needed and where they need to be located. P479- 496	✓	X

1. REGULATION CHECKLIST		Location in Plan	
Regulation (44 CFR 201.6 Local Mitigation Plans)	(section and/or page number)	Met	Not Met
D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3))	<p>Section 5: Cullman County Table 5-1 on page 211; Section 6: Baileyton Table 6-18 on page 241, Colony Table 6-36 on page 261, Cullman Table 6-54 on page 281, Dodge City Table 6-72 on page 299, Fairview Table 6-90 on page 317, Garden City Table 6-108 on page 337, Good Hope Table 6-126 on page 359, Hanceville Table 6-144 on page 383, Holly Pond Table 6-162 on page 407, South Vinemont Table 6-180 on page 425, West Point Table 6-198 on page 443</p> <p>Mitigation Action Prioritizations have been updated and Table 4-3 Prioritized Occurrence Threat has been added in Section 4: on page 67</p> <p>If a mitigation action item is completed or deleted, it is indicated in red on the chart and documentation can be found in the benchmarking section. Not sure what you are talking about with the numbering. P479-496</p>	✓	

1. REGULATION CHECKLIST		Location in Plan	
Regulation (44 CFR 201.6 Local Mitigation Plans)	(section and/or page number)	Met	Not Met
ELEMENT D: REQUIRED REVISIONS			
<p>D1: Not Met</p> <p>Plan states section was not changed—but it does not state section was reviewed Added. P497&198</p> <p>D2: Not Met</p> <p>Plan identifies how many community shelters in each jurisdiction were completed—but not how many are still needed. Same idea for sirens and other resources The jurisdictions do not have a specific need list as in how many are needed and where they need to be located. P479-496</p> <p>D3: Not Met</p> <p>Numbering on mitigation actions indicate some actions were completed or deleted—but there is no documentation. This information would support the change in priorities If a mitigation action item is completed or deleted, it is indicated in red on the chart and documentation can be found in the benchmarking section. Not sure what you are talking about with the numbering. P479-496</p>			
ELEMENT E. PLAN ADOPTION			
E1. Does the Plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5))	Section 8: Approval and Implementation on page 455 Adopting Resolutions (will be added upon FEMA's approval pending adoption)		✓
E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))	Section 8: Approval and Implementation on page 455 Adopting Resolutions (will be added upon FEMA's approval pending adoption)		✓
ELEMENT E: REQUIRED REVISIONS			
ELEMENT F. ADDITIONAL STATE REQUIREMENTS (OPTIONAL FOR STATE REVIEWERS ONLY; NOT TO BE COMPLETED BY FEMA)			

1. REGULATION CHECKLIST		Location in Plan	
Regulation (44 CFR 201.6 Local Mitigation Plans)		(section and/or page number)	Not Met Met
F1.			
F2.			
<u>ELEMENT F: REQUIRED REVISIONS</u>			

SECTION 2:

PLAN ASSESSMENT

INSTRUCTIONS: The purpose of the Plan Assessment is to offer the local community more comprehensive feedback to the community on the quality and utility of the plan in a narrative format. The audience for the Plan Assessment is not only the plan developer/local community planner, but also elected officials, local departments and agencies, and others involved in implementing the Local Mitigation Plan. The Plan Assessment must be completed by FEMA. The Assessment is an opportunity for FEMA to provide feedback and information to the community on: 1) suggested improvements to the Plan; 2) specific sections in the Plan where the community has gone above and beyond minimum requirements; 3) recommendations for plan implementation; and 4) ongoing partnership(s) and information on other FEMA programs, specifically RiskMAP and Hazard Mitigation Assistance programs. The Plan Assessment is divided into two sections:

1. Plan Strengths and Opportunities for Improvement
2. Resources for Implementing Your Approved Plan

Plan Strengths and Opportunities for Improvement is organized according to the plan Elements listed in the Regulation Checklist. Each Element includes a series of italicized bulleted items that are suggested topics for consideration while evaluating plans, but it is not intended to be a comprehensive list. FEMA Mitigation Planners are not required to answer each bullet item, and should use them as a guide to paraphrase their own written assessment (2-3 sentences) of each Element.

The Plan Assessment must not reiterate the required revisions from the Regulation Checklist or be regulatory in nature, and should be open-ended and to provide the community with suggestions for improvements or recommended revisions. The recommended revisions are suggestions for improvement and are not required to be made for the Plan to meet Federal regulatory requirements. The italicized text should be deleted once FEMA has added comments regarding strengths of the plan and potential improvements for future plan revisions. It is recommended that the Plan Assessment be a short synopsis of the overall strengths and weaknesses of the Plan (no longer than two pages), rather than a complete recap section by section.

Resources for Implementing Your Approved Plan provides a place for FEMA to offer information, data sources and general suggestions on the overall plan implementation and maintenance process. Information on other possible sources of assistance including, but not limited to, existing publications, grant funding or training opportunities, can be provided. States may add state and local resources, if available.

A. Plan Strengths and Opportunities for Improvement

This section provides a discussion of the strengths of the plan document and identifies areas where these could be improved beyond minimum requirements.

Element A: Planning Process

How does the Plan go above and beyond minimum requirements to document the planning process with respect to:

- *Involvement of stakeholders (elected officials/decision makers, plan implementers, business owners, academic institutions, utility companies, water/sanitation districts, etc.);*
- *Involvement of Planning, Emergency Management, Public Works Departments or other planning agencies (i.e., regional planning councils);*
- *Diverse methods of participation (meetings, surveys, online, etc.); and*
- *Reflective of an open and inclusive public involvement process.*

Element B: Hazard Identification and Risk Assessment

In addition to the requirements listed in the Regulation Checklist, 44 CFR 201.6 Local Mitigation Plans identifies additional elements that should be included as part of a plan's risk assessment. The plan should describe vulnerability in terms of:

- 1) *A general description of land uses and future development trends within the community so that mitigation options can be considered in future land use decisions;*
- 2) *The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas; and*
- 3) *A description of potential dollar losses to vulnerable structures, and a description of the methodology used to prepare the estimate.*

How does the Plan go above and beyond minimum requirements to document the Hazard Identification and Risk Assessment with respect to:

- *Use of best available data (flood maps, HAZUS, flood studies) to describe significant hazards;*
- *Communication of risk on people, property, and infrastructure to the public (through tables, charts, maps, photos, etc.);*
- *Incorporation of techniques and methodologies to estimate dollar losses to vulnerable structures;*
- *Incorporation of Risk MAP products (i.e., depth grids, Flood Risk Report, Changes Since Last FIRM, Areas of Mitigation Interest, etc.); and*
- *Identification of any data gaps that can be filled as new data became available.*

Element C: Mitigation Strategy

How does the Plan go above and beyond minimum requirements to document the Mitigation Strategy with respect to:

- *Key problems identified in, and linkages to, the vulnerability assessment;*
- *Serving as a blueprint for reducing potential losses identified in the Hazard Identification and Risk Assessment;*
- *Plan content flow from the risk assessment (problem identification) to goal setting to mitigation action development;*
- *An understanding of mitigation principles (diversity of actions that include structural projects, preventative measures, outreach activities, property protection measures, post-disaster actions, etc);*
- *Specific mitigation actions for each participating jurisdictions that reflects their unique risks and capabilities;*
- *Integration of mitigation actions with existing local authorities, policies, programs, and resources; and*
- *Discussion of existing programs (including the NFIP), plans, and policies that could be used to implement mitigation, as well as document past projects.*

Element D: Plan Update, Evaluation, and Implementation (*Plan Updates Only*)

How does the Plan go above and beyond minimum requirements to document the 5-year Evaluation and Implementation measures with respect to:

- *Status of previously recommended mitigation actions;*
- *Identification of barriers or obstacles to successful implementation or completion of mitigation actions, along with possible solutions for overcoming risk;*
- *Documentation of annual reviews and committee involvement;*
- *Identification of a lead person to take ownership of, and champion the Plan;*
- *Reducing risks from natural hazards and serving as a guide for decisions makers as they commit resources to reducing the effects of natural hazards;*
- *An approach to evaluating future conditions (i.e. socio-economic, environmental, demographic, change in built environment etc.);*
- *Discussion of how changing conditions and opportunities could impact community resilience in the long term; and*
- *Discussion of how the mitigation goals and actions support the long-term community vision for increased resilience.*

B. Resources for Implementing Your Approved Plan

Ideas may be offered on moving the mitigation plan forward and continuing the relationship with key mitigation stakeholders such as the following:

- *What FEMA assistance (funding) programs are available (for example, Hazard Mitigation Assistance (HMA)) to the jurisdiction(s) to assist with implementing the mitigation actions?*
- *What other Federal programs (National Flood Insurance Program (NFIP), Community Rating System (CRS), Risk MAP, etc.) may provide assistance for mitigation activities?*
- *What publications, technical guidance or other resources are available to the jurisdiction(s) relevant to the identified mitigation actions?*
- *Are there upcoming trainings/workshops (Benefit-Cost Analysis (BCA), HMA, etc.) to assist the jurisdictions(s)?*
- *What mitigation actions can be funded by other Federal agencies (for example, U.S. Forest Service, National Oceanic and Atmospheric Administration (NOAA), Environmental Protection Agency (EPA) Smart Growth, Housing and Urban Development (HUD) Sustainable Communities, etc.) and/or state and local agencies?*

SECTION 3:

MULTI-JURISDICTION SUMMARY SHEET (OPTIONAL)

INSTRUCTIONS: For multi-jurisdictional plans, a Multi-jurisdiction Summary Spreadsheet may be completed by listing each participating jurisdiction, which required Elements for each jurisdiction were 'Met' or 'Not Met,' and when the adoption resolutions were received. This Summary Sheet does not imply that a mini-plan be developed for each jurisdiction; it should be used as an optional worksheet to ensure that each jurisdiction participating in the Plan has been documented and has met the requirements for those Elements (A through E).

MULTI-JURISDICTION SUMMARY SHEET												
#	Jurisdiction Name	Jurisdiction Type (city/borough/ township/ village, etc.)	Plan POC	Mailing Address	Email	Phone	Requirements Met (Y/N)					
							A. Planning Process	B. Hazard Identification & Risk Assessment	C. Mitigation Strategy	D. Plan Review, Evaluation & Implementation	E. Plan Adoption	F. State Requirements
1	Cullman	County	Phyllis Little		plittle@cullmanema.org	256-739-5410	✓	✓	✓	✓		
2	Baileyton	Town	Walker Mead, Councilperson			256-796-6447	✓	✓	✓	✓		
3	Colony	Town	Vernon Fields, Mayor			256-287-1192	✓	✓	✓	✓		

MULTI-JURISDICTION SUMMARY SHEET												
#	Jurisdiction Name	Jurisdiction Type (city/borough/ township/ village, etc.)	Plan POC	Mailing Address	Email	Phone	Requirements Met (Y/N)					
							A. Planning Process	B. Hazard Identification & Risk Assessment	C. Mitigation Strategy	D. Plan Review, Evaluation & Implementation	E. Plan Adoption	F. State Requirements
4	Cullman	City	Max Townson, Mayor			256-775-7102	✓	✓	✓	✓		
5	Dodge City	Town	Tawana Canada, Mayor		dcmayor@bellsouth.net	256-287-0364	✓	✓	✓	✓		
6	Fairview	Town	Dale Seals, Mayor		dseals@eatatjacks.com	205-613-0832	✓	✓	✓	✓		
7	Garden City	Town	Timothy Eskew, Mayor		eskew7@bellsouth.net	256-590-3767	✓	✓	✓	✓		
8	Good Hope	Town	Corey Harbison, Mayor		mayor@goodhopeal.com	256-385-5510	✓	✓	✓	✓		
9	Hanceville	City	Kenneth Nail, Mayor		ltknnail@yahoo.com	256-352-9830	✓	✓	✓	✓		

MULTI-JURISDICTION SUMMARY SHEET

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							A. Planning Process	B. Hazard Identification & Risk Assessment	C. Mitigation Strategy	D. Plan Review, Evaluation & Implementation	E. Plan Adoption	F. State Requirements
10	Holly Pond	Town	Herman Nail, Mayor			256-796-1306	✓	✓	✓	✓		
11	Vinemont	Town	Mike Graves, Public Works		mgraves302@bellsouth.net	256-737-5411	✓	✓	✓	✓		
12	West Point	Town	Kenneth Kilgo, Mayor		k_kilgo@yahoo.com	256-734-0006	✓	✓	✓	✓		
13	Cullman Co. BOE	School District	Billy Coleman, Supt.		bcoleman@ccboe.org	256-736-2403	✓	✓	✓	✓		
14	Hanceville Water and Sewer Board	Special District	Tina Alexander		tinawks@hiwaay.net	256-352-9229	✓	✓	✓	✓		
15	Cullman City Schools	School District	Dr. Doreen Griffeth, Supt.	301 First Street NE, Cullman, AL 35055		256-734-2233	✓	✓	✓	✓		

MULTI-JURISDICTION SUMMARY SHEET

#	Jurisdiction Name	Jurisdiction Type (city/borough/ township/ village, etc.)	Plan POC	Mailing Address	Email	Phone	Requirements Met (Y/N)					
							A. Planning Process	B. Hazard Identification & Risk Assessment	C. Mitigation Strategy	D. Plan Review, Evaluation & Implementation	E. Plan Adoption	F. State Requirements
16	Dodge City VFD	Special District	Joe Golden	1407 AL-69, Hanceville, AL 35077	firemanjoe@yahoo.com	256-339-9529	✓	✓	✓	✓		
17	VAW Water System	Special District	Donna Gossett	11802 AL 157, Vinemont, AL 35179	dgossett@vawwater.com	256-734-2450	✓	✓	✓	✓		
18	East Cullman Water System	Special District	Keith Henry	64 Wesley Ave. N., Cullman, AL 35058		256-796-5828	✓	✓	✓	✓		
19												
20												

U.S. Department of Homeland Security
FEMA Region IV
3003 Chamblee Tucker Road
Atlanta, GA 30341



FEMA

October 15, 2015

Monique Smith, ALEM
Recovery Planning Section Chief
Alabama Emergency Management Agency
Post Office Drawer 2160
Clanton, Alabama 35046-2160

Reference: Cullman County Natural Hazard Mitigation Plan Update

Dear Ms. Smith:

This is a follow-up to our previous correspondence of October 8, 2015, in which we approved the Cullman County Natural Hazard Mitigation Plan Update and all the participating communities that submitted their resolutions at the time of plan approval. We have recently received from your office the following resolutions for inclusion within this plan and subsequently have approved these communities under the approved Cullman County Natural Hazard Mitigation Plan:

- Town of Baileyton
- Cullman County Board of Education
- Cullman City Board of Education
- Town of Colony
- City of Cullman
- Town of Dodge City
- Town of Fairview
- Town of Garden City
- City of Good Hope
- City of Hanceville
- Town of Holly Pond
- Town of South Vinemont
- Town of West Point

The approved participating jurisdictions are hereby eligible applicants through the State for the following mitigation grant programs administered by the Federal Emergency Management Agency (FEMA):

- Hazard Mitigation Grant Program (HMGP)
- Pre-Disaster Mitigation (PDM)
- Flood Mitigation Assistance (FMA)

National Flood Insurance Program (NFIP) participation is required for some programs.

We commend Cullman County for the development of a solid, workable plan that will guide hazard mitigation activities over the coming years. Please note, all requests for funding will be evaluated individually according to the specific eligibility and other requirements of the particular program under which the application is submitted. For example, a specific mitigation activity or project identified in the plan may not meet the eligibility requirements for FEMA funding, and even eligible mitigation activities are not automatically approved for FEMA funding under any of the aforementioned programs.

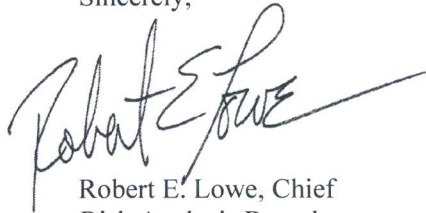
We strongly encourage each community to perform an annual review and assessment of the effectiveness of their hazard mitigation plan; however, a formal plan update is required at least every five (5) years.

We also encourage each community to conduct a plan update process within one (1) year of being included within a Presidential Disaster Declaration or of the adoption of major modifications to their local Comprehensive Land Use Plan or other plans that affect hazard mitigation or land use and development.

When the plan is amended or revised, it must be resubmitted through the State as a "Plan Update" and is subject to a formal review and approval process by our office. If the plan is not updated prior to the required five (5) year update, please ensure that the Draft update is submitted at least six (6) months prior to expiration of this plan approval.

The State and Cullman County should be commended for their close coordination and communications with our office in the review and subsequent approval of the plan. If you or Cullman County have any questions or need any additional information please do not hesitate to contact Robin Berzins of the Hazard Mitigation Assistance (HMA) Branch, at (770) 220-5488 or Linda L. Byers of my staff at (770) 220-5498.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert E. Lowe", with a long horizontal flourish extending to the right.

Robert E. Lowe, Chief
Risk Analysis Branch
Mitigation Division