

Calhoun County Hazard Mitigation Plan



2015

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Calhoun County, Alabama 2015 Hazard Mitigation Plan Update

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Prepared under the direction of the Hazard Mitigation Planning Committee, the Local Emergency Planning Committee, and the Calhoun County Emergency Management Agency by:



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1. INTRODUCTION

1.1 Overview

- 1.1.1 The Calhoun County Hazard Mitigation Plan is a multi-jurisdictional, multi-hazard mitigation plan. This plan fulfills the requirements set forth by the Federal Disaster Mitigation Act of 2000 (DMA 2000). It meets all eligibility requirements set forth by the Federal Emergency Management Agency (FEMA) for grant assistance. To date, assistance is available from the following grant programs: the Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance Program (FMA), and Pre-Disaster Mitigation Program (PDM). The Biggert-Waters Flood Insurance Reform Act of 2012 eliminated the Repetitive Flood Claims Grant Program (RFC) and Severe Repetitive Loss Program (SRL) and incorporated these elements into the FMA Program. The FMA Program now allows for up to 100% federal cost share for severe repetitive loss properties; 90% federal cost share for repetitive loss properties; and 75% federal cost share for repetitive loss properties.
- 1.1.2 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.
- 1.1.3 Calhoun County will continue to comply with all applicable federal and state statutes and regulations related to hazard mitigation planning. In addition, Calhoun County will amend its plan whenever necessary to reflect changes in countywide hazard mitigation.

1.2 Authority

- 1.2.1 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.

1.3 Funding

- 1.3.1 Funding for this plan update was made available through the Hazard Mitigation Grant Program (HMGP). The grant's Period of Performance is May 19, 2013 through May 19, 2016. Calhoun County entered into an agreement with Lee Helms Associates L.L.C. (LHA) to update the 2009 plan that had been previously revised by the East Alabama Regional Planning and Development Commission (EARPDC) and expires on December 16, 2014.

1.4 Scope

- 1.4.1 This plan covers the entire county including all unincorporated areas, Calhoun County EMA, City of Anniston, Town of Hobson City, City of Jacksonville, Town of Ohatchee, City of Oxford, City of Piedmont, City of Weaver, Piedmont Healthcare, Piedmont Rescue Squad, Alexandria VFD, Angel VFD, Big Oaks VFD, Eastaboga VFD, Knighten's Crossroads VFD, Quad Cities

VFD, Ohatchee VFD, Mt. Olive VFD, Weaver VFD, Webster's Chapel VFD, White Plains VFD, Calhoun County BOE, Anniston Water and Sewer Board, and Anniston Regional Medical Center. Jacksonville State University also has a hazard mitigation plan with is incorporated in the Calhoun County plan by reference.

- 1.4.2 The Calhoun County Hazard Mitigation Plan includes all incorporated and unincorporated areas in Calhoun County. The plan addresses all natural hazards identified by the Federal Emergency Management Agency. All hazards that may affect Calhoun County and its residents are identified. 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.

1.5 Purpose

- 1.5.1 "Mitigation is the cornerstone of emergency management. It's the ongoing effort to lessen the impact disasters have on people's lives and property through damage prevention and flood insurance" (<http://www.fema.gov/fima>). The Calhoun County Hazard Mitigation Plan is an effort to identify mitigation strategies that address the hazards to which Calhoun County is the most vulnerable. This plan is only one of many means Calhoun County will take to achieve a safer, more hazard-resistant environment for its residents.

2. PLANNING PROCESS

2.1 Plan Update Process

- 2.1.1 The hazard mitigation planning update process began in September of 2014 after the Calhoun 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 the same basic structure as the 2009 plan.
- 2.1.2 The Calhoun County mitigation plan is the representation of the county's commitment to reduce risks from natural hazards. In doing this, the number, location, extent and probability of natural disasters occurring within the area were assessed. Previous 2009 plan information was provided to each jurisdiction/local government Hazard Mitigation Planning Committee members participating in the plan update. This information, which included updating of each jurisdiction's data tables, critical facilities and mitigation strategies, were the basis for the plan. Next, actions that would reduce the loss of life or property in the area were considered. In doing this, all jurisdictions, local governments, private-non-profits, first responders (police, fire and medical), neighboring counties, and the general public were invited and encouraged to participate. Jurisdictions, planning committee members, the public, and neighboring communities actively participated by attending meetings and/or providing input by phone, fax, email, postal mail and one-on-one contacts made by the EMA Director/Hazard Mitigation Planning Committee. Weaver and Jacksonville did not sign in to meetings, but did send all the data tables, critical facilities lists, mitigation strategies and all other needed information.

2.2 Continued Public Participation

- 2.2.1 Copies of the completed, formally adopted plan will be maintained at each municipality, by the City Planner or City Clerk. The Calhoun County Commission will maintain a copy at the Commission offices. Additionally a copy will be given to the libraries located in the Cities of Anniston, Hobson City, Jacksonville, Oxford, Ohatchee, and Piedmont for public access.
- 2.2.2 After the initial plan was completed in 2004, it was made available for ongoing public view and comment. Each local government was instructed that amendments or additions could be made to that plan at any time. Additional opportunities for comment were provided at annual meetings held by the Calhoun County EMA, on the Calhoun County EMA website at <http://www.calhounema.org> and the East Alabama Regional Planning and Development Commission website at www.earpdc.org.
- 2.2.3 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. Various organizations have websites and social media. The County EMA will encourage the organizations with websites and/or social media to place the 2015 plan on their site and offer a place to comment on the plan.

2.3 Hazard Mitigation Planning Committee

- 2.3.1 Before beginning the plan update process, LHA staff coordinated with Mr. Jonathan W. Gaddy, Calhoun County EMA Director, to review the hazard mitigation planning committee. Mr. Gaddy, the Calhoun County EMA Director assumed the responsibility as Chairman of the

Hazard Mitigation Planning Committee and also invited the Local Emergency Planning Committee (LEPC) to participate in the planning process.

2.3.2 The Hazard Mitigation Planning Committee (HMPC) consisted of the following members:

State of Alabama

- Robbie Stubbs, Public Health
- Kimberly Heath, Public Health
- Carrie Johnson, Public Health
- Anissa Bates, Human Resources

Calhoun County

- Jonathan Gaddy, EMA Director
- Greg Militano, EMA Deputy Director
- Myles Chamblee, Emergency Management Officer I
- David Randle, Emergency Management Officer I
- Jon Garlick, Calhoun County Sheriff's Office
- Al Reynolds, Supervalu
- Gary Stanley, American Red Cross
- Jack Buchanan, American Red Cross
- Bob Mayfield, American Red Cross
- Les Honts, VOAD
- Billy Griffis, Alabama Power
- Charles Reidy, Civil Air Patrol
- Ashley Siskey, Emergency Management Assistant

Calhoun County Board of Education

- Randy Reaves, Safety Director

City of Anniston

- George Dudchock, Northeast Alabama Regional Medical Center
- Rick Sensenbach, Assistant Chief, Anniston Fire Dept.

Anniston Waste Water Sewer Board

- Rodney Owens, General Manager

Anniston Regional Medical Center

- George Dudchock, Biomed Director/EP Coordinator
- Jerry Foote, Chaplain

Federal Government

- Deloris Champ, DHS/FEMA/CDP
- Wendy Walker, DoD/ANAD
- Dan Robertson, DoD/ANAD
- Don Evans, DoD/ANAD

Jacksonville State University

- L. Garmon, Jacksonville State University
- Allison Newton, Jacksonville State University
- Melanie Carmichael, Jacksonville State University

- Matt Justice, Jacksonville State University, EMA Intern
- Phyllis Waits, Jacksonville State University, College of Nursing/MRC

City of Piedmont

- Carl Hinton, Building Inspector
- Ben Singleton, Communication Technician

Piedmont Healthcare

- Tony Ward, Director

Piedmont Rescue Squad

- Phillip Winkles, Chief

Town of Hobson City

- Michele Malone, City Clerk
- Milton Rowe, City Clerk Assistant

Eastaboga VFD

- Stevie Bruce, Chief

Weaver VFD

- Mike Howard, Building Inspector for the City of Weaver

White Plains VFD

- Nathan Harper, Chief

Webster's Chapel VFD

- Jonathan Green, Chief

Quad Cities VFD

- Van Roberts Jr., Chief

Ohatchee VFD

- Wayne Williams, Chief

Knightens Crossroads VFD

- Keith Jenkins, Chief

Big Oak VFD

- Daniel Lee, Chief

Alexandria VFD

- Mike Howard, Chief

Angel VFD

- Gene Lyons, Chief

Mt. Olive VFD

- Tracy Sanders, Chief

Town of Ohatchee

- Steve Baswell, Mayor

City of Jacksonville

- Lynn Causey, City Planner

Town of Oxford

- Rusty Gann, City Engineer

Town of Weaver

- Mike Howard, Building Inspector

2.4 Participation Guidelines

2.4.1 The Chairman of the Hazard Mitigation Planning Committee set forth a list of participation guidelines for the Hazard Mitigation Planning Committee:

- At least one appointed representative from each participating local government should attend all committee meetings. In the event of extenuating circumstances, the local government may send a non-appointed representative. If a committee member cannot attend the meetings, he or she will be contacted in person, by phone, by email, or by mail in order to obtain the jurisdiction's participation in the plan revision. Committee members are also encouraged to attend neighboring communities' HMPC meetings and participate in their plan updates.
- Each local government should submit requested information to Calhoun County EMA or LHA in a timely manner. Local governments should meet time frames and deadlines established by the committee. In the event of extenuating circumstances, the Hazard Mitigation Planning Committee Chairman may approve late submissions.
- Committee members should fully cooperate with LHA and the Calhoun County EMA during the update and finalization of the Calhoun County Hazard Mitigation Plan by providing the best available information necessary to complete the plan.
- Each participating jurisdiction must review mitigation strategies from the 2009 plan for which they were responsible and provide new actions they wish to pursue in the future. The local government must provide mitigation measures and the method used to prioritize the actions. The selected actions must identify the hazard(s) being mitigated.

2.5 Committee and Public Meeting Schedule and Participation

- 2.5.1 Each jurisdiction, public and private nonprofits, general public, and neighboring communities of Cleburne (Steve Swafford, EMA Director, 256-463-7130), Etowah (Mike Bryant, EMA Director, 256-549-4575), Cherokee (Beverly Daniels, EMA Director, 256-927-3367), Talladega (Travis McGrady, EMA Director, 256-761-2125), were invited and encouraged to participate in each of the committee meetings. In the event they were unable to attend the meetings they were provided meeting materials from the Calhoun County EMA or LHA prior to or immediately following the missed meeting. Meeting materials were completed and returned via mail, fax, email, or by scheduling an individual meeting with the Calhoun County EMA and/or LHA to be counted as an active participant in the planning process. Neighboring communities were invited by phone or email and encouraged to attend all committee meetings and provide input.
- 2.5.2 None of the surrounding communities attended any of the meetings; however, during contacts made, all expressed their willingness to help in the event of a disaster.
- 2.5.3 Public meeting notices were published in the Anniston Star at least seven days prior to the meeting date and included contact information for assistance.
- 2.5.4 Attendees at the meetings were asked to group themselves by jurisdiction in order to review and complete meeting materials that required collaboration and provide other needed data. Some individuals participated with and contributed to more than one jurisdiction as deemed appropriate.
- 2.5.5 A "Citizen Input on Hazard Mitigation Plan" form was available at all meetings for general public citizens to complete. Committee representatives were asked to take these forms and have their concerned citizens to complete. No forms were received during the planning process.

2.6 Initial Meeting

2.6.1 Invitation

Myles Chamblee

From: Myles Chamblee
Sent: Monday, September 08, 2014 11:58 AM
To: Myles Chamblee
Subject: Reminder LEPC

We would like to invite you to a meeting of the Local Emergency Planning Committee (LEPC). At this LEPC meeting we will be discussing the mitigation plan revision due in 2015. Each municipality is requested to provide representation that updates us on mitigation strategies listed in the previous plan as well as mitigation plans for the next 5 years. Please include projected end dates for projects. If you are unable to attend the LEPC meeting you can email me this information at mchamblee@calhounema.org. We will also address all-hazards emergency planning and Hazardous Materials Emergency Planning Community Right-to-Know. Thank you and we look forward to seeing at 10:00am September 9th at the Calhoun County Health Department's Community Room.

Thanks

Myles Chamblee
Emergency Management Officer I
Calhoun County EMA
507 Francis St W
Jacksonville, AL 36263
256-435-0540 work
256-435-0556 fax
256-499-8607 cell
77*1511 line

2.6.2 Sign-in Sheet

Hazard Mitigation Plan Review Meeting 9/9/2014				
Name	Agency	Phone	Email	
1. Matt Crawford	SSA	252-707-8154	mcrawford@ssa.edu	
2. Allison Kneeton	SSA	252-702-5108	akneeton@ssa.edu	
3. M. Reynolds	Superior	252-255-3619	alvin.l.reynolds@superiorva.com	
4. Wendy Lyckee	ANAD	252-340-3491	wendy.lyckee@anad.com	
5. Michelle Dymchuk	SSA	252-782-5050	mdymchuk@ssa.edu	
6. Gary Springer	HRD	252-336-0391	gary.springer@hrd.com	
7. Dan Roberts	ANAD	252-455-2534	dan@hrd.com	
8. Robbie Smith	HRD	252-340-7411	robbie.smith@hrd.com	
9. Kimberly Heath	ADPH	252-124-1645	kimberly.heath@adph.state.nc.us	
10. Greg Johnson	ADPH	252-231-7323	greg.johnson@adph.state.nc.us	
11. Alexei Chant	FERA CDP	252-847-2887	alexey.chant@feracdp.org	
12. Anissa Batts	DHE	252-240-2033	anissabatts@dhe.state.nc.us	
13. Les Horts	NOAD	252-525-0586	lhorts@noad.com	
14. Jonathan Boddy	CEMMA	252-453-7411	jboddy@cemma.org	
15. Rick Seward	American Fire	252-342-2268	rseward@americanfire.com	
16. Matt Judice	FERA	252-714-0281	judice@feracdp.org	
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2.6.3 Meeting Notes

September 9, 2014

Start: 10:02am

Welcome and Introductions

Review of minutes: no review of June minutes (unable to locate minutes)

Old Business:

- No spills to report.
- E-Plan update: as of now this is still not online.
- Citizen Corps: CERT in April/May. Youth Camp in July was very successful.
- State EMA Conference, June 17 – 19, Greg/Myles attended.
- VOAD: Still moving to get more churches involved. Working with EMA to pinpoint churches that are interested in being a VRC or donations center. Signing MOUs.
- EMA: Alternate EOC is at Calhoun County Highway Department. Training for EOC staff and special groups will be scheduled soon. Cross-training is in progress with RACES.
- FAST: Team consisting of multiple groups that will set up after a disaster under the direction of the Coroner to provide information and assistance for individuals requesting information about loved ones. SOG has been presented to the Coroner for review.
- Municipal EOCs: Template developed. Hoping to have those in place in the next 6-12 months. Encouraging cities to each set up EOCs. Oxford and Anniston set up EOCs during winter storms.

New Business:

- E-Plan: David is looking to reactivate committee members to move forward with going paperless with Tier II reporting.
- Impassable v. Closed Roads: Confusion over the difference during winter weather. Greg and Jonathan discussed the difference – closed roads must be barricaded/manned; impassable means unsafe. Roads are rarely legally closed, so that's why the word impassable is used instead. Attendees were encouraged to discuss the difference within their organizations and establish inclement weather policies based on the impassable verbiage.
- ICS 300 & 400: ANAD is offering 300 in September and 400 in October. David gave brief update on ICS requirements (large number of folks who need to take these classes) and NIMS requirements. Melonie Carmichael suggested adding on the ICS Forms class to the ICS training. . EMA is looking to offer classes for ICS, NIMS and Forms to help meet training needs.
- Training/Classes: EMA is looking to offer more training for community partners in areas such as WebEOC and EMA operations. Robbie Stubbs posed the question as to whether training classes (any type of EMA-sponsored training) would be open to those outside of the county, such as members of the 14-county Health Care Coalition. Jonathan recommended allowing outside training only after Calhoun County partners have been given the opportunity to fill seats.
- Norfolk Southern Rail Safety Training for First Responders: Oct. 28 – 30 at Amtrak.
- Public Health Update: Health Care Coalition (14-county) is holding monthly meetings

and about to elect/select an executive board. Bylaws are completed. Coalition is also finishing ESF8 All-Hazards Assessment and will share results with group. They are also working on a GAP analysis. JSU is close to officially being a closed pod, responsible for dispersing medical care to students, staff and faculty. MRC is meeting this week. Public Health is prepared to staff additional person at the Division EOC at McClellan, if needed. Robbie also announced Public Health has a licensed Ham operator now.

- Anniston Water: Tabletop exercise is being designed by Myles. Myles is waiting on HSEEP to resume for certification. He will coordinate with Water Depts once the initial draft is complete. Meeting will be scheduled to ensure a trusted agent is on site with each participant.
- Mitigation Plan Review: All present were notified they were selected as part of the mitigation planning committee. Myles reviewed the definition of hazard mitigation. Then, reviewed areas of the plan that will not change such as county history and geography. The planning committee went over updated population, demographic and housing information. A note was made to double-check the housing statistics (Myles to f/u). Since the plan was last updated in 2009, there has been one FEMA disaster declared (April 27, 2011 tornado). The planning committee agreed to this and also was in agreement of the primary hazards affecting Calhoun County. A decision was made to add earthquakes and wildfires/forest fires to the list of risks. The history of events for each natural hazard has been updated in the plan. Jonathan suggested including safe rooms as a mitigation measure. He also challenged the planning committee to come to the next meeting with new mitigation measure ideas (besides drainage). For example, a goal might be to have one community safe room per fire district, or per x number of people.
- ANAD Annual Exercise: Sep. 18. ANAD will contact area agencies via phone to practice mutual aid communications. Callers will announce they are acting in an exercise.

Adjourn: 11:14am

2.7 Second Meeting

2.7.1 Invitation

From: Myles Chamblee [mchamblee@calhounema.org]
Sent: Tuesday, October 28, 2014 11:52 AM
To: Myles Chamblee
Subject: FW: LEPC Meeting
Attachments: LEPC 9 9 14.docx

We would like to invite you to a meeting of the Local Emergency Planning Committee (LEPC) at 10 a.m. on Thursday, Nov. 6 at the Calhoun County Health Department's Community Room. At this meeting we will be discussing the mitigation plan updates we reviewed at the last meeting (minutes attached, for your reference). We will also address all-hazards emergency planning and Hazardous Materials Emergency Planning Community Right-to-Know.

Each municipality is requested to provide representation that updates us on mitigation strategies listed in the previous plan as well as mitigation plans for the next five years. If you are unable to attend the LEPC meeting you can email me this information at

mchamblee@calhounema.org.

Thank you and we look forward to seeing you on Nov. 6.



Calhoun County Emergency Management Agency

Myles Chamblee/ Emergency Management Officer

Cell: 256-499-8607 / mchamblee@calhounema.org

Direct Dial: 256-435-0543 / SothernLinc 1*77*1511

Calhoun County EMA

Office: 256-435-0540 / Fax: 256-435-0558

507 Francis St. W., Jacksonville, AL 36265

<http://www.calhounema.org>



Our Mission: Calhoun County EMA serves the citizens of Calhoun County by coordinating a comprehensive emergency management program that protects against, prepares for, mitigates, responds to, and recovers from all hazards and disasters, regardless of cause.

2.7.2 Sign-In Sheet

LEPC Meeting 11/6/2014			
Name	Agency	Phone	Email
1 DAN ROBERTSON	ANAD Clinic	952-4134	daniel.robertson@anadclinic.com
2 Gues Wally Jans	CEENA	435-0540	gues.wally@calhouneunions.org
3 GUY STEFFIS	ALABAMA POWER	252-9544	guy.steffis@spthence.com
4 GARY STANLEY	KCP (1995)	552-556-079	gary.stanley@kclerms.org
5 JACK BOWMAN	"	"	"
6 Charles R. Smith	Civil Air Patrol	252-920-3526	charles.smith@cap.aopa.org
7 Ryan Evans	ANAD	252-235-9768	ryan.evans@anad.org
8 Anissa Barts	DHE	252-240-3033	anissa.barts@dhhs.state.nc.us
9 Bob Marshall	Redwood	952-252-9649	bob.marshall@redwood.org
10 Joe Gochik	Calicut Co. SO	252-236-6600	joegochik@calicutco.org
11 Kimberly Heath	ADPH	952-444-4405	kimberly.heath@adph.org
12 Mubarek Ahmad	ADPH	952-444-4405	mubarek.ahmad@adph.org
13 Melvin Brown	OSU	952-444-4405	melvin.brown@osu.edu
14 Melvin Brown	OSU	952-444-4405	melvin.brown@osu.edu
15 Mitchell Foster	Alabama Cove AL	256-331-7474	mitchell.foster@alabama-cove.com
16 Delia's Chambers	EFM (CDP)	256-349-2087	delia@efm.com
17 Rodney Owens	ANAD	252-241-3000	rodney.owens@anad.org
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2.7.3 Meeting Notes

**LEPC Meeting
November 6, 2014**

Start: 10:07 a.m.

Welcome and Introductions (Myles Chamblee)

Review of minutes: No changes

Old Business:

- E-Plan update: E-plan is back online, but there are no additional updates. Wade Buckner in the process of researching and will bring recommendation (or not) before members.
- Mitigation plan: Per suggestions from Sep. meeting, safe rooms, back-up generators, wildfires and earthquakes were added to the plan. The EMA extended bid invites to outsource completion of the plan (with the LEPC's input). Bid was awarded to Lee Helms. EMA encouraged LEPC members to continue participating in the development of the plan. Attendees wanting a copy of the plan in its current form were asked to email Myles Chamblee for a copy.
- Norfolk Southern rail safety training: Held in October. Sixty-seven people participated.
- ANAD September exercise: Received great reviews from evaluators, including the CDP. The exercise is held annually and is slated for Sep. of 2015. ANAD encourages and appreciates all community partners to participate in the exercise, especially hospitals.
- Water system tabletop exercise: On-hold until HSEEP certification (Myles and/or David).
- Public health coalition: Holding monthly meetings and have all but two spots filled on the steering committee. Next step will be defining the executive committee. One benefit that will come from the coalition is assisting one another (mutual aid) when shortages occur (like PPE). Additional note: no confirmed Ebola cases in Alabama.
- Impassable v. closed road: Reviewed new policy/guidance adopted by ACCA for county commissioners/EMA's to use the term impassable instead of closed. Cities, municipalities and states are not governed by this policy but can choose to adopt, if so desired.
- Training/classes: EMA is providing WebEOC training to area agencies. This training is available to LEPC members. The EMA can also assist with signing up new users and making sure WebEOC is accessible on agency hardware. APACT (pipeline) is hosting an educational seminar at the Oxford Civic Center on Nov. 13. Any LEPC members wanting to attend should contact Greg for registration information.

New Business:

- ICS 300, 347 and 400 (Jan. & Feb): EMA is hosting these classes. Interested

parties that have not received the registration email should contact an EMA staffer and request the link.

- FY 2015 exercise Mar. 5, 2015: Announcement of exercise. Mitchell Foster with Autumn Cove stated he would like to be involved in the exercise. Autumn Cove is an assisted living facility hosting 65 beds. Foster is primarily concerned with hazmat and tornado incidents.
- EMA monthly conference call: Greg reminded group of call and about format changes.
- Mass Care Policy Group MOU: Updated policy was distributed to pertinent agencies.
- ANAD: Will be hosting a civil authorities training on Jan. 20. Interested parties are welcome and need to contact Don or Dan to register. The Depot is also rolling out an EM2P program, which is a notification system for Depot employees. Employees sign up to receive alerts via their desktops, laptops, cell phones and home phones. The program allows for the employee to respond to the alert notifying if assistance is needed, etc. Depot hopes to push out/have employees registered by the end of February. EMA was invited to sign up for alerts, as well. The Depot also has four instructors certified to teach ICS 300 and 400. The next classes are tentatively scheduled for August 2015. All are welcome. Also, Dan advised everyone to take a look at their MOUs and update the contacts for the agencies. All of theirs had changes in leadership. The Depot will also notify the EMA of any MOUs in effect, so the EMA can assist if further support is needed. Don discussed the desire to visit a phased-release of major employers and school systems in the event of another ice storm. Greg advised the EMA has no control over agency or employer release times and policies.

Adjourn: 11:16 a.m.

2.8 Third Meeting

2.8.1 Invitation

Renee Helms

From: Renee Helms [renee@leehelmsllc.com]
Sent: Wednesday, January 21, 2015 11:08 AM
To: 'cma@calhounema.org'; 'Nyles Chamblee'; 'aatkinson@ci.anniston.al.us'; 'hobsoncityhall@bel.south.net'; 'cityhall@jacksonville-al.org'; 'townclerk@townofohatchee.com'; 'cityhall@oxfordalabama.org'; 'michelle.franklin@piedmontcity.org'; 'cityclerk@weaver-alabama.org'; 'rowens@ewwsb.org'; 'kashley@anniston1.gov'; 'buildingzoning@weaver-alabama.org'; 'amccrory18@yahoo.com'; 'planningandbuilding@jacksonville-al.org'; 'mayorbaswell@townofohatchee.com'; 'brianr@calhouncounty.org'; 'reaves@calhoun.12.al.us'; 'Beverly Daniel'; 'ema@cityofgadsden.com'; 'Ellen Tanner'; 'tmcgrady@talladegacounty.al.org'; 'Steve Swafford'; 'info@su.edu'
Subject: Calhoun County Hazard Mitigation Meeting - Feb. 11, 2015
Attachments: Announcement to HMPC for 2 11 2015 meeting.docx
Importance: High

TO: Calhoun County's Hazard Mitigation Planning Committee and Surrounding Counties

Please see the attached meeting announcement for the Calhoun County Hazard Mitigation Committee. In order to receive grant funds in the next five years, your participation is required.

Renee Helms, Manager
Lee Helms Associates, L. L. C.
236 Town Mart
Clanton, AL 35045
Office: 205-280-3027
Fax: 205-280-0543
Email: renee@leehelmsllc.com
Website: www.leehelmsllc.com





TO: Calhoun County Hazard Mitigation Planning Committee

FROM: Lee Helms, Lee Helms Associates, L. L. C.
Jonathan Gaddy, Calhoun County EMA

SUBJECT: Calhoun County Hazard Mitigation Planning Committee Meeting
Wednesday, February 11, 2015 at 1:30 p.m.

The Calhoun County Hazard Mitigation Planning Committee (HMPC) is in the process of revising the current Calhoun County Hazard Mitigation Plan. You are invited and encouraged to attend this meeting as you have been identified and have served as your entity's point of contact for completion of hazard mitigation planning for the county. The mission of this meeting is to update the 2010 plan information, discuss in-kind contributions for the local match to this planning grant, and provide the public an opportunity to comment on the plan. You are welcome to bring any entity specific information that you would like to include in this plan update; otherwise, needed information will be discussed at this meeting.

In order to comply with federal and state regulations involving funding that might be available to Calhoun County for natural hazards mitigation, the Calhoun County EMA will hold a public meeting of the HMPC at 1 p.m. on Wednesday, February 11, 2015. The meeting will be held at the Calhoun County Health Department located at 3400 McClellan Blvd., Anniston, AL 36201.

Mr. Lee Helms of Lee Helms Associates, L. L. C. (LHA) of Clanton, Alabama will be conducting this meeting, as well as all other meetings regarding the update of the Calhoun County Hazard Mitigation Plan. LHA will ensure all federal and state requirements are met. The Calhoun County HMPC Meeting will not last longer than one hour. Your attendance and input is required for your department/agency/municipality to be eligible to receive future funding for any mitigation projects.

If you have any questions, please contact the LHA Office at 205-280-3027, email renee@leehelmsllc.com, or fax 205-280-0543.

2.8.2 Public Notice

PUBLIC MEETING

The Calhoun County Commission/Emergency Management Agency is scheduling a public meeting on February 11, 2015 at 1:30 p.m. to update its Hazard Mitigation Plan. The meeting will take place at the Calhoun County Health Department meeting room located at 3400 McClellan Boulevard in Anniston, 36201. The public, private non-profits, municipalities, school boards, universities/colleges, water/sewer boards, fire departments, hospitals, and elected officials are among those invited and encouraged to attend. Participation is required in order to apply for federal hazard mitigation grants in the future. For more information, contact: Myles Chamblee, Calhoun County EMA, 256-435-0540.

2.8.3 Media Announcement

The Anniston Star

800 LEGALS

JAMES CLAXTON BRYANT, SR., Deceased.
Alice K. Martin
Judge of Probate

The Anniston Star
Calhoun Co., AL
January 21, 28, & February 4, 2015

800 LEGALS

Estate of JEFFREY K. RUSSELL, Deceased.
Alice K. Martin
Judge of Probate

The Anniston Star
Calhoun Co., AL
February 4, 11, 18, 2015

NOTICE TO CREDITORS

STATE OF ALABAMA
CALHOUN COUNTY
PROBATE COURT
CASE NO. 2014-0458
IN THE MATTER OF THE
ESTATE OF DEWEY RAYMOND TAYLOR, DECEASED

Letters Testamentary on the estate of DEWEY RAYMOND TAYLOR, deceased, having been granted to RICK W. TAYLOR, the undersigned on January 08, 2015, by the Honorable Alice K. Martin, Judge of Probate of said County, notice is hereby given that all persons having claims against said estate, are hereby required to present the same within the time allowed by law, or the same will be barred.

RICK W. TAYLOR, Personal Representative of the Last Will and Testament of DEWEY RAYMOND TAYLOR, Deceased.
Alice K. Martin
Judge of Probate

The Anniston Star
Calhoun Co., AL
January 21, 28, & February 4, 2015

NOTICE TO CREDITORS

STATE OF ALABAMA
CALHOUN COUNTY
PROBATE COURT
CASE NO. 2015-0038
IN THE MATTER OF THE ESTATE OF PAMELA GRIFFIN, Deceased

Default having been made in the payment of the indebtedness secured by that certain

PUBLIC MEETING

The Calhoun County Emergency Management Agency is hosting a public meeting on February 11, 2015 at 1:30 p.m. to update the Calhoun County Hazard Mitigation Plan. The meeting will take place at the Calhoun County Health Department meeting room located at 3400 McClellan Boulevard in Anniston, 36201. All public, private, non-profits, municipalities, school boards, universities/colleges, water/sewer boards, fire departments, hospitals, and elected officials are encouraged to attend. Participation in the Hazard Mitigation program is a requirement should an application for funding become necessary due to a disaster. For more information, contact: Myles Chambliss, Calhoun County EMA, 258-486-0540.

The Anniston Star
Calhoun Co., AL
January 28 & February 4, 2015

**STATE OF ALABAMA
COUNTY OF CALHOUN
NOTICE OF MORTGAGE FORECLOSURE SALE**

THE CLAY

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2.8.4 Sign-in Sheet

CALHOUN COUNTY
 Wednesday, February 11, 2015 at 1:30 p.m. - Calhoun Co. Health Dept., 3400 McCellan Blvd., Anniston, AL 36201
 INITIAL HAZARD MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
Samy J. Smith	Agency: <i>Fire</i> Job Title: <i>Chief</i>	Phone: <i>256-236-7021</i> Fax:	<i>lsmith@fire.com</i>
Michelle Polston	Agency: <i>Calhoun Co. Health Dept.</i> Job Title: <i>Public Health</i>	Phone: <i>(256-935)-4910</i> Fax:	<i>mlpolston@calhouncounty.org</i>
George Buckhorn	Agency: <i>Regional Medical Center</i> Job Title: <i>Regional Director & E.P. Consultants</i>	Phone: <i>256-591-5714</i> Fax:	<i>gbuckhorn@rmc.com</i>
Jonathan Gaddy	Agency: <i>Calhoun County EMA</i> Job Title: <i>EMA Director</i>	Phone: <i>256-935-0540</i> Fax: <i>256-935-0558</i>	<i>JGaddy@calhouncounty.org</i>
Mollys Crumblin	Agency: <i>Calhoun County EMA</i> Job Title: <i>Emergency Management Section</i>	Phone: <i>256-935-0540</i> Fax: <i>256-935-0558</i>	<i>McCrumb@calhouncounty.org</i>
	Agency: Job Title:	Phone: Fax:	

LEE HELMS ASSOCIATES

2.9 Ohatchee Meeting

2.9.1 Sign-in Sheet

Calhoun County Hazard Mitigation Meeting 6/23/2015				
Name	Agency	Phone	Email	
1. <i>Pat E. Hamell</i>	TOWN OF OHATCHEE	256-892-3252	<i>phamell@townofohatchee.com</i>	
2. <i>Pat E. Hamell</i>	CCEMA	256-342-2870	<i>phamell@calhouncema.org</i>	
3. <i>Pat E. Hamell</i>	CCEMA	256-435-0940	<i>phamell@calhouncema.org</i>	
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2.10 Hobson City Meeting

2.10.1 Sign-in Sheet

Hazard Mitigation Meeting 7/8/2015			
Name	Agency	Phone	Email
1 Melis Chambliss	Calhoun EMA	256-738-0504	melchambliss@calhounema.org
2 Michelle Malone	Town of Hobson City	256-831-4942	hobsoncitylink@bellsouth.net
3 Milton Rowe	Town of Hobson City	256-831-4273	
4 David Randle	Calhoun EMA	256-738-2210	drandle@calhounema.org
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2.11 Piedmont Healthcare Meeting

2.11.1 Sign-in Sheet

Hazard Mitigation Meeting 7/9/2015				
Name	Agency	Phone	Email	
1 Tony Alford	Piedmont Health Care	856-447-8858	TAlford@PiedmontHealthCare.org	
2 Myla Chamber	Caldwell County EMA	256-435-0540	MChamber@CaldwellCounty.org	
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2.12 Piedmont Meeting

2.12.1 Sign-in Sheet

Piedmont Hazard Mitigation Meeting 7/27/2015				
	Name	Agency	Phone	Email
1	Myles Chamberlain	Calhoun County EMA	256-435-0540	mchamberlain@calhouncounty.org
2	Ben Singleton	City of Piedmont	256-447-3582	ben.singleton@piedmontcity.org
3	Carl Hinton	City of Piedmont	256-447-3596	carl.hinton@piedmontcity.org
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2.13 Oxford Meeting

2.13.1 Sign-in Sheet

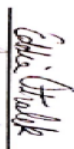









Hazard Mitigation Meeting 7/27/2015				
	Name	Agency	Phone	Email
1	Myles Chamber	Calhoun County EMT	256-435-0540	mchamber@calhouncountyma.org
2	Rusty Gawn	City of Oxford	(256) 835-6132	rgawn@oxfordal.us
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2.14 Volunteer Fire Departments Meeting

2.14.1 Sign-in Sheet

CALHOUN COUNTY ASSOCIATION OF VOLUNTEER FIRE DEPARTMENTS
OCTOBER 6, 2014

SIGNING FOR MONTH DISTURBEMENT

DEPARTMENT	SIGNATURE	DATE
ALEXANDRIA VFD		10/6/14
ANGEL STATION VFD		10/6/14
BIG OAK VFD		10/6/14
EASTABOGA VFD		10/26/14
KNIGHTONS CROSSROADS VFD		10-6-14
OHATCHEE VFD		10/6/14
QUAD CITIES VFD		10/20/14
WEBSTER'S CHAPEL VFD		10/6-14
WHITE PLAINS VFD		10-6-14
MT. OLIVE VFD		10-6-14

2.15 Interagency and Intergovernmental Coordination

2.15.1 Interagency and intergovernmental coordination also played a vital part in the development 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.

2.15.2 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. Department of Agriculture – Census of Agriculture provided land value per acre
- HAZUS-MH 2.1 provided estimation information on potential damage, economic loss, and social impacts from natural disasters

2.15.3 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

2.15.4 Regional agencies:

- East Alabama Regional Planning and Development Commission provided area planning and development and transportation planning information, as well as maps pertaining to plan information
- Neighboring EMA Agencies: Cherokee County EMA, Etowah County EMA, St. Clair County EMA, Talladega County EMA, and Cleburne County EMA

2.15.5 Local agencies:

- Calhoun County Emergency Management Agency provided assistance in gathering data

2.15.6 Academia

- University of Alabama - Department of Geology

2.16 Integration with Existing Plans

2.16.1 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. **Table 2.16** provides a list of the existing plans by jurisdiction.

2.16.2 Wherever appropriate, the East Alabama Regional Planning and Development Commission's (EARPDC) economic development planning efforts have been integrated into this plan revision. Of possible interest to those viewing this plan, the EARPDC also provides Calhoun County with data books containing information from the 2010 Census and the 2006-2010

American Community Survey for the county, tracts, and municipalities. Maps of the counties and tracts are also included.

- 2.16.3 Local planning mechanisms by jurisdictions are listed in **Table 2.16**. Hazard mitigation information and actions in this plan may be incorporated into these local planning mechanisms. The mitigation action tables for each jurisdiction identifies who is responsible for the actions, funding mechanisms and other resources available that will be pursued, prioritization of the actions, and completion dates for each action. During the past five years, the jurisdictions incorporated the previous hazard mitigation information into other planning mechanisms. Risks assessments, including hazard information and mapping, helped form the basis for emergency management program activities and plans. Future growth and development will be planned away from high-risk locations.
- 2.16.4 In order to expand on and improve these existing policies and plans, each participating jurisdiction is committed to increasing hazard mitigation planning and action capability by being involved and incorporating, where appropriate, mitigation planning and actions into local planning initiatives and into public works and emergency management functions. While no specific actions are planned for the immediate future for any participating jurisdiction, the next comprehensive plan update may detail these actions further.

Table 2.16-1 – Plan Inventory

PLAN/ POLICY Y=yes, N=no, IP=in progress	Anniston	Hobson City	Jacksonville	Ohatchee	Oxford	Piedmont	Weaver	Calhoun County
Comprehensive Plan	Y	N	N	N	Y	N	N	Y
Strategic Plan	N	N	N	N	N	N	N	N
Growth Management Plan	N	N	N	N	N	N	N	N
Capital Improvement Plan	Y	N	N	N	N	N	N	N
Zoning Ordinance	Y	N	Y	Y	Y	Y	Y	N
Building Code	Y	N	Y	N	Y	Y	Y	N
Floodplain Management Plan	Y	N	N	N	Y	N	N	N
Elevation Certificates	N	N	N	N	N	N	N	N
Drainage Ordinance	Y	N	N	N	N	N	N	N
Emergency Management Operations Plan	IP	IP	IP	IP	IP	IP	IP	Y
Critical Facilities Map	Y	N	Y	N	Y	Y	Y	Y
Existing Land Use Map	Y	N	Y	Y	Y	Y	Y	Y
Hazard Mitigation	Y	Y	Y	Y	Y	Y	Y	Y
Other	N	N	N	N	N	N	N	N

Source: Participating Jurisdictions, Calhoun County EMA 2014

2.17 Plan Adoption

- 2.17.1 All jurisdictions in Calhoun County, along with the Calhoun County VFD Association (all volunteer fire departments), Calhoun County BOE, Anniston Regional Medical Center, Piedmont Healthcare, Piedmont Rescue Squad and the Anniston Waste Water and Sewer Board actively participated in the planning process. Representatives from each local

government attended meetings and/or provided information vital to the update of this plan by site visits, per telephone, per email or per facsimile.

- 2.17.2 Upon completion of the plan each of the seven municipalities (Anniston, Jacksonville, Oxford, Piedmont, Weaver, Hobson City and Ohatchee) along with the Calhoun County Commission, Calhoun County EMA, Piedmont Healthcare, Piedmont Rescue Squad, Anniston Waste Water and Sewer Board, Anniston Regional Medical Center, Calhoun County BOE, Alexandria VFD, Angel VFD, Big Oak VFD, Eastaboga VFD, Knighten's Crossroads VFD, Quad Cities VFD, Ohatchee VFD, Mt. Olive VFD, Weaver VFD, Webster's Chapel VFD, and White Plains VFD, will pass a formal resolution adopting the plan.
- 2.17.3 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.
- 2.17.4 Adopting Resolutions can be found in **Appendix 1**.

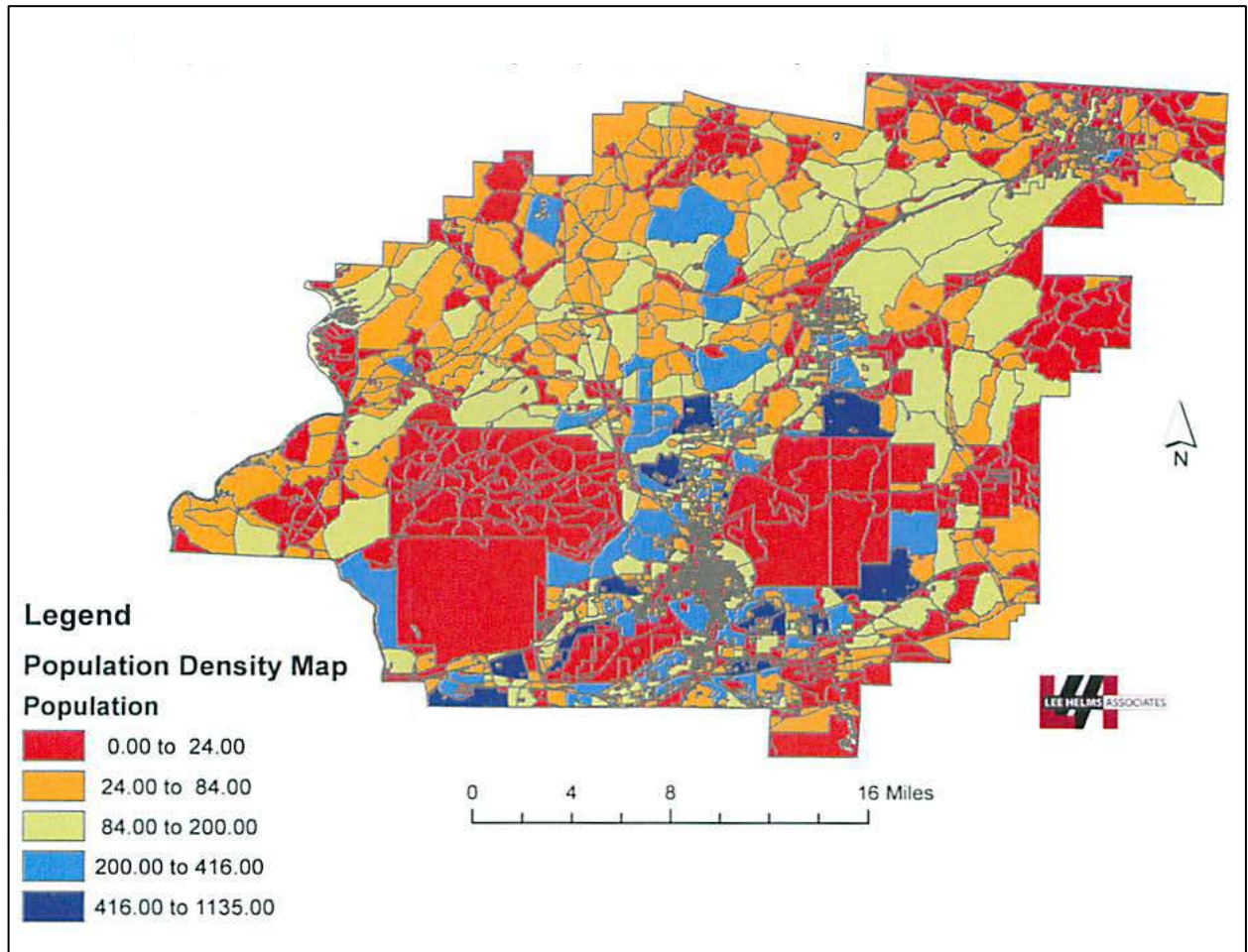
3. GENERAL CHARACTERISTICS

3.1 County Overview

- 3.1.1 Calhoun County is located in northeast Alabama. Cleburne, Etowah, Cherokee, and Talladega counties border Calhoun County. According to the 2010 Census, Calhoun County has 605.87 square miles of land area and approximately 6.42 square miles of water area. The county contains seven municipalities: Anniston, Jacksonville, Oxford, Piedmont, Weaver, Hobson City, and Ohatchee. Calhoun County is governed by five County Commissioners who are elected by citizens in their commission districts. The chairmanship rotates on a regular basis so that each commissioner will serve a nine-month term as chairman. An elected mayor and council serve each municipality. The City of Anniston serves as the Calhoun County seat.
- 3.1.2 Calhoun County has one airport, the Anniston Regional Airport, which is in the category of general aviation airport. Anniston Regional Airport has only one runway and provides for an average of 92 aircraft a day. Their annual average of scheduled commercial aircraft is < 1%, but military account for 15%.
- 3.1.3 Utilities in Calhoun County include electricity, gas, water, and sewer. Electrical service is provided by Alabama Power, Cherokee Electric Cooperative and Coosa Valley Electric Cooperative as well as the City of Piedmont (a municipal electric authority). Gas is supplied by Southern Natural Gas (KinderMorgan). AT&T provides telecommunication services. Water and sewer service is provided by municipal or rural systems. Oxford, Jacksonville, Weaver and Piedmont operate sewer systems. Anniston Water Works and Sewer Board operate services for Anniston and the surrounding area and is an independent entity separate and apart from the city government. The Calhoun County Water Authority operates water services unincorporated Calhoun County and is an independent entity separate and apart from the county government. Most unincorporated areas are serviced only by septic tanks. Each municipality and Calhoun County operates a solid waste collection program serviced by several recycling collection sites and a municipal solid waste transfer station, in addition to construction/demolition landfills. Jacksonville and Piedmont also jointly operate a C&D landfill.
- 3.1.4 Adjacent to Calhoun County, Alabama are Etowah and Cherokee Counties to the north; Cleburne County to the east; Talladega County to the south. Calhoun County is bordered to the west by the Coosa River.

3.2 Growth Trends

- 3.2.1 Calhoun County's population increased during the years 1990-2013. All municipalities experienced increases in population over that term, with the exception of the cities of Anniston and Piedmont. **Figure 3.2-1** depicts the newest 2010 Census Tracts and population concentrations in Calhoun County. **Table 3.2-1** below shows the growth trends for the county and its municipalities compared to the State of Alabama.

Table 3.2-1 – Calhoun County Population Density Map**Table 3.2-2 – Calhoun County Growth Trends, 1990-2013**

Source: 2010 U.S. Bureau of Census; Calculations by LHA, 2014

	4/1/1990	4/1/2000	4/1/2010	1/1/2013	Change 1990-2013	
					Number	Percent
Anniston	26,623	24,276	23,106	22,666	-3,957	-14.95
Hobson City	794	878	771	766	28	3.5%
Jacksonville	10,283	8,404	12,548	12,484	2,201	17.6%
Ohatchee	1,042	1,215	1,170	1,148	106	9.2
Oxford	9,362	14,592	21,348	21,232	11,870	55.9%
Piedmont	5,288	5,120	4,878	4,774	-514	-9.7%
Weaver	2,715	2,619	3,038	3,103	388	12.5%
Calhoun County (total)	116,034	112,249	118,572	115,916	-118	-0.1%
Alabama	4,041,281	4,447,032	4,779,736	4,841,486	800,205	20%

3.3 General Geology

3.3.1 The US Department of the Interior/US Geological Survey list several geologic units in Calhoun County, Alabama. These are presented below in **Table 3.3-1** and **Figure 3.3-1**. Geologic maps and their subsequent derivative products have immense economic and societal value, and when these maps are current, digital, and Internet accessible, they are particularly useful. Having knowledge of local geological units helps a community to locate and develop mineral and water resources; assess and protect groundwater quality; safely site solid and hazardous waste disposal facilities; construct, restore, maintain, and protect sensitive ecosystems; and identify and prepare for such natural hazards as earthquakes, volcanic eruptions, landslides, and land subsidence. Geologic maps can also show how the physical environment has been impacted by human activity. Geologic maps enhance our ability to identify health hazards; to site and build the community's infrastructure of roads and highways, railroads, pipelines, utilities, dams and locks, buildings, and foundations; and to make more informed land-use and planning decisions. Geologic maps are fundamental elements for informing the policy decisions of federal, state, and local agencies. Geologic units in Calhoun County, Alabama include the following:

Table 3.3-1 - Geologic Features in Calhoun County

Red Mountain Formation (Silurian) at surface, covers 8 % of this area – is Interbedded yellowish-gray to moderate-red sandstone, siltstone and shale; greenish-gray to moderate-red fossiliferous partly silty and sandy limestone; few thin hematitic beds. Lithology: sandstone; shale; siltstone; limestone.
Pottsville Formation (upper part) (Pennsylvanian) at surface, covers 8 % of this area – is Interbedded dark-gray shale, siltstone, medium-gray sandstone, and coal in cyclic sequences. The members present in the Cahaba synclinorium in descending order include: the Straven Conglomerate Member, Rocky Ridge Sandstone Member, and Chestnut Sandstone Member. The members present in the Coosa synclinorium in descending order include: Straight Ridge Sandstone Member and Wolf Ridge Sandstone Member. Lithology: shale; siltstone; sandstone; coal.
Pottsville Formation (lower part) (Pennsylvanian) at surface, covers 8 % of this area – is light-gray thick-bedded to massive pebbly quartzose sandstone, containing varying amounts of interbedded dark-gray shale, siltstone, and thin discontinuous coal. In both the Cahaba and Coosa synclinoria the members in descending order include: the Pine Sandstone Member and the Shades Sandstone Member. Top of unit is mapped at top of Pine Sandstone Member. Lithology: sandstone; shale; siltstone; limestone.
Parkwood Formation and Floyd Shale undifferentiated (Pennsylvanian-Mississippian) at surface, covers 8 % of this area – is Interbedded medium to dark-gray shale and light to medium-gray sandstone; locally contains dusky-red and grayish-green mudstone, argillaceous limestone, and clayey coal. Floyd Shale -- Dark-gray shale, sideritic in part; thin beds of sandstone, limestone and chert are locally present; beds of partly bioclastic, partly argillaceous limestone are abundant in parts of Calhoun and Cherokee Counties. Lithology: shale; sandstone; mudstone; limestone; chert; mixed clastic/coal; clay or mud.

Parkwood Formation (Pennsylvanian-Mississippian) at surface, covers 8 % of this area – is Interbedded medium to dark-gray shale and light to medium-gray sandstone; locally contains dusky-red and grayish-green mudstone, argillaceous limestone, and clayey coal. Lithology: shale; sandstone; mudstone; limestone; clay or mud; mixed clastic/coal.
Sequatchie Formation, Colvin Mountain Sandstone, Greensport Formation undifferentiated (Ordovician) at surface, covers 8 % of this area – is variegated dusky-red and pale-yellowish-orange shale, calcareous mudstone, dolomite, siltstone, and minor sandstone. Mapped in areas of facies transition with the Chickamauga Limestone (Canoe Creek, Dunaway, and Hensley Mountains). Lithology: shale; mudstone; dolostone (dolomite); siltstone; sandstone.
Sequatchie Formation (Ordovician) at surface, covers 8 % of this area – is Grayish-red, grayish-green, and yellowish-gray thin-bedded calcareous shale and calcareous mudstone containing interbedded fossiliferous limestone, and medium-gray to moderate-red partly sandy and glauconitic, medium to coarse-grained bioclastic limestone. Lithology: shale; mudstone; limestone.
Athens Shale (Ordovician) at surface, covers 8 % of this area – is black graptolitic shale, locally contains interbedded dark-gray limestone. Lithology: black shale; limestone.
Newala Limestone (Ordovician) at surface, covers 8 % of this area – is light to dark-gray thick-bedded micritic and peloidal limestone and minor dolomite. Lithology: limestone; dolostone (dolomite).
Little Oak and Newala Limestones undifferentiated (Ordovician) at surface, covers 8 % of this area – is dark-gray medium to thick-bedded fossiliferous, argillaceous to silty limestone containing chert nodules. Locally includes thin beds of bentonite in the upper part. Newala Limestone -- light to dark-gray thick-bedded micritic and peloidal limestone and minor dolomite. Lithology: limestone; chert; bentonite; dolostone (dolomite).
Little Oak and Lenoir Limestones undifferentiated (Ordovician) at surface, covers 8 % of this area – is dark-gray argillaceous, fossiliferous medium to thick-bedded limestone; locally contains rare chert in upper part and an interval of fenestral mudstone in lower part (Mosheim Limestone Member of the Lenoir Limestone). Between Siluria and Pelham in Shelby County, the Little Oak and Lenoir Limestones are separated by a tongue of the Athens Shale. Lithology: limestone; mudstone; chert.
Little Oak Limestone (Ordovician) at surface, covers 8 % of this area – is dark-gray medium to thick-bedded fossiliferous, argillaceous to silty limestone containing chert nodules. Locally includes thin beds of bentonite in the upper part. Lithology: limestone; chert; bentonite.
Greensport Formation (Ordovician) at surface, covers 8 % of this area – is variegated dusky-red and dark-yellowish-orange shale, calcareous mudstone, limestone, siltstone, and minor sandstone. Lithology: shale; mudstone; limestone; siltstone; sandstone
Knox Group undifferentiated (Ordovician-Cambrian) at surface, covers 8 % of this area – is light-gray to light-brown locally sandy dolomite, dolomitic limestone, and limestone; characterized by abundant light-colored chert. Lithology: dolostone (dolomite); limestone; chert.
Paleozoic shale undifferentiated (Mississippian) at surface, covers 8 % of this area – is dark-gray shale and mudstone, locally containing thin interbeds and lenses of dark-greenish-gray sandstone includes probable Floyd Shale in area east of Gadsden, Etowah County. Lithology: shale; mudstone; sandstone.

<p>Tuscumbia Limestone and Fort Payne Chert undivided (Mississippian) at surface, covers 8 % of this area – is light-gray partly oolitic limestone; very coarse bioclastic crinoidal limestone common; light-gray chert nodules and concretions locally abundant. Fort Payne Chert -- very light to light-olive-gray, thin to thick-bedded fine to coarse-grained bioclastic (abundant pelmatozoans) limestone containing abundant nodules, lenses and beds of light to dark-grey chert. Upper part of formation locally consists of light-bluish-gray laminated siltstone containing vugs lined or filled with quartz and scattered throughout the formation are interbeds of medium to greenish-gray shale, shaly limestone and siltstone. Lenses of dark-gray siliceous shale occur locally at the base of the Fort Payne in Wills Valley. Commonly present below the Fort Payne is a light-olive-gray claystone or shale (Maury Formation) which is mapped with the Fort Payne. The Tuscumbia and Fort Payne are undifferentiated in Murphrees and Wills Valleys. Lithology: limestone; chert; siltstone; shale; claystone.</p>
<p>Floyd Shale (Mississippian) at surface, covers 8 % of this area – is dark-gray shale, sideritic in part; thin beds of sandstone, limestone and chert are locally present; beds of partly bioclastic, partly argillaceous limestone are abundant in parts of Calhoun and Cherokee Counties. Lithology: shale; sandstone; limestone; chert.</p>
<p>Frog Mountain Sandstone (Devonian) at surface, covers 8 % of this area – is light to dark-gray sandstone with thin dark-gray shale interbeds, light-gray to black dolomudstone, glauconitic limestone, and fossiliferous chert locally in lower part. Lithology: limestone; chert; bentonite; dolostone (dolomite).</p>
<p>Chattanooga Shale and Frog Mountain Sandstone undifferentiated (Devonian) at surface, covers 8 % of this area – is (In areas mapped as Dcfm one or both units may be locally absent) - Chattanooga Shale -- Brownish-black organic shale containing light to dark-gray sandstone and rare limestone interbeds near the base. Frog Mountain Sandstone -- light to dark-gray sandstone with thin dark-gray shale interbeds, light-gray to black dolomudstone, glauconitic limestone, and fossiliferous chert locally in lower part. Lithology: shale; sandstone; limestone; dolostone (dolomite); chert.</p>
<p>Weisner and Wilson Ridge Formations undifferentiated (Cambrian) at surface, covers 8 % of this area – is interbedded quartzose to slightly feldspathic sandstone and laterally continuous conglomerate in ledge-forming units separated by greenish-gray silty mudstone. Lithology: sandstone; conglomerate; mudstone.</p>
<p>Shady Dolomite (Cambrian) at surface, covers 8 % of this area – is bluish-gray or pale-yellowish-gray thick-bedded siliceous dolomite; characterized by coarsely crystalline porous chert. Lithology: dolostone (dolomite); chert.</p>
<p>Rome Formation (Cambrian) at surface, covers 8 % of this area – is variegated thinly interbedded mudstone, shale, siltstone, and sandstone; limestone and dolomite occur locally. Quartzose sandstone commonly present near top of formation. Lithology: mudstone; shale; siltstone; sandstone; limestone; dolostone (dolomite).</p>
<p>Nichols Formation (Cambrian) at surface, covers 8 % of this area – is massive to laminated greenish-gray and black micaceous mudstone containing minor interbeds of siltstone and very fine-grained sandstone. Lithology: mudstone; siltstone; sandstone.</p>
<p>Cochran Formation (Cambrian) at surface, covers 8 % of this area – is poorly sorted arkosic sandstone and conglomerate containing interbedded greenish-gray siltstone and mudstone. The Cochran Formation is exposed only in northeastern Calhoun and northwestern Cleburne Counties. Lithology: arkose; conglomerate; siltstone; mudstone.</p>
<p>Conasauga Formation, lower unnamed shale facies (Cambrian) at surface, covers 8 % of this area – is in eastern Valley and Ridge consists of dark-green to pale-olive fossiliferous shale with a few dark-gray limestone interbeds. Lithology: shale; limestone.</p>

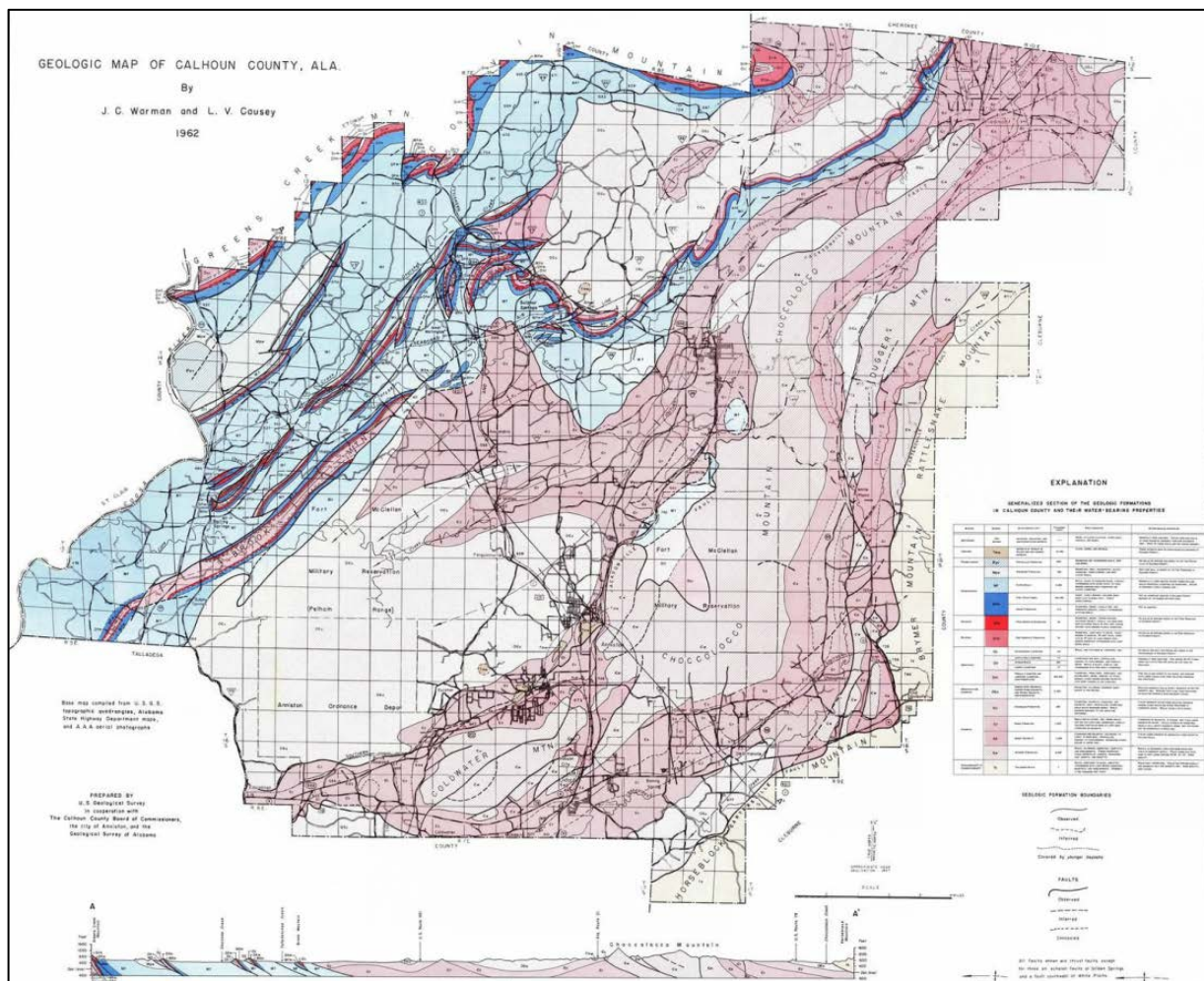
Chilhowee Group undifferentiated (Cambrian) at surface, covers 8 % of this area – is light to medium-gray arkose, arkosic conglomerate, and discontinuous mudstone overlain by greenish-gray mudstone with minor siltstone and sandstone; dominantly light-gray pebbly quartzose sandstone in upper part. Lithology: conglomerate; mudstone; siltstone; sandstone

Conasauga Formation (Cambrian) at surface, covers 8 % of this area – is medium-bluish-gray fine-grained, thin-bedded argillaceous limestone and interbedded dark-gray shale in varying proportions. Lithology: limestone; shale.

Table 3.3-2 – Geologic Map of Calhoun County, Alabama

Source: Warman, J.C., and Causey, L.V., 1962, Geological Survey of Alabama

Available at http://ngmdb.usgs.gov/Prodesc/prodesc_55699.htm



4. RISK ASSESSMENT

4.1 Methodology

- 4.1.1 The risk assessment process is necessary to identify those natural hazards that pose a threat to Calhoun County and its municipal jurisdictions. This process used information provided by members of the Calhoun County Hazard Mitigation Planning Committee to identify these hazards.
- 4.1.2 The county's Hazard Probability Assessment Summary is shown in **Table 4.1-1**. 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 Five of the plan.
- 4.1.3 **Table 4.1-2** 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. During the 2009 plan update and for subsequent plan updates, tsunami/volcano/ typhoon was removed from the plan based on committee consensus that the hazard(s) did not pose a threat to the county or its jurisdictions.
- 4.1.4 **Table 4.1-3** 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.
- 4.1.5 **Table 4.1-4** provides the mitigation actions prioritization by jurisdiction. Each jurisdiction was responsible for prioritizing their proposed mitigation actions for the next five years. The jurisdictions took into consideration the impacts of hazards they had experienced over the past five years, as well as the mitigation actions available to help protect their jurisdictions and citizens.
- 4.1.6 **Table Set 4.1-5** 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.
- 4.1.7 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.
- 4.1.8 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 Five. 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.
- 4.1.9 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.

- 4.1.10 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.
- 4.1.11 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.
- 4.1.12 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) divided by (the number of years the incidents occurred within the county) = (probability of future annual event occurrences)
- For example:
- 13 extreme temperature events experienced over a 6 year period
- $$13 / 6 = 2.166$$
- 2.166 > 1, thus probability of occurrence is > 100% / year
- 4.1.13 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
- For example:
- \$172,000 total reported hail damage from 2003-2013 with 21 individual events being reported as damage-causing
- $$\$172,000 / 21 = \$8,190$$

Table 4.1-1- Calhoun County Hazard Probability of Future Occurrence

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

Natural Hazards	Number of Occurrences Between 2003-2013	Probability of Future Occurrence	Area Affected
Thunderstorm	80	80%	Countywide
Lightning	6	60%	Countywide
Hail	71	>100%	Countywide
Tornado	9	90%	Countywide
Flood/Flash Flood	19	>100%	Countywide
Droughts/Extreme Heat	28	>100%	Countywide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	11	>100%	Countywide
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	11	>100%	Countywide
Sinkhole/Expansive Soil	5	50%	Countywide
Landslide	Unknown	Unknown	N/A
Earthquake	2	20%	Countywide
Wildfire (3-year study period – 1,045 days)	137	>100%	Countywide
Dam/Levee Failure	Unknown	Unknown	Countywide
<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 or unknown denote no data available to determine the probability of future occurrence or areas affected.</i>			

Table 4.1-2 –Hazard Identification by Jurisdiction*Source: Participating Jurisdictions, Calhoun County EMA 2015*

Natural Hazards	Anniston	Jacksonville	Oxford	Piedmont	Weaver	Hobson City	Ohatchee	Calhoun County
Thunderstorm	X	X	X	X	X	X	X	X
Lightning	X	X	X	X	X	X	X	X
Hail	X	X	X	X	X	X	X	X
Tornado	X	X	X	X	X	X	X	X
Flood/Flash Flood	X	X	X	X	X	X	X	X
Drought/Extreme Heat	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
Hurricane/Tropical Storm/Tropical Depression/ High Wind/Strong Wind	X	X	X	X	X	X	X	X
Sinkhole/Expansive Soil	X	X	X	X	X	X	X	X
Landslide	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Earthquake	X	X	X	X	X	X	X	X
Wildfire	X	X	X	X	X	X	X	X
Dam/Levee Failure	X	X	X	X	X	X	X	X

Table 4.1-3 –Prioritized Occurrence Threat by Jurisdiction Based on Past Events

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

Natural Hazards	Anniston	Jacksonville	Oxford	Piedmont	Weaver	Hobson City	Ohatchee	Calhoun County
Thunderstorm	3	3	4	4	4	4	3	2
Lightning	7	7	8	9	9	9	8	8
Hail	4	5	6	3	6	5	5	3
Tornado	8	9	8	8	9	9	8	7
Flood/Flash Flood	6	6	5	6	5	6	6	5
Drought/Extreme Heat	2	2	2	2	2	2	2	4
Winter Weather/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	5	4	3	5	3	3	4	6
Hurricane/Tropical Storm/ Tropical Depression/High Wind/Strong Wind	5	4	3	5	3	3	4	6
Sinkhole/Expansive Soil	7	8	6	8	8	8	8	9
Landslide	8	9	8	9	9	9	9	11
Earthquake	7	7	7	7	7	7	7	10
Wildfire (3-year study period – 1,045 days)	1	1	1	1	1	1	1	1
Dam/Levee Failure	8	9	8	9	9	9	9	11

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. These prioritized threats may or may not be the same as the mitigation actions prioritization.

Table 4.1-4 - Mitigation Actions Prioritization*Source: Participating Jurisdictions, 2014*

Natural Hazards	Anniston	Jacksonville	Oxford	Piedmont	Weaver	Hobson City	Ohatchee	Calhoun County
Thunderstorm	2	2	2	3	1	2	2	2
Lightning	2	3	3	4	2	4	3	6
Hail	2	2	2	3	1	3	2	7
Tornado	2	2	2	2	1	3	2	8
Flood/Flash Flood	1	1	1	1	2	1	1	1
Drought/Extreme Heat	2	3	3	5	2	4	3	5
Winter Storm/Frost Freeze/Heavy Snow/ Ice Storm/Winter Weather/Extreme Cold	2	3	3	4	2	3	3	4
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	2	2	2	3	1	2	2	10
Sinkhole/Expansive Soil	2	3	3	4	2	4	3	13
Landslide	2	3	3	4	2	4	3	11
Earthquake	2	3	3	4	2	4	3	12
Wildfire	2	3	3	4	2	4	3	3
Dam/Levee Failure	2	3	3	4	2	4	3	9

Hazards are prioritized by jurisdictions based on past hazard experiences, vulnerabilities, and available mitigation actions with the hazard having highest priority of mitigation assigned number one. The mitigation actions prioritization may or may not be the same as the prioritized occurrence threats.

Table 4.1-5 – Calhoun County Hazard Events

80 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	Ini	PrD	CrD
COUNTYWIDE	CALHOUN CO.	AL	05/01/2003	18:25	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/05/2003	18:41	CST	Thunderstorm Wind	55 kts. EG	0	0	20.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	07/21/2003	16:45	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	08/27/2003	15:50	CST	Thunderstorm Wind	50 kts. EG	0	0	32.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	06/22/2004	17:50	CST	Thunderstorm Wind	60 kts. EG	0	0	18.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	07/14/2004	16:22	CST	Thunderstorm Wind	52 kts. EG	0	0	34.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	07/14/2004	16:45	CST	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
OXFORD	CALHOUN CO.	AL	07/25/2004	16:00	CST	Thunderstorm Wind	50 kts. EG	0	0	8.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	11/24/2004	07:30	CST	Thunderstorm Wind	52 kts. EG	0	0	17.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	04/30/2005	03:43	CST	Thunderstorm Wind	52 kts. EG	0	0	7.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	04/08/2006	00:48	CST	Thunderstorm Wind	61 kts. EG	0	0	50.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	04/18/2006	18:05	CST	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
WHITE PLAINS	CALHOUN CO.	AL	06/22/2006	16:07	CST	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	07/19/2006	15:45	CST	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	08/15/2006	14:05	CST	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
ANNISTON	CALHOUN CO.	AL	08/15/2006	14:25	CST	Thunderstorm Wind	50 kts. EG	0	0	4.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	08/15/2006	14:28	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	06/14/2007	18:30	CST-6	Thunderstorm Wind	70 kts. EG	0	0	100.00K	0.00K
OXFORD	CALHOUN CO.	AL	06/30/2007	15:50	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	07/20/2007	10:35	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
SAKS	CALHOUN CO.	AL	02/26/2008	04:10	CST-6	Thunderstorm Wind	70 kts. EG	0	0	100.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	02/26/2008	04:10	CST-6	Thunderstorm Wind	83 kts. EG	0	0	260.00K	0.00K

4. Risk Assessment

JACKSONVILLE	CALHOUN CO.	AL	04/04/2008	14:36	CST-6	Thunderstorm Wind	52 kts. EG	0	0	3.00K	0.00K
COLDWATER	CALHOUN CO.	AL	04/04/2008	15:55	CST-6	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
DE ARMANVILLE	CALHOUN CO.	AL	05/11/2008	12:35	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
BOILING SPGS	CALHOUN CO.	AL	05/20/2008	17:40	CST-6	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
ANNISTON	CALHOUN CO.	AL	07/05/2008	16:46	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
TREDEGAR	CALHOUN CO.	AL	07/05/2008	17:10	CST-6	Thunderstorm Wind	40 kts. EG	0	0	0.50K	0.00K
PRICES	CALHOUN CO.	AL	07/12/2008	11:36	CST-6	Thunderstorm Wind	45 kts. EG	0	0	0.50K	0.00K
READS MILL	CALHOUN CO.	AL	08/02/2008	17:14	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
MIDDLETON	CALHOUN CO.	AL	08/02/2008	17:53	CST-6	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	01/06/2009	17:00	CST-6	Thunderstorm Wind	74 kts. EG	0	0	160.00K	0.00K
HOBSON CITY	CALHOUN CO.	AL	02/18/2009	15:52	CST-6	Thunderstorm Wind	56 kts. EG	0	0	15.00K	0.00K
WELLINGTON	CALHOUN CO.	AL	03/28/2009	19:33	CST-6	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
ANNISTON	CALHOUN CO.	AL	04/02/2009	21:50	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	04/02/2009	21:52	CST-6	Thunderstorm Wind	40 kts. EG	0	0	5.00K	0.00K
LADIGA	CALHOUN CO.	AL	05/03/2009	14:40	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
GRAYTON	CALHOUN CO.	AL	05/06/2009	10:14	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	06/12/2009	20:51	CST-6	Thunderstorm Wind	39 kts. EG	0	0	2.00K	0.00K
MIDDLETON	CALHOUN CO.	AL	06/15/2009	20:59	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
ANNISTON	CALHOUN CO.	AL	06/15/2009	21:24	CST-6	Thunderstorm Wind	50 kts. EG	0	0	15.00K	0.00K
OLD DAVISVILLE	CALHOUN CO.	AL	06/15/2009	21:49	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
GRAYTON	CALHOUN CO.	AL	06/28/2009	13:16	CST-6	Thunderstorm Wind	55 kts. EG	0	0	10.00K	0.00K
READS MILL	CALHOUN CO.	AL	06/19/2010	12:10	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	06/19/2010	12:30	CST-6	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
JACKSONVILLE MUNI AR	CALHOUN CO.	AL	06/19/2010	12:30	CST-6	Thunderstorm Wind	43 kts. EG	0	0	1.00K	0.00K
READS MILL	CALHOUN CO.	AL	07/24/2010	14:30	CST-6	Thunderstorm Wind	60 kts. EG	0	0	3.00K	0.00K

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MIDDLETON	CALHOUN CO.	AL	10/25/2010	03:36	CST-6	Thunderstorm Wind	3 kts. EG	0	0	3.00K	0.00K
BLUE MTN	CALHOUN CO.	AL	10/25/2010	03:51	CST-6	Thunderstorm Wind	52 kts. MG	0	0	0.00K	0.00K
LANEY	CALHOUN CO.	AL	10/25/2010	03:52	CST-6	Thunderstorm Wind	60 kts. EG	0	0	7.00K	0.00K
BLUE MTN	CALHOUN CO.	AL	10/25/2010	03:52	CST-6	Thunderstorm Wind	60 kts. EG	0	0	2.00K	0.00K
WHITE PLAINS	CALHOUN CO.	AL	11/30/2010	10:18	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	02/25/2011	01:08	CST-6	Thunderstorm Wind	50 kts. MG	0	0	0.00K	0.00K
BLUE MTN	CALHOUN CO.	AL	02/28/2011	15:41	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
JACKSONVILLE MUNI AR	CALHOUN CO.	AL	02/28/2011	15:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
PLEASANT RIDGE	CALHOUN CO.	AL	02/28/2011	15:50	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	03/26/2011	21:30	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
ANNISTON	CALHOUN CO.	AL	04/04/2011	19:47	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
TREDEGAR	CALHOUN CO.	AL	04/20/2011	05:38	CST-6	Thunderstorm Wind	40 kts. EG	0	0	0.50K	0.00K
BLUE MTN	CALHOUN CO.	AL	04/20/2011	05:47	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
MIDDLETON	CALHOUN CO.	AL	04/27/2011	05:40	CST-6	Thunderstorm Wind	70 kts. EG	0	0	5.00K	0.00K
WELLINGTON	CALHOUN CO.	AL	04/27/2011	05:44	CST-6	Thunderstorm Wind	70 kts. EG	0	0	3.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	04/27/2011	05:47	CST-6	Thunderstorm Wind	60 kts. EG	0	0	3.00K	0.00K
MIDDLETON	CALHOUN CO.	AL	06/21/2011	15:23	CST-6	Thunderstorm Wind	45 kts. EG	0	0	0.50K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	06/22/2011	12:38	CST-6	Thunderstorm Wind	50 kts. EG	0	0	12.00K	0.00K
ANNISTON	CALHOUN CO.	AL	06/22/2011	17:00	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	06/22/2011	17:12	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	06/24/2011	16:50	CST-6	Thunderstorm Wind	40 kts. EG	0	0	1.00K	0.00K
BLUE MTN	CALHOUN CO.	AL	07/01/2012	16:00	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	07/01/2012	16:14	CST-6	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
PIEDMONT SPGS	CALHOUN CO.	AL	07/01/2012	16:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
PIEDMONT SPGS	CALHOUN CO.	AL	07/01/2012	16:46	CST-6	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K

HOBSON CITY	CALHOUN CO.	AL	07/01/2012	17:21	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
MIDDLETON	CALHOUN CO.	AL	07/02/2012	05:29	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
EASTABOGA	CALHOUN CO.	AL	07/10/2012	17:02	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
DE ARMANVILLE	CALHOUN CO.	AL	01/30/2013	09:10	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
CHOCCOLOCCO	CALHOUN CO.	AL	01/30/2013	09:12	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
MIDDLETON	CALHOUN CO.	AL	03/18/2013	14:46	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
SAKS	CALHOUN CO.	AL	03/18/2013	15:04	CST-6	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	03/18/2013	15:05	CST-6	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
Totals:								0	0	1.036M	0.00K

6 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>
ANNISTON	CALHOUN CO.	AL	05/06/2003	19:50	CST	Lightning		0	0	30.00K	0.00K
ANNISTON	CALHOUN CO.	AL	05/07/2003	15:30	CST	Lightning		0	0	75.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	08/27/2003	15:50	CST	Lightning		0	0	48.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	06/13/2004	16:45	CST	Lightning		0	3	20.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	08/15/2006	14:25	CST	Lightning		0	0	10.00K	0.00K
SAKS	CALHOUN CO.	AL	07/01/2007	15:30	CST-6	Lightning		0	0	500.00K	0.00K
Totals:								0	3	683.00K	0.00K

71 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>
OHATCHEE	CALHOUN CO.	AL	03/19/2003	15:07	CST	Hail	1.00 in.	0	0	2.00K	0.00K
ANNISTON	CALHOUN CO.	AL	03/19/2003	15:30	CST	Hail	1.75 in.	0	0	10.00K	0.00K
ANNISTON	CALHOUN CO.	AL	03/19/2003	15:30	CST	Hail	0.88 in.	0	0	0.00K	0.00K
SAKS	CALHOUN CO.	AL	03/19/2003	15:42	CST	Hail	1.75 in.	0	0	7.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	05/02/2003	14:54	CST	Hail	4.50 in.	0	0	100.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/02/2003	17:07	CST	Hail	1.75 in.	0	0	250.00K	0.00K
WHITE PLAINS	CALHOUN CO.	AL	05/05/2003	19:28	CST	Hail	1.00 in.	0	0	0.00K	0.00K
BYNUM	CALHOUN CO.	AL	05/07/2003	13:55	CST	Hail	1.00 in.	0	0	0.00K	0.00K

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PIEDMONT	CALHOUN CO.	AL	05/17/2003	19:09	CST	Hail	1.75 in.	0	0	5.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	05/09/2004	15:08	CST	Hail	0.88 in.	0	0	0.00K	0.00K
ANNISTON CALHOUN ARP	CALHOUN CO.	AL	05/18/2004	13:52	CST	Hail	0.75 in.	0	0	0.00K	0.00K
OXFORD	CALHOUN CO.	AL	07/12/2004	14:10	CST	Hail	0.75 in.	0	0	0.00K	0.00K
WEAVER	CALHOUN CO.	AL	02/21/2005	20:27	CST	Hail	1.75 in.	0	0	40.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	04/22/2005	10:10	CST	Hail	1.00 in.	0	0	1.00K	0.00K
ANNISTON	CALHOUN CO.	AL	04/22/2005	16:25	CST	Hail	0.88 in.	0	0	1.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	04/22/2005	16:29	CST	Hail	1.75 in.	0	0	8.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	04/22/2005	19:15	CST	Hail	1.75 in.	0	0	2.00K	0.00K
ALEXANDRIA	CALHOUN CO.	AL	04/22/2005	19:33	CST	Hail	0.88 in.	0	0	1.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	05/19/2005	19:37	CST	Hail	0.88 in.	0	0	0.00K	0.00K
COLDWATER	CALHOUN CO.	AL	06/20/2005	15:27	CST	Hail	0.75 in.	0	0	0.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	12/28/2005	13:29	CST	Hail	1.00 in.	0	0	0.00K	0.00K
OXFORD	CALHOUN CO.	AL	12/28/2005	13:35	CST	Hail	1.00 in.	0	0	0.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	04/18/2006	18:08	CST	Hail	0.75 in.	0	0	0.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	04/19/2006	13:29	CST	Hail	1.75 in.	0	0	0.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	04/19/2006	13:36	CST	Hail	0.75 in.	0	0	0.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	04/19/2006	13:36	CST	Hail	1.00 in.	0	0	0.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	04/19/2006	14:01	CST	Hail	1.00 in.	0	0	0.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	06/22/2006	16:05	CST	Hail	0.88 in.	0	0	0.00K	0.00K
OXFORD	CALHOUN CO.	AL	02/26/2008	04:30	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
ALEXANDRIA	CALHOUN CO.	AL	04/04/2008	14:26	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	04/04/2008	14:36	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
WEAVER	CALHOUN CO.	AL	04/04/2008	15:50	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
HOBSON CITY	CALHOUN CO.	AL	05/20/2008	17:33	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
HOBSON CITY	CALHOUN CO.	AL	05/20/2008	17:57	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
EULATON	CALHOUN CO.	AL	05/20/2008	18:00	CST-6	Hail	1.25 in.	0	0	0.00K	0.00K
ANNISTON	CALHOUN CO.	AL	02/18/2009	15:45	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
HOBSON CITY	CALHOUN CO.	AL	02/18/2009	15:50	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
SAKS	CALHOUN CO.	AL	02/18/2009	16:53	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	04/10/2009	17:06	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
MERRELLTON	CALHOUN CO.	AL	04/10/2009	17:15	CST-6	Hail	1.25 in.	0	0	0.00K	0.00K
MAXWELLBORN	CALHOUN CO.	AL	05/01/2009	19:03	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
MIDDLETON	CALHOUN CO.	AL	06/11/2009	11:40	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
HOBSON CITY	CALHOUN CO.	AL	05/28/2010	13:50	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
WEST END ANNISTON	CALHOUN CO.	AL	05/28/2010	13:52	CST-6	Hail	1.25 in.	0	0	0.00K	0.00K
SAKS	CALHOUN CO.	AL	05/28/2010	14:05	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
READS MILL	CALHOUN CO.	AL	03/26/2011	14:22	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
COBB CITY	CALHOUN CO.	AL	03/26/2011	14:22	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K

PIEDMONT	CALHOUN CO.	AL	03/26/2011	14:49	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
MIDDLETON	CALHOUN CO.	AL	03/28/2011	01:26	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	03/28/2011	01:38	CST-6	Hail	1.75 in.	0	0	0.50K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	03/28/2011	01:38	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	03/28/2011	02:10	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	05/26/2011	13:20	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
BYNUM	CALHOUN CO.	AL	05/26/2011	13:55	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	05/26/2011	13:57	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
WEAVER	CALHOUN CO.	AL	05/26/2011	14:08	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
MAHLEP	CALHOUN CO.	AL	05/26/2011	14:20	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	06/24/2011	16:55	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
WEAVER	CALHOUN CO.	AL	06/26/2011	15:10	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
WELLINGTON	CALHOUN CO.	AL	03/02/2012	18:18	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	03/02/2012	18:30	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	05/05/2012	18:22	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
SAKS	CALHOUN CO.	AL	06/14/2012	14:08	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	06/14/2012	14:19	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	07/01/2012	15:45	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
HOBSON CITY	CALHOUN CO.	AL	07/01/2012	15:45	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
HOBSON CITY	CALHOUN CO.	AL	07/01/2012	16:08	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
PIEDMONT SPGS	CALHOUN CO.	AL	07/01/2012	16:20	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	03/18/2013	14:37	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
MERRELLTON	CALHOUN CO.	AL	03/18/2013	15:05	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	03/18/2013	15:22	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
Totals:								0	0	427.50K	0.00K

9 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>
WHITE PLAINS	CALHOUN CO.	AL	03/06/2003	02:48	CST	Tornado	F1	0	3	200.00K	0.00K
BYNUM	CALHOUN CO.	AL	11/24/2004	07:09	CST	Tornado	F2	1	0	85.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	08/29/2005	14:53	CST	Tornado	F1	0	0	115.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	04/08/2006	00:52	CST	Tornado	F1	0	0	14.00K	0.00K
FT MC CLELLAN	CALHOUN CO.	AL	04/04/2008	14:24	CST-6	Tornado	EF0	0	0	0.00K	0.00K
OLD DAVISVILLE	CALHOUN CO.	AL	08/25/2008	11:11	CST-6	Tornado	EF1	0	0	10.00K	0.00K
CHOCOLOCOCO	CALHOUN CO.	AL	08/25/2008	11:19	CST-6	Tornado	EF1	0	0	150.00K	0.00K
MIDDLETON	CALHOUN CO.	AL	04/27/2011	18:04	CST-6	Tornado	EF4	8	25	122.000M	0.00K

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MAXWELLBORN	CALHOUN CO.	AL	04/27/2011	18:24	CST-6	Tornado	EF1	1	1	4.000M	0.00K
Totals:								10	29	126.574M	0.00K

19 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	CALHOUN CO.	AL	05/05/2003	22:30	CST	Flash Flood		0	0	45.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/07/2003	16:00	CST	Flash Flood		0	0	700.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/18/2003	10:17	CST	Flash Flood		0	0	10.00K	0.00K
OXFORD	CALHOUN CO.	AL	07/06/2004	20:00	CST	Flash Flood		0	0	3.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	09/16/2004	10:45	CST	Flash Flood		0	0	3.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	11/24/2004	07:13	CST	Flash Flood		0	0	18.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	06/06/2005	15:00	CST	Flash Flood		0	0	3.00K	0.00K
ANNISTON	CALHOUN CO.	AL	07/10/2005	17:30	CST	Flash Flood		0	0	3.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	05/27/2008	17:15	CST-6	Flash Flood		0	0	15.00K	0.00K
DUKE	CALHOUN CO.	AL	09/17/2009	16:30	CST-6	Flash Flood		0	0	5.00K	0.00K
BLUE MTN	CALHOUN CO.	AL	11/10/2009	19:00	CST-6	Flood		0	0	0.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	01/24/2010	09:45	CST-6	Flash Flood		0	0	10.00K	0.00K
WHITE PLAINS	CALHOUN CO.	AL	03/09/2011	07:00	CST-6	Flash Flood		0	0	0.00K	0.00K
GRAYTON	CALHOUN CO.	AL	03/09/2011	08:10	CST-6	Flash Flood		0	0	0.00K	0.00K
WEST END ANNISTON	CALHOUN CO.	AL	01/30/2013	10:50	CST-6	Flash Flood		0	0	0.00K	0.00K
HOBSON CITY	CALHOUN CO.	AL	01/30/2013	10:50	CST-6	Flash Flood		0	0	0.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	04/17/2013	14:15	CST-6	Flash Flood		0	0	0.00K	0.00K
EASTABOGA	CALHOUN CO.	AL	05/18/2013	03:00	CST-6	Flash Flood		0	0	0.00K	0.00K
MAHLEP	CALHOUN CO.	AL	05/18/2013	08:44	CST-6	Flood		0	0	0.00K	0.00K
Totals:								0	0	815.00K	0.00K

28 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>
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	03/27/2007	06:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K

CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/26/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/20/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

11 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
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/24/2003	00:00	CST	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/25/2004	18:30	CST	Winter Storm		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/28/2005	20:45	CST	Ice Storm		0	0	20.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/07/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/12/2010	13:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/15/2010	11:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/25/2010	07:30	CST-6	Heavy Snow		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/26/2010	03:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/09/2011	16:40	CST-6	Winter Storm		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/17/2013	14:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	20.00K	0.00K

11 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
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/16/2004	09:00	CST	High Wind	50 kts. EG	0	0	350.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/02/2005	08:00	CST	Strong Wind	35 kts. MG	0	0	1.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/12/2005	03:00	CST	Strong Wind	40 kts. EG	0	0	1.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	16.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/29/2005	23:30	CST	Tropical Storm		0	0	40.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/20/2007	17:45	CST-6	Strong Wind	30 kts. EG	0	0	10.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/23/2008	12:00	CST-6	Tropical Depression		0	0	5.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/10/2009	13:45	CST-6	Strong Wind	39 kts. EG	0	0	3.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/13/2009	03:00	CST-6	Strong Wind	44 kts. MG	0	0	61.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/09/2009	14:00	CST-6	Tropical Depression		0	0	2.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/09/2009	01:00	CST-6	Strong Wind	45 kts. EG	0	0	25.00K	0.00K
Totals:								0	0	514.00K	0.00K

LOCAL INPUT ON TROPICAL STORMS/STRONG WIND DAMAGES

Location	Date	Type	Dth	Inj	PrD	CrD	Total Cost	Associated Hurricane
Calhoun Zone	9/16/2004	High Wind	0	0	\$350,000	0	\$350,000	Ivan
Anniston	4/2/2005	Strong Wind	0	0	\$1,000	0	\$1,000	None
Calhoun Zone	4/12/2005	Strong Wind	0	0	\$1,000	0	\$1,000	None
Calhoun Zone	7/10/2005	Tropical Storm	0	0	\$16,000	0	\$16,000	Dennis
Calhoun Zone	8/29/2005	Tropical Storm	0	0	\$40,000	0	\$40,000	Katrina
Calhoun Zone	12/20/2007	Strong Wind	0	0	\$10,000	0	\$10,000	None
Calhoun Zone	8/23/2008	Tropical Depression	0	0	\$5,000	0	\$5,000	Fay
Calhoun Zone	4/10/2009	Strong Wind	0	0	\$3,000	0	\$3,000	None
Calhoun Zone	4/13/2009	Strong Wind	0	0	\$61,000	0	\$61,000	None
Calhoun Zone	11/9/2009	Tropical Depression	0	0	\$2,000	0	\$2,000	Ida
Calhoun Zone	12/09/2009	Strong Wind	0	0	\$25,000	0	\$25,000	None
Totals			0	0	\$504,000	0	\$504,000	

5 Sinkhole Events – 01/01/2003 thru 12/31/2013 (4018 days)*(Source: The Anniston Star, October 13, 2015)*

<u>Location</u>		<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>Type</u>	<u>Depth</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
Oxford	Intersection of U. S. 78 West and Mountain Crest Avenue, 3 miles from downtown Oxford	AL	2005		Sinkhole	Large enough to drive a bus into		0	0	Unknown	0.00K
Oxford	Site of Sam's Club just across Leon Smith Parkway from Oxford Commons	AL	2009		Sinkhole			0	0	Unknown	0.00K
Oxford	Near Publix at Oxford Commons	AL	August 2013		Sinkhole			0	0	1.00M	0.00K
Calhoun County	AL 21 at Mile Marker 225	AL	August 2013		Sinkhole			0	0	9.4M	0.00K
Anniston	Intersection of Weaver Road and Glade Road	AL	May 2013		Sinkhole	80 ft.		0	0	Unknown	0.00K
TOTAL										10.4 M	0.00K

No/unknown sinkhole events occurred or were reported to *NOAA NCDC Storm Events Database/U.S. Geological Survey* during 01/01/2003 thru 12/31/2013.

0 Landslide Events – 01/01/2003 thru 12/31/2013 (4018 days)*(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)*

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

2 Earthquake Events – 01/01/2003 thru 12/31/2013 (4018 days)*(Source: www.homefacts.com/earthquakes/Alabama.html and local input)*

<u>Location</u>		<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>Type</u>	<u>Depth</u>	<u>Mag/Intensity</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
Calhoun County	53.1 miles from county's center	AL	4/29/2003	8:59 a.m.	Earthquake	12.2 miles	4.9/ IV-V	0	0	0.00K	0.00K
Calhoun County	3.29 miles from Hobson City	AL	10/15/2012		Earthquake		2.3	0	0	0.00K	0.00K

No/unknown earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013 by the *NOAA NCDC Storm Events Database/U.S. Geological Survey/Alabama Geological Survey*.

137 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
Calhoun	137	46	3,517.25	1,196	26

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

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

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

4.2 Thunderstorms

- 4.2.1 A thunderstorm is a convective cloud that often produces heavy rain, wind gusts, thunder, lightning, and hail. Calhoun 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.
- 4.2.2 Primary effects from thunderstorms in Calhoun County would include:
1. High Winds, Straight-line Winds
 2. Lightning
 3. Flooding
 4. Hail
 5. Spawning Tornados
- 4.2.3 Hazardous results from significant thunderstorms in Calhoun 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.
- 4.2.4 **Table 4.1-5** shows the historical occurrences of thunderstorms during the study period. Each jurisdiction is at risk for thunderstorm events. Of the 80 thunderstorms reported, 6 affected the entire county, 36 occurred in an unincorporated county area, and the remaining 38 affected only specific municipalities.
- 4.2.5 On June 14, 2007, isolated severe thunderstorms brought hail and high winds to Central Alabama. In the Piedmont and Vigo areas of Northern Calhoun County, one home had its roof completely blown off, one barn had its roof blown off, a few homes had shingle damage, one

tree fell on a mobile home, and several more trees and power lines were blown down. No injuries, deaths, or crop damages occurred. Property damages were estimated at \$100,000.

- 4.2.6 On January 6, 2009, a slow moving frontal system caused several large areas of showers and thunderstorms to move across Central Alabama, during the period from January 5 to January 7. Some of the thunderstorms became severe, producing sporadic wind damage. Storm total rainfall from the storms ranged from 3 to 7 inches north of the Interstate 20. Numerous locations, again mainly north of Interstate 20, saw significant flash flooding due to the heavy rainfall, which later turned into river flooding which lasted for several more days. A few dozen large trees were uprooted or snapped along a 1.5 mile long, half mile wide, swath of damage near the City of Oxford. One mobile home was destroyed when a tree fell on it, and an apartment complex also sustained damage from falling trees. In all, at least 3 dozen structures sustained varying degrees of damage, most of it roof damage. Maximum winds were estimated around 85 mph, although most locations experienced winds around 50 mph. Property damages were estimated at \$160,000 for this event.
- 4.2.7 On February 26, 2008 an advancing cold front moving through the state caused widespread wind damage and a few tornadoes across Central Alabama, especially in the eastern half of the state. Wind damage was widespread from near the Anniston/Oxford Airport, eastward to Douglas Drive and Glover Drive, southeast of Oxford. Most of the damage near the airport was in the form of snapped and uprooted trees and broken tree limbs. There were some blown down signs and some damage to billboards. Farther to the east, numerous oak trees were uprooted and numerous pine trees were snapped, with an estimated 50 to 100 trees damaged total. There was some roof damage to a few homes, a roof was blown off a barn, and a few fences were also blown down. No injuries, deaths, or crop damages occurred. Property damages of \$260,000 resulted from this event.
- 4.2.8 Calhoun County experienced 80 thunderstorm events in a 10 year period resulting in a greater than 100% (8.00) probability that a thunderstorm event will occur on an annual basis. The total amount of damages for the 80 thunderstorm events was \$1,036,000 with 65 thunderstorm events causing damage resulting in an estimated \$15,938 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 Calhoun County due to a thunderstorm event. Calhoun County's thunderstorm extent is severe; having winds up to 85 mph (74 knots) during this plan's study period. The damage ranking is minor to major.

4.3 Lightning

- 4.3.1 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. Lightning is a giant spark of electricity in the atmosphere or between the atmosphere and the ground. In the initial stages of development, air acts as an insulator between the positive and negative charges in the cloud and between the cloud and the ground; however, when the differences in charges becomes too great, this insulating capacity of the air breaks down and there is a rapid discharge of electricity that we know as lightning. Lightning can occur between opposite charges within the thunderstorm cloud (Intra Cloud Lightning) or between opposite charges in the cloud and on the ground (Cloud-To-Ground Lightning). Cloud-to-ground lightning is divided two different types of flashes depending on the charge in the cloud where the lightning originates. Thunder is the sound made by a flash of lightning. As lightning passes through the air it heats the air quickly. This causes the air to expand rapidly and creates the sound wave we hear as thunder. Normally, you can hear thunder about 10 miles from a lightning strike.

Since lightning can strike outward 10 miles from a thunderstorm, if you hear thunder, you are likely within striking distance from the storm.

- 4.3.2 The months of June through September are the deadliest as far as lightning is concerned. In an average year, three people will be struck and killed by lightning in Alabama and at least six will be injured. (Source: National Weather Service/Lightning Safety Accessed 11/16/14). Each jurisdiction is equally at risk for lightning events. Lightning strikes can cause power outages, fires, electrocution, and disruptions to communication systems. The NOAA NCDC reported 6 lightning events during the ten-year study period of 2003-2013. In these events, \$683,000 of damages occurred to property, \$0 of crop damages, 3 injuries, and no deaths were reported. Table 3-5 shows the historical occurrences of lightning during the study period. The entire planning area of the county is equally at risk for a lightning event. While the State of Alabama experienced 11-20 deaths as a result of lightning strikes during 2003 – 2013, none of the deaths occurred in Calhoun County. Due to no county experiences, it is not possible to determine a more factual probability of lightning occurrences for the Calhoun County planning area.
- 4.3.3 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.
- 4.3.4 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.
- 4.3.5 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.
- 4.3.6 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). During the years 2004-2013, Alabama experienced 11 deaths due to lightning (NOAA, December 18, 2014).
- 4.3.7 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.
- 4.3.8 Calhoun County experienced 6 lightning events in a 10 year period resulting in a 60% (0.06) or unknown probability that a lightning event will occur on an annual basis. The total amount of damages for the 6 lightning events was \$683,000 with 6 lightning events causing damage resulting in an estimated \$113,833 of expected annual damages from future events. The

extent/range of magnitude or severity that could be experienced by Calhoun County due to a lightning event is based on the Vaisala's National Lightning Detection Network (NLDN) at NOAA.gov and is 6-8 average flash density fl/sq mi/yr cloud-to-ground lightning incidences. The damage ranking is minimum to minor.

4.3.9 Primary effects from lightning in Calhoun County would include:

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

4.3.10 Hazardous results from significant lightning in Calhoun 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.

4.4 Hail

4.4.1 Hail is frequently associated with severe thunderstorms. 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, 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).

4.4.2 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 4.4-1**. Note that penny size (3/4 inches in diameter) or larger hail is considered severe.

Table 4.4-1 Estimating Hail Size

Source: NWS, January 10, 2003

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

- 4.4.3 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.
- 4.4.4 The NOAA NCDC reported 71 hail events during the ten-year study period of 2003-2013. An estimated \$427,500 in property damage resulted from these events. No crop damage, injuries, or deaths were reported during these hail events. Table 3-5 shows the historical occurrences of hail events during the study period. Each jurisdiction is at risk for hail. Of the events reported, one event on May 2, 2003 affected the entire county, one occurred in an unincorporated county area, and the remaining 69 affected only specific municipalities.
- 4.4.5 On May 2, 2003, large hail fell across many locations in eastern and southern Calhoun County. The largest hail reported was golf ball size and in many spots the hail covered the ground. A few homes received roof damage from the large hail. Some locations that reported hail were Jacksonville, Anniston, Oxford, Alexandria, and Weaver. Several funnel cloud reports were received as these storms moved across the county. Several trees and power lines were also blown down leaving as many as 1000 customers temporarily without power. Calhoun County experienced hail magnitude of 1.75 inches (golf ball size), resulting in \$250,000 property damage across the area. No injuries, deaths, or crop damages occurred.
- 4.4.6 Calhoun County experienced 71 hail events in a 10 year period resulting in a greater than 100% (7.10) probability that a hail event will occur on an annual basis. The total amount of damages for the 71 hail events was \$427,500 with 13 hail events causing damage resulting in an estimated \$32,885 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 Calhoun County due to a hail event. According to the TORRO Hailstorm Intensity Scale, Calhoun County's extent is H5, Destructive – wholesale destruction of glass, damage to tiled roofs and significant risk of injuries. The damage ranking is minor to major.
- 4.4.7 Primary Effects from Hail in Calhoun County would include:
1. Property Damage
 2. Crop Damage

3. Communication equipment damage
4. Livestock loss and injury

4.4.8 Hazardous results from significant Hail in Calhoun 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.

4.5 Tornadoes

- 4.5.1 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 4.2-1** shows the general paths of tornadoes across the United States for the year 2011.
- 4.5.2 **Figure 4.2-2** shows the FEMA designated wind zones in the United States. Calhoun County is located in Zone IV which warrants profiling. Zone IV has witnessed a higher frequency of tornadoes than any other zone. Zone IV has also witnessed some of the deadliest tornadoes in history.
- 4.5.3 A total of nine tornadoes occurred in Calhoun County according to NOAA NCDC during 2003 - 2013. An estimated \$126,574,000 in property damage, no crop damage, twenty nine injuries, and ten deaths occurred as a result of the reported tornadoes.
- 4.5.4 The most significant event during the study period occurred on April 27, 2011. A powerful storm system crossed the Southeast United States on Wednesday, April 27, 2011, 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. Central Alabama had two rounds of severe weather that day. During the early morning hours, a Quasi-Linear Convective System quickly moved across the northern half of the National Weather Service, Birmingham county warning area. Straight line winds of 90 mph (78 kts) or greater and 11 tornadoes lead to widespread damage and power outages. During the afternoon, long-lived super cell thunderstorms produced long-track, strong and violent tornadoes. Destruction and loss of life across many towns and communities was devastating. This tornado initially touched down in eastern Jefferson County, north northeast of Trussville and moved northeast through portions of St. Clair, Calhoun, Etowah and Cherokee Counties, before it moved into Georgia, across Polk, Floyd and Bartow (See Storm Data Peachtree City) Counties. The tornado crossed Neely Henry Lake and into Calhoun County at Eagle Cove Rd., northwest of Ohatchee. At this point, the tornado had winds of 180 mph, an EF4 rating, and a path width of 1 mile. As the tornado crossed AL Hwy 77, numerous homes were leveled and mobile homes were demolished. Trees were left as stumps. Four fatalities occurred in this area. The tornado continued to cause extensive damage as it moved northeast crossing US Hwy 431 at Colwell and CR 23, where several homes and one church were destroyed. Four fatalities occurred in this area. As the tornado approached the Etowah County line, it weakened to an EF2 with winds of 120 mph, but continued to cause damage. Several homes were damaged and one mobile home destroyed along CR 64. The tornado moved into Etowah

County east of Cannonball Rd. The hardest hit areas included Shottsville and Hackleburg, both in Marion County, where winds of 160 mph and 210 mph respectively, caused unimaginable damage. Cordova, in Walker County, was hit twice; by a tornado along the Quasi-Linear Convective System during the early morning hours and again in the afternoon by a long-track EF4 tornado. A long track tornado moved across the city of Tuscaloosa and the western suburbs of Birmingham, resulting in the complete destruction of whole neighborhoods and numerous injuries and fatalities in those heavily populated areas. The same parent super cell produced another violent tornado in east Central Alabama as it tracked across St. Clair and Calhoun Counties, resulting in additional fatalities and incredible damage to a number of neighborhoods. Another violent EF4 tornado tracked across portions of Elmore and Tallapoosa Counties, including Lake Martin, destroying numerous homes and a large section of a mobile home park. 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. Each jurisdiction has been affected by tornado activity in the past. The location of Calhoun County in Wind Zone IV, past occurrences of tornados, and the potential for future occurrences to cause damage, death, and injuries leaves Calhoun County vulnerable to and at risk for tornados.

- 4.5.5 Calhoun County experienced 9 tornado events in a 10 year period resulting in a 90% (0.09) probability that a tornado event will occur on an annual basis. The total amount of damages for the 9 tornado events was \$126,574,000 with 8 tornado events causing damage resulting in an estimated \$15,821,750 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 Calhoun County due to a tornado event. According to the Fujita-Pearson Scale of Tornado Intensity, Calhoun County's extent is F4-F5 violent tornados. The damage ranking is major.
- 4.5.6 Primary effects from Tornados in Calhoun County would include:
1. Loss of life
 2. Property damage
 3. Infrastructure destruction and damage
 4. Sanitation and water delivery interruption
- 4.5.7 Hazardous results from significant Tornados in Calhoun 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.

Table 4.5-1 Generalized Tornado Paths for 2011

Source: NOAA National Weather Service, Storm Prediction Center

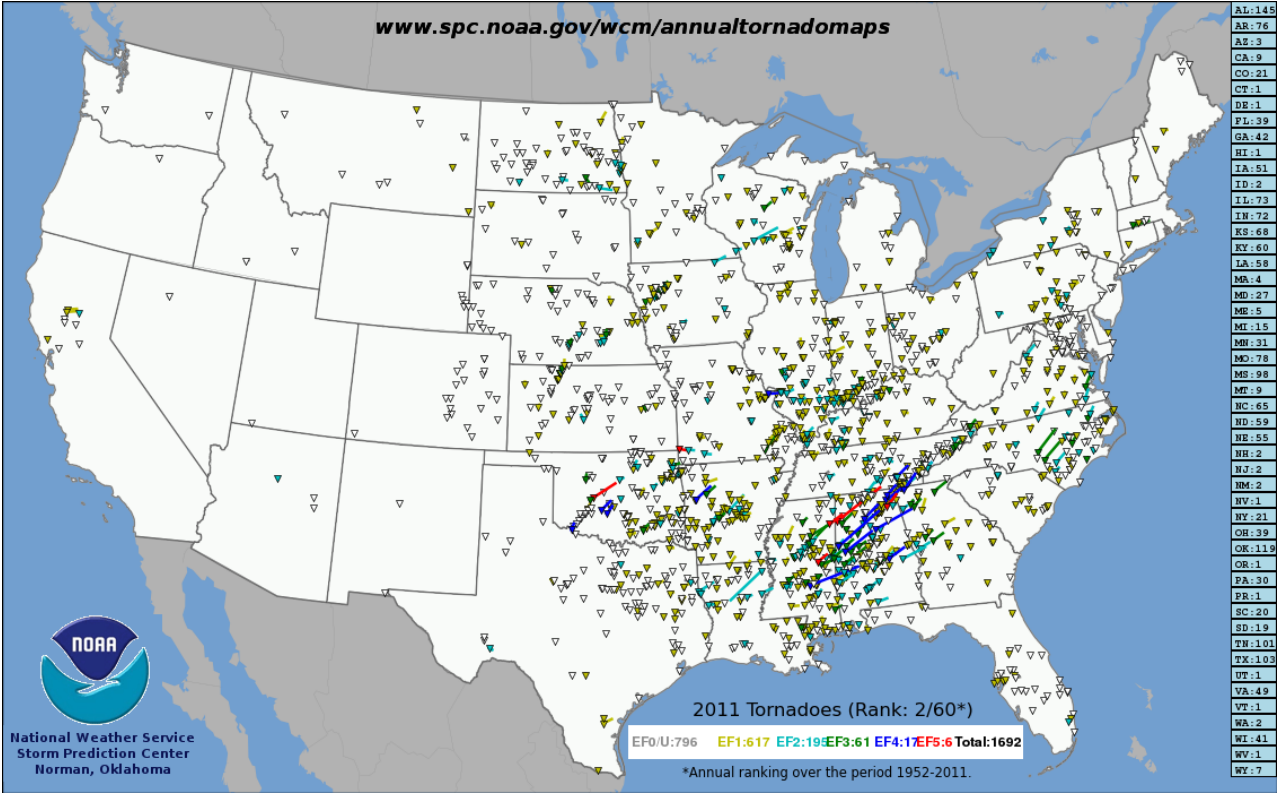
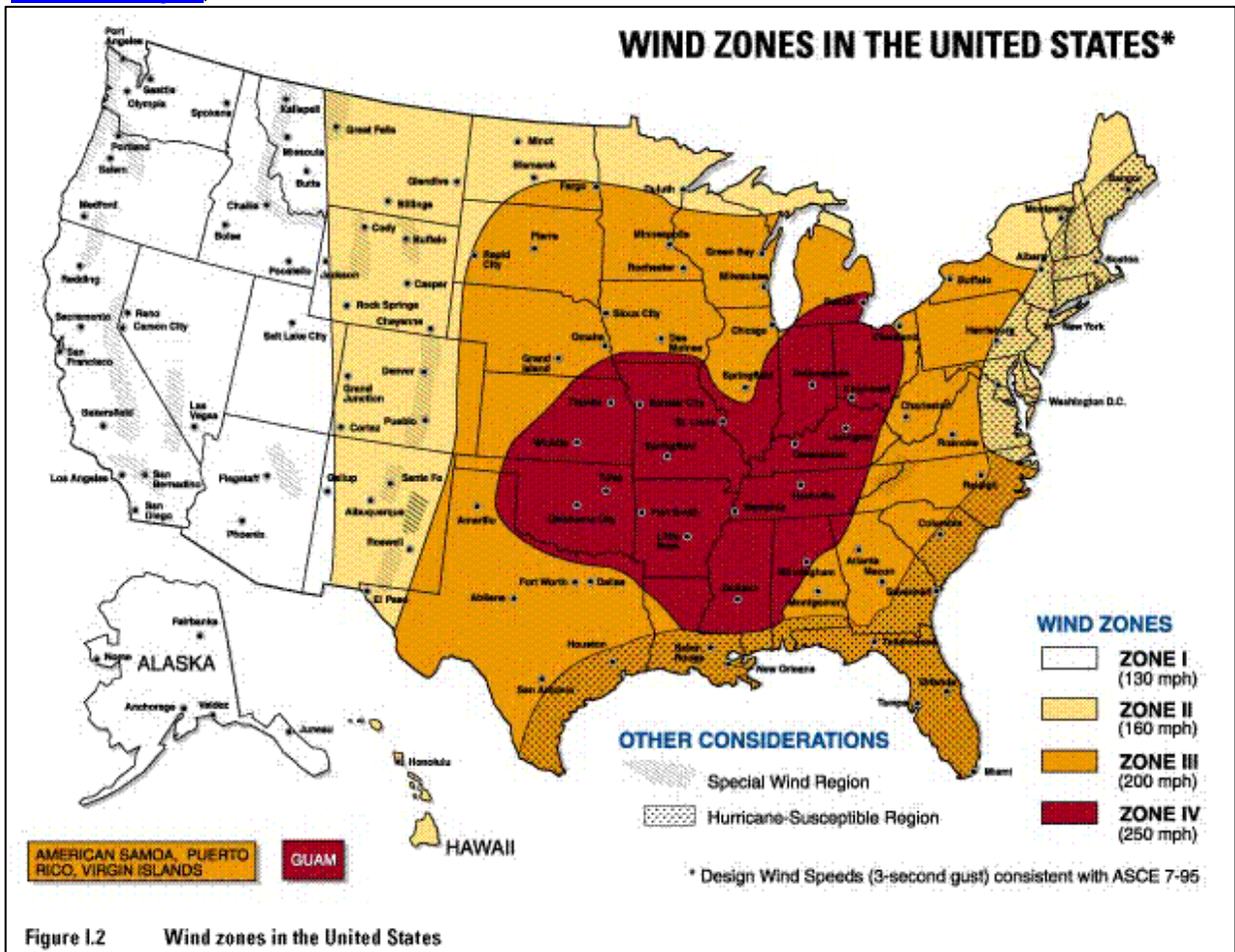


Table 4.5-2 – Wind Zones in the United States

www.fema.gov, 2014



4.5.8 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 4.1-5** 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.

Table 4.5-3 – Fujita Tornado Scale (Old)*Source: NOAA, NWS, Storm Prediction Center, 2007.*

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.

Table 4.5-4 – Enhanced Fujita Scale (New)*Source: NOAA, NWS, Storm Prediction Center, 2007.*

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.

4.6 Floods/Flash Floods

- 4.6.1 There are three types of flooding that affect Calhoun County: (1) general flooding, (2) storm water runoff, and (3) flash flooding. General flooding occurs in areas where development has encroached into flood-prone areas. Storm water runoff causes flooding in areas that have inadequate drainage systems. Flash flooding is caused when a large amount of rain falls within a short period of time. **Table 4.1-5** shows severe flooding events in Calhoun County recorded

by NOAA NCDC. Between 2003 and 2013 there were 17 occurrences of flash flooding and 2 floods in the county. Damages from these events were only as a result of flash flooding and totaled \$815,000 in property damage, no crop damage, no deaths, and no injuries.

- 4.6.2 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.
- 4.6.3 Dam-break floods may occur due to structural failures (e.g., progressive erosion), overtopping or breach from flooding, or earthquakes. Dam failures are potentially the worst flood events. Dam safety has been an ongoing hazard mitigation issue in the State of Alabama for the past decade, 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. Approximately 1,700 privately owned dams would fit into the category proposed by the law.
- 4.6.4 According to *HAZUS MH 2.1*, Calhoun County has 46 High Density Polyethylene (HDPE - Earth) Dams, including two high hazard dams (Yahou) located along Remount Creek and (Choccolocco Creek Watershed Dam #6) on Shoal Creek. No historical records are available of dam/levee failures in Calhoun 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.
- 4.6.5 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.
- 4.6.6 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.
- 4.6.7 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. 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 4.6-3** shows a range of flood recurrence intervals and their probabilities of occurrence.

Table 4.6-1 – Flood Probability Terms

Source: FEMA, 2014

Flood Recurrence Intervals	Percent Chance of Annual Occurrence
10-Year	10.0%
50-Year	2.0%
100-Year	1.0%
500-Year	0.2%

- 4.6.8 On May 7, 2003, several roads across the county were flooded and impassable. Ohatchee City Park was flooded and damage occurred to the ball fields. Oxford Lake also had some damaged ball fields. Numerous homes and businesses in Hobson City were damaged by flood waters. Oxford Fire Department rescued several individuals using boats. Three structures were struck by lightning, one in Hobson City and two in Anniston. Each resulted in a fire that produced varying degrees of damage. No injuries, deaths, or crop damage occurred but property damages were estimated at \$700,000 from this event.
- 4.6.9 On May 5, 2003, heavy rain in a short period of time produced flooding across Calhoun County. Several roads were temporarily impassable due to high water. One bridge was flooded. One mobile home was flooded. The storms knocked out power to an estimated 8,000 customers. Snow Creek rose above bank full and flooded a few vehicles. The Ohatchee Youth Sports Facility was flooded causing extensive damage. No injuries, no deaths, no crop, and \$45,000 property damages occurred from this event.
- 4.6.10 Calhoun County experienced 19 flood/flash flood events in a 10 year period resulting in a greater than 100% (1.90) probability that a flood/flash flood event will occur on an annual basis. The total amount of damages for the 19 flood/flash flood events was \$815,000 with 12 flood/flash flood events causing damage resulting in an estimated \$67,917 of expected annual damages from future events. The referenced flood/flash 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 Calhoun County due to a flood/flash flood event. According to noaa.gov, Calhoun County has the extent of 3-7 inches of water covering roadways. The damage ranking is minor to major.
- 4.6.11 Primary Effects from Floods in Calhoun County would include:
1. Loss of life
 2. Property damage
 3. Crop damage
 4. Dam and levee failure
- 4.6.12 Hazardous results from significant flood in Calhoun 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 inadaptable 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.

4.6.13 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

4.6.14 Calhoun 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 Calhoun County was completed in 2007. The National Flood Insurance Program (NFIP) requires local participation. **Table 4.6-2** shows the current NFIP status of each jurisdiction. 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.

4.6.15 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.

4.6.16 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.

4.6.17 Additionally, Calhoun 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 2.16-1**.

Table 4.6-2 – National Flood Insurance Program Status by Jurisdiction

Source: FEMA Community Status Book Report as of May 6, 2015

CID	Community Name	Initial FHBM Identified	Initial FIRM Identified	Current Eff. Map Date	Sanction Date	Tribal
010013#	Calhoun County	11/29/1974	9/15/1983	9/28/2007	9/15/1983	No
010020#	City of Anniston	12/14/1973	9/15/1983	9/28/2007	9/15/1983	No
010021#	Town of Hobson City	5/17/1974	9/30/1983	9/28/2007	9/30/1983	No
010022#	City of Jacksonville	5/17/1974	7/5/1982	9/28/2007	7/5/1982	No
010013# 010232#	Town of Ohatchee	1/31/1975	9/28/2007	9/28/2007	8/18/2004	No
010023#	City of Oxford	5/17/1974	1/18/1984	9/28/2007	1/18/1984	No
010024#	City of Piedmont	6/7/1974	6/15/1984	9/28/2007	6/15/1984	No
010025#	City of Weaver	11/30/1973	9/30/1983	9/28/2007	9/30/1983	No

- 4.6.18 Severe Repetitive Loss Properties and Repetitive Loss Properties: FEMA defines repetitive loss properties as those having two or more claims of \$1,000 or more in the past 10-year period. FEMA defines severe repetitive loss properties as those properties claiming at least four claims over \$5,000, which amount to more than \$20,000 total; or properties with two claim payments cumulatively greater than the market value of the building – both of which must take place within a 10-year period and not less than 10 days apart.
- 4.6.19 There are no Severe Repetitive Loss or Repetitive Loss properties in Calhoun County at this time; however, flood prone areas include:
- **Calhoun County:** County Road 19, County Road 73, Post Oak Road in Alexandria Area, Rock Springs Road, Golden Valley Road, Meeks Road, Hollingsworth Drive, and Hellamanard Road.
 - **Anniston:** 14th Street to Boynton Street, E Street to G Street, North Noble Street, and Rocky Hollow
 - **Hobson City:** Martin Luther King Jr. Drive
 - **Jacksonville:** Burke Avenue, Cardinal Lane, Fourth Avenue NE, Morningside Drive NE to Fifth, Avenue NE, Skelton Street, and West Avenue
 - **Ohatchee:** Harts Ferry Road
 - **Oxford:** Main Street, area near HWY 431 & HWY 78 intersection
 - **Piedmont:** Cherry Street, Church Street, Dailey Street, Front Street to Alabama Street, and Southern Avenue
 - **Weaver:** Intersection of Alexandria Road and Cedar Springs Road

4.7 Drought/Extreme Heat

- 4.7.1 Drought occurs when there is a deficiency of precipitation over an extended period of time. Climatic factors, such as high temperature, high winds, and low relative humidity, can contribute to the severity of a drought. No society is immune to the social, economic, and environmental impacts of a drought. There are two primary types of drought: meteorological and hydrological droughts. These events can result in agricultural and socioeconomic droughts.
- 4.7.2 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.
- 4.7.3 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.
- 4.7.4 Agricultural droughts occur when the moisture in the soil no longer meets the needs of the crops.
- 4.7.5 Socioeconomic droughts occur when physical water shortage begins to affect people and their quality of life.
- 4.7.6 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.

- 4.7.7 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.
- 4.7.8 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.
- 4.7.9 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 3-10. 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.
- 4.7.10 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).
- 4.7.11 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.
- 4.7.12 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.
- 4.7.13 The National Weather Service uses two indices 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.
- 4.7.14 During the past ten years, Calhoun County experienced D2 Severe to D3 Extreme Drought in 2006, D2 Severe to D4 Exceptional Drought in 2007, and D0 Abnormally Dry to D3 Exceptional Drought in 2008, D2 Severe Drought conditions in 2010, D0 Abnormally Dry to D2 Severe in 2012. No deaths, injuries, property or crop damages were reported.
- 4.7.15 The categories of drought are defined as follows (source <http://droughtmonitor.unl.edu>, accessed 11/16/14):

- **Abnormally Dry (D0)** - Going into drought: short-term dryness slowing planting, growth of crops or pastures; fire risk above average. Coming out of drought: some lingering water deficits; pastures or crops not fully recovered.
- **Moderate Drought (D1)** - Some damage to crops, pastures; fire risk high; streams, reservoirs, or wells low, some water shortages developing or imminent, voluntary water use restrictions requested.
- **Severe Drought (D2)** - Crop or pasture losses likely; fire risk very high; water shortages common; water restrictions imposed.
- **Extreme Drought (D3)** - Major crop/pasture losses; extreme fire danger; widespread water shortages or restrictions.
- **Exceptional Drought (D4)** - Exceptional and widespread crop/pasture losses; exceptional fire risk; shortages of water in reservoirs, streams, and wells, creating water emergencies.

4.7.16 Calhoun County experienced 28 drought/extreme heat events in a 10 year period resulting in a greater than 100% (2.80) probability that a drought/extreme heat event will occur on an annual basis. The total amount of damages for the 28 drought/extreme heat events was \$0 with no drought/extreme heat events causing damage resulting in an estimated \$0 of expected annual damages from future events. The referenced drought 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 Calhoun County due to a drought event. According to the Palmer Drought Severity Index, Calhoun County's extent of drought is exceptional – exceptional and widespread crop/pasture losses; exceptional fire risk; and shortages of water in reservoirs, streams, and wells, creating water emergencies. The damage ranking is minimum to minor.

4.7.17 Primary effects from Drought and Excessive Heat in Calhoun 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

4.7.18 Hazardous results from significant Drought and Excessive Heat in Calhoun 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

4.7.19 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.

4.7.20 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
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.

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4.7.21 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 4.7-1 – Heat Index/Heat Disorders

Source: National Weather Service, 2014

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

4.7.22 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.

4.7.23 **Table 2.16-1** reflects that the NOAA NCDC reported 28 instances of drought for Calhoun County from 2003-2013. No crop or property damages were reported. There were 28 reports of drought but no reports of extreme heat events during this ten year period.

4.8 Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold

- 4.8.1 Calhoun County is vulnerable to extreme winter weather conditions such as extreme cold temperatures, snow, and ice. **Table 2.16-1** shows the winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather events that have affected Calhoun County from 2003 - 2013.
- 4.8.2 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.
- 4.8.3 On January 24, 2003, Calhoun County experienced the coldest temperatures in 7 years occurred across much of North and Central Alabama and lasted for about two days. Early morning temperatures ranged from 2 to 10 degrees. The coldest temperatures were measured in outlying areas. Although no new records were established, these temperatures were very cold for the Deep South. Many area residents reported frozen and broken water pipes as a result of the extended cold. Several lawn sprinkler systems also froze and broke making many areas very icy. One woman in Talladega was found outside dead, apparently succumbing to the harsh, cold conditions. Many area farmers lost a large part of their strawberry crops. No injuries, deaths, crop, or property damages were reported in Calhoun County.
- 4.8.4 Calhoun County experienced an ice storm on January 28, 2005. Strong Cold Air damming along the Southern Appalachians provided a continuous source of surface cold and dry air from the east. This colder air, in combination with an approaching storm system with abundant gulf moisture, changed the rain to freezing rain across a large part of eastern Alabama. Exposed surfaces had ice accumulation to at least one quarter of an inch with a few locations reporting ice accumulations of around one half inch. Several trees, tree limbs, and power lines were knocked down and many of the fallen trees temporarily blocked roadways. The rain changed over to freezing rain just after sunset on January 28. Icing conditions started in the early evening hours and tapered off to no additional significant accumulations early on January 29. Light freezing rain accumulated in trees across Jefferson, Shelby, Chilton, Elmore, Autauga, Coosa, Macon, and Russell counties but was not a hazardous situation. No injuries, deaths, or crop damage, but \$20,000 of property damages occurred.
- 4.8.5 On December 25, 2010, a surface low in the northern Gulf of Mexico along with an upper level disturbance moving southeastward from the Great Plains contributed to heavy snowfall on Christmas Day in Alabama, resulting in the first White Christmas for much of the area. Precipitation began during the early morning hours in northwest Central Alabama and spread eastward through the day. Many locations saw precipitation begin as rain and change over to snow. In some places, this change over was brief. In others, warm ground conditions caused snowfall to melt on contact, preventing significant accumulation. Snowfall totals ranged from a trace as far south as Troy to 4.00 inches in several locations across north Central Alabama. In

many locations, snowfall up to 1.5 inches accumulated on grassy surfaces, not causing any inconvenience to travel or threat to life or property.

- 4.8.6 An average snowfall accumulation of 2.0 inches occurred across the county with isolated amounts of 3.0 inches. In addition, several roads were closed and numerous accidents occurred due to slick and icy conditions. No injuries, deaths, crop, or property damages were reported in Calhoun County.
- 4.8.7 Calhoun County experienced 11 winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather events in a 10 year period resulting in a greater than 100% (1.10) probability that a winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather event will occur on an annual basis. The total amount of damages for the 11 winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather events was \$20,000 with one winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather events causing damage resulting in an estimated \$20,000 of expected annual damages from future events. The referenced winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather 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 Calhoun County due to a winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather event. According to NOAA.gov, Calhoun County's extent is 4.3 inches of snow, 2-10 degree temperatures, and ½ inch of ice accumulation. The damage ranking is minor to major.
- 4.8.8 Primary effects from winter storms in Calhoun 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
- 4.8.9 Hazardous results from winter storms in Calhoun 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.

4.9 Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind

- 4.9.1 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.
- 4.9.2 According to data from the National Oceanic and Atmospheric Administration's National Hurricane Center, there are three classification levels of storms based on wind speed. The first, a tropical depression, is "an organized system of clouds and thunderstorms with a defined surface cyclonic closed circulation and maximum sustained winds of 38 mph or less." A

tropical storm is the second level and is described as “an organized system of strong thunderstorms with a defined surface circulation and maximum sustained winds of 39-73 mph.” A “hurricane,” which is the third classification level, is “an intense tropical weather system of strong thunderstorms with a well-defined surface circulation and maximum sustained winds of 74 mph or higher.” Individual hurricanes vary in intensity and are categorized using the Saffir-Simpson Hurricane Scale.

- 4.9.3 NOAA measures wind speeds for thunderstorm/wind and hurricane events in knots (kts) while the Saffir-Simpson scale, shown later in the Hurricane profile, 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.

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.

- 4.9.4 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 4.9-1**, 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 4.9-1 – Saffir-Simpson Hurricane Wind Scale

Source: National Hurricane Center – NOAA, 2014

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.
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- 4.9.5 Hurricanes impact regions in a variety of ways. The intensity of the storm, the speed of the winds, whether the storm moves through a region 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. Calhoun County is not directly affected by storm surges; therefore, no additional analysis will be completed on the topic.
- 4.9.6 On September 16, 2004, due to the high winds associated with what once was Hurricane Ivan, hundreds, if not thousands, of trees and power lines were blown down countywide. Only 3 or 4 homes suffered significant damage, while 30 to 50 homes received mainly minor roof damage. Maximum wind gust were estimated between 55 and 65 miles an hour. Doppler radar and ground observations indicate 3 to 5 inches of rain fell across the area associated with Ivan. A few roadways became temporarily impassable but more roads were blocked by fallen trees. No injuries, deaths, or crop damages occurred. Property damages of \$350,000 resulted from this event.
- 4.9.7 On August 29, 2005, Hurricane Katrina made landfall along the Gulf Coast early Monday morning August 29, 2005 as a large category four hurricane. Sustained winds were around 145 mph in southeast Louisiana. Katrina continued northward affecting areas from New Orleans to Mobile. Devastating damage occurred along the Gulf Coast and New Orleans sustained major damage and flooding. Katrina weakened to a tropical storm by Monday evening August 29, 2005 northwest of Meridian. Katrina continued northward across eastern Mississippi overnight. Katrina produced local effects that were widespread across central Alabama. Thousands of trees and power lines were brought down, minor to major structural damage occurred and power outages were lengthy and widespread. Several locations remained without power for a week or longer. Six tornadoes occurred across central Alabama in association with Katrina, 4 F0's and two F1's. Storm total rain amounts ranged from one inch or less in the northeast to 5 to 6 inches in the northwest counties near the Mississippi state line. Only Tuscaloosa County reported flash flooding and only minor river flooding occurred on the upper Tombigbee River. Alabama Power reported that this was the worst event in their history for damage and power outages statewide. A few storm total rain amounts include Hamilton (4.82 inches), Addison (3.62 inches), Troy (2.18 inches) and Selma (2.00 inches). A few peak wind gusts reported include Cuba (80 mph), Fayette (75 mph), Vance (68 mph), Birmingham (60 mph) and Oakmulgee (49 mph). Many locations west of a line from Selma to Hamilton may have experienced wind gusts up to 80 mph. Several trees and power lines were blown down during the high winds of Katrina. At least a few homes sustained roof damage. Extensive tree and power line damage occurred as Tropical Storm Katrina affected the area. Many roadways were impassable due to fallen trees. Power outages were widespread. Several structures were damaged. One grocery store had its roof torn off. One person was slightly injured when a tree fell on their home. No injuries, no deaths or crop damages occurred. Property damages of \$40,000 resulted from this event.
- 4.9.8 On August 23-25, 2008, Tropical Storm Fay, and its remnants after landfall, brought high winds, heavy rain, and numerous tornadoes to Central Alabama. Tropical Storm Fay weakened to a Tropical Depression after it made its final landfall on the Florida Panhandle and entered Southern Alabama. In Central Alabama, the highest sustained wind of 35 mph, and highest gust of 49 mph were both recorded at Montgomery. Storm total rainfall ranged from

2.48 inches near Guin (Marion County), to 11.87 inches at Valley (Chambers County). Tropical Depression Fay brought high winds, heavy rain, and numerous tornadoes to the Calhoun County area. No injuries, deaths or crop damage occurred. Property damages estimated at \$5,000 occurred.

4.9.9 Calhoun County experienced 11 hurricane/tropical storm/tropical depression/high wind/strong wind events in a 10 year period resulting in a greater than 1000% (1.10) probability that a hurricane/tropical storm/tropical depression/high wind/strong wind event will occur on an annual basis. The total amount of damages for the 11 hurricane/tropical storm/tropical depression/high wind/strong wind events was \$514,000 with 11 hurricane/tropical storm/tropical depression/high wind/strong wind events causing damage resulting in an estimated \$46,727 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 Calhoun County due to a hurricane/tropical storm/tropical depression/high wind/strong wind event. According to noaa.gov, Calhoun County's extent is that of a Category One on the Saffir-Simpson Scale as Calhoun County has experienced 85 mph winds during this plan's study period. The damage ranking is minor to major.

4.9.10 Primary Effects of Hurricanes:

- 1) Storm Surges
 - a) Primary cause of deaths in hurricanes
 - b) Large volumes of ocean water that are driven onshore by a land-falling hurricane or tropical storm
 - c) Can increase mean water level by 15 feet+ if accompanied by tide
- 2) 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 tornadoes
- 3) Heavy Rains
 - a) Rain levels during hurricanes can easily exceed 15 to 20 inches
 - b) Cause flooding beyond coastal regions

4.9.11 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

4.9.12 Calhoun 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 Calhoun County does not feel the effects of storm surges, other effects including heavy rain, flooding, winds, and tornadoes often have significant impacts on Calhoun County.

4.10 Sinkhole/Expansive Soil

- 4.10.1 Naturally occurring Sinkholes occur in areas of Karst topography 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.
- 4.10.2 According to the Geological Survey of Alabama's sinkhole data as of 2010, Calhoun County has experienced sinkholes; however, the sinkhole density in Calhoun County is low. **Figure 4.10-1** shows sinkholes and sinkhole density in Calhoun County, and **Figure 4.10-2** shows sinkholes around the state.
- 4.10.3 According to *The Anniston Star*, of August 14, 2013 5:25 p.m., Staff Writer Eddie Burkhalter states sinkholes are common for Northern Alabama. Of interest to this plan's study period, Burkhalter noted a large sinkhole next to the Publix at Oxford Commons that cost the city more than \$1 million to repair was only one of many sinkholes that have occurred in Calhoun County in recent years. The Alabama Department of Transportation was beginning a \$9.4 million repair to a sinkhole that formed beside Alabama 21 at Mile Marker 225. In May of 2013, an 80 foot sinkhole occurred at the Intersection of Weaver Road and Glade Road in Anniston. City workers believed heavy rains washed away dirt and a deteriorated drainage pipe, causing the underground hole. In 2009, a sinkhole large enough to drive a bus into formed at the Intersection of U.S. 78 West and Mountain Crest Avenue, about 3 miles from downtown Oxford.
- 4.10.4 Calhoun County experienced 5 sinkholes in a 10 year period resulting in a 50% (0.50) probability that a sinkhole event will occur on an annual basis. The total amount of damages for the 5 sinkhole events is \$10,400,000 with at least 2 events causing damage resulting in an estimated \$5,200,000 of expected annual damages from future events. The referenced sinkhole 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 Calhoun County due to a sinkhole event – the largest sinkhole reported during this plan's study period was the extent of 80 feet deep. The damage ranking is minor to major.
- 4.10.5 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 4.10-3** shows the general soil areas for the state. Calhoun County has Limestone Valleys, Uplands, and Appalachian Plateaus 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.

Table 4.10-1 – Calhoun County Sinkholes

Source: Geological Survey of Alabama, 2015

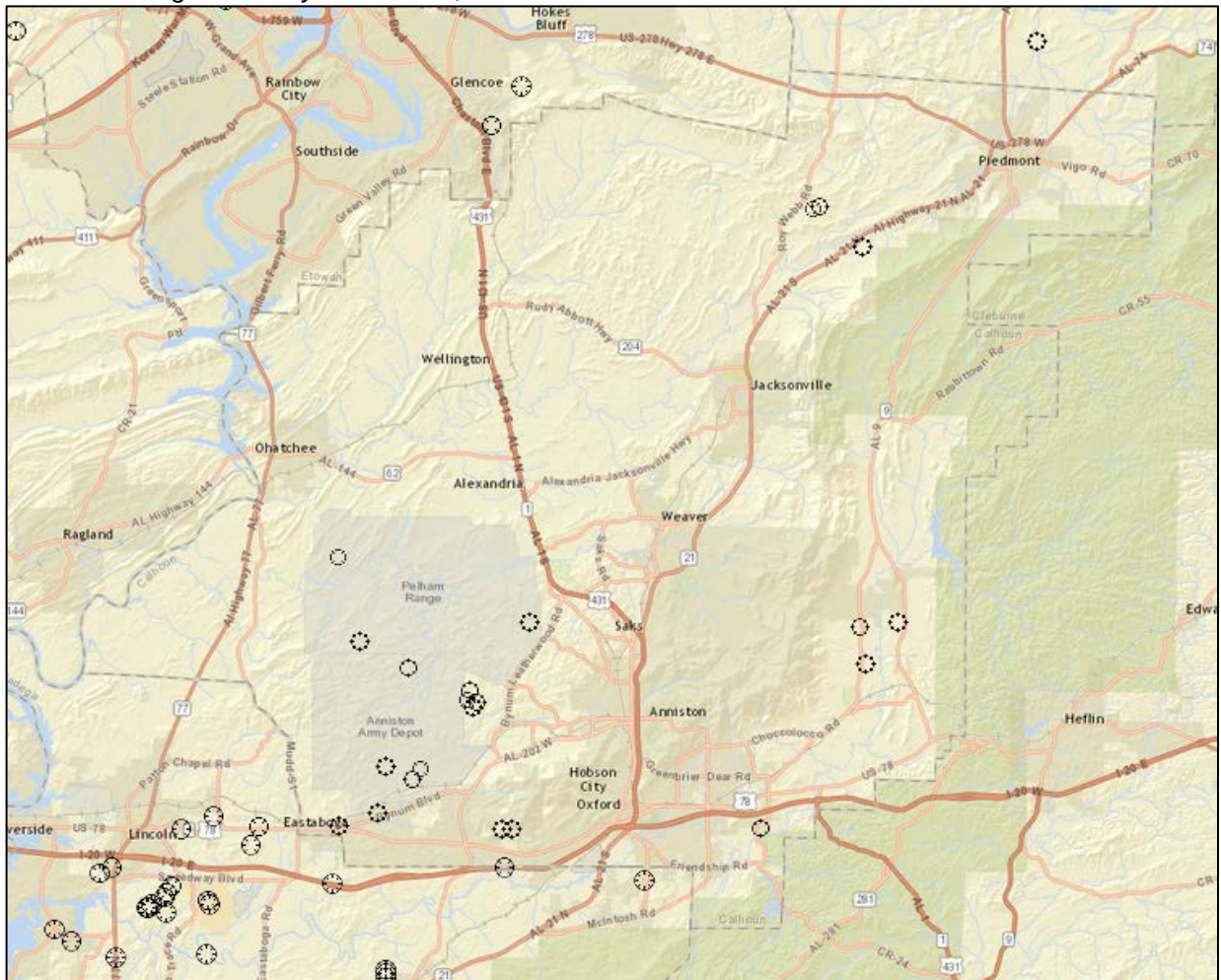


Table 4.10-2 – Alabama Sinkhole Map

Source: Geological Survey of Alabama, 2010

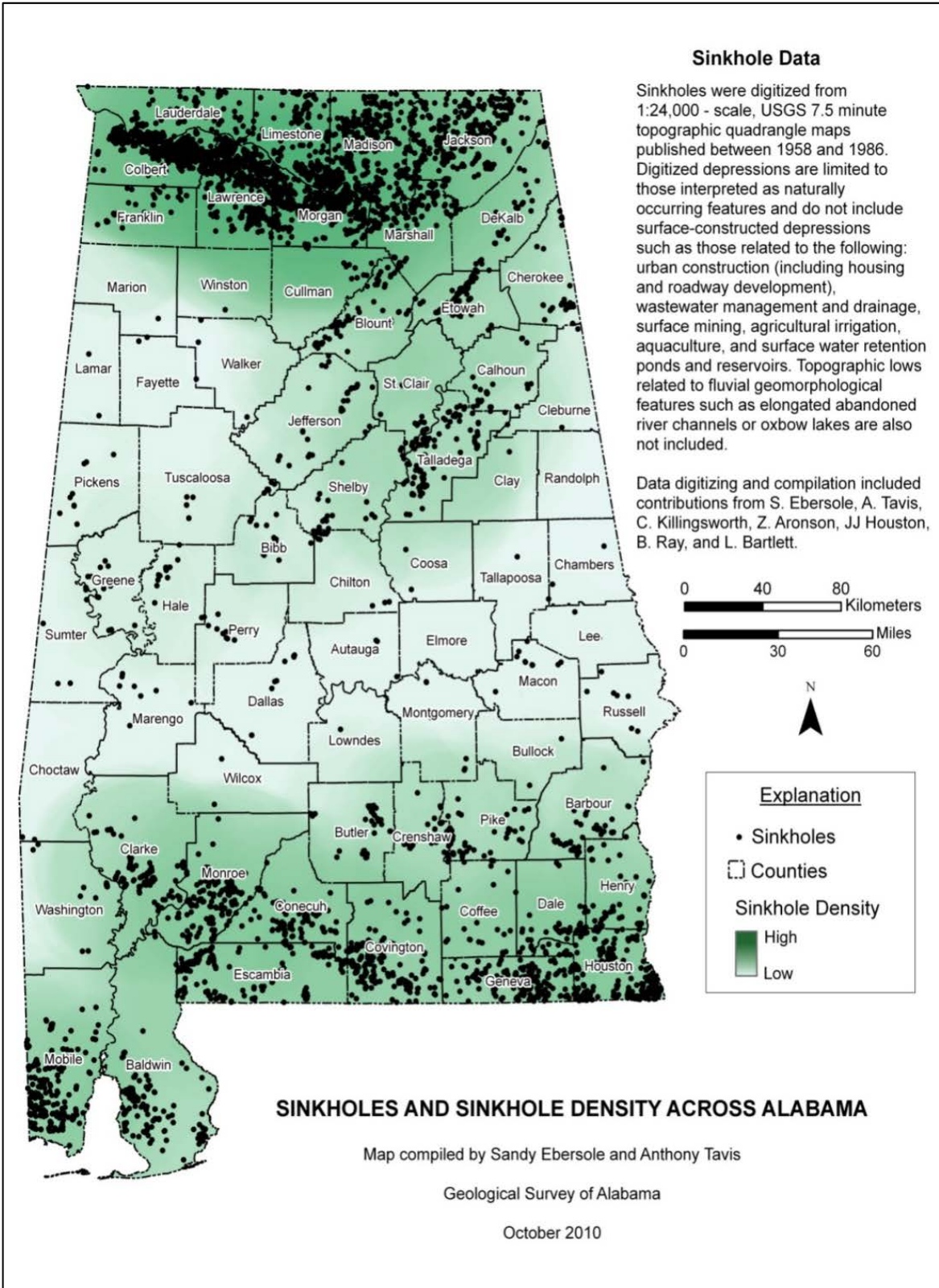
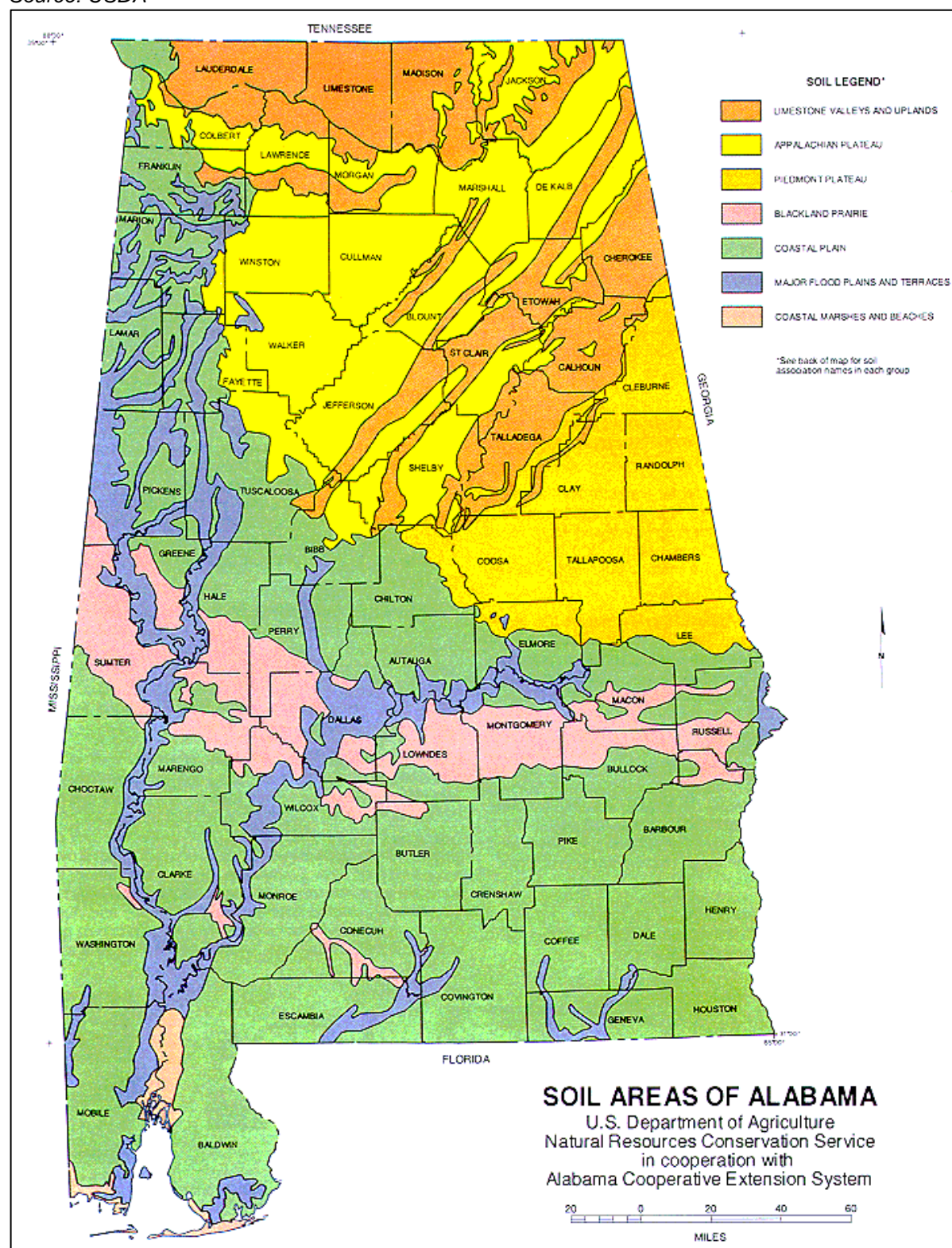


Table 4.10-3 – Soil Areas of Alabama

Source: USDA

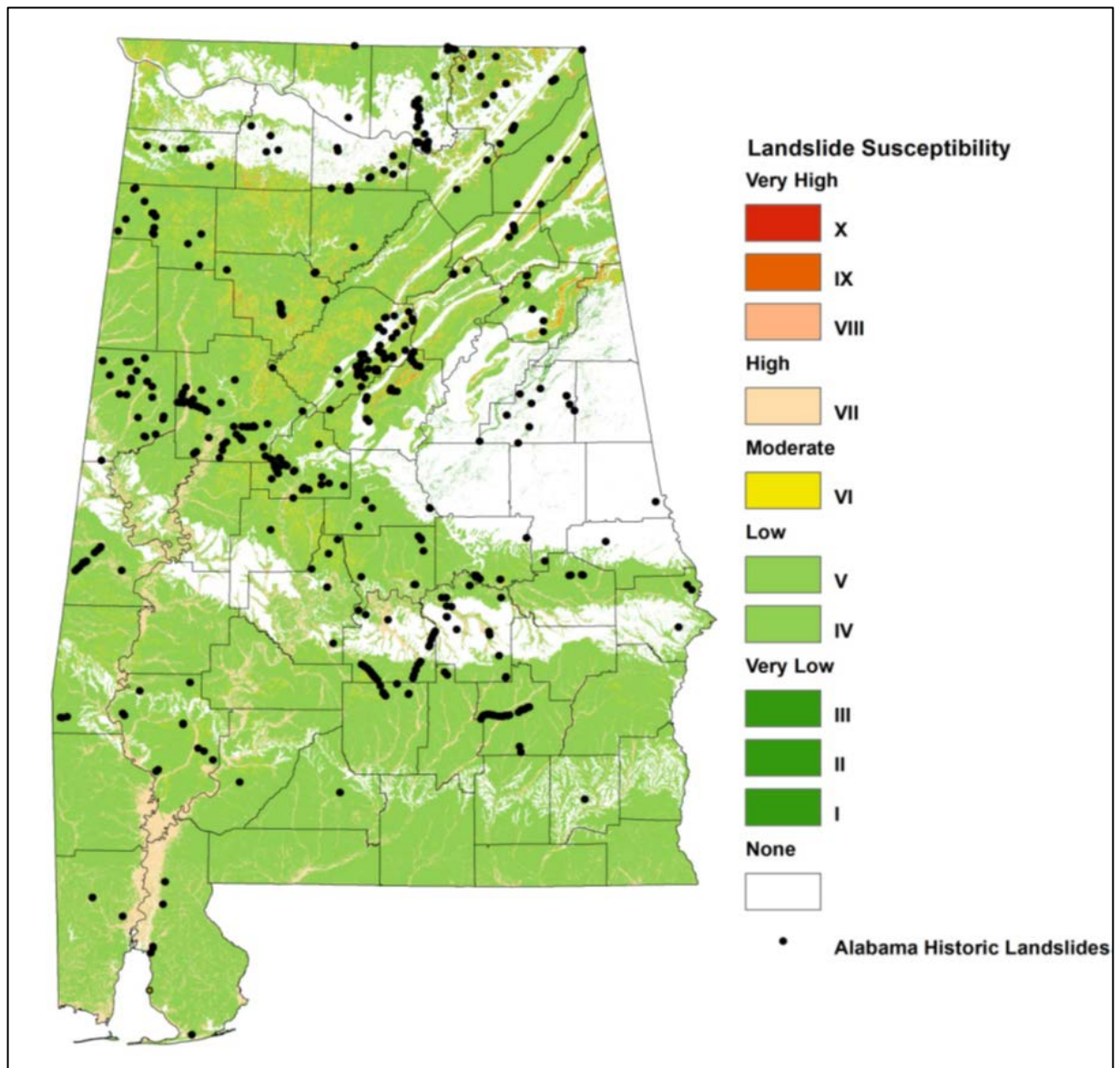


4.11 Landslide

- 4.11.1 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. The underlying geologic formations present within the region are classified as having low to moderate susceptibility to slope failure. **Figure 4.11-1** shows the landslide incidence and susceptibility and indicates that Calhoun County is at a low to no risk of incidence.
- 4.11.2 There were no Calhoun County landslides reported from GSA or local sources during the time frame covered by this plan; therefore, plan information remains the same as in the 2009 update.
- 4.11.3 Primary effects from landslide in Calhoun County would include:
1. Property damage
 2. Impassable roads
 3. Sediment erosion
 4. Underground infrastructure damage
- 4.11.4 Hazardous results from landslide in Calhoun 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.
- 4.11.5 Calhoun County experienced no landslides in a 10 year period resulting in an unknown probability that a landslide event will occur on an annual basis. The total amount of damages for a landslide event is unknown, as well as the expected annual damages from future events. There are no landslide events with which can determine the extent for Calhoun County. The damage ranking is minimum to minor.

Table 4.11-1 – Landslide Incidence and Susceptibility

Source: Geological Survey of Alabama, 2014



4.12 Earthquakes

- 4.12.1 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).
- 4.12.2 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.
- 4.12.3 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.
- 4.12.4 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.
- 4.12.5 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.
- 4.12.6 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.
- 4.12.7 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 4.12-1**. 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 4.12-1 – Earthquake PGA, Magnitude, and Intensity Comparison

Source: <http://www.earthquake.usgs.gov>, 2014

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.

- 4.12.8 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). Sands blows were common following major New Madrid earthquakes in the central United States.
- 4.12.9 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.
- 4.12.10 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.
- 4.12.11 Three zones of frequent earthquake activity affecting Alabama are the New Madrid Seismic Zone (NMSZ), the Southern Appalachian Seismic Zone (SASZ) (also called the Eastern Tennessee Seismic Zone), and the South Carolina Seismic Zone (SCSZ). The NMSZ lies within the central Mississippi Valley, extending from northeast Arkansas through southeast Missouri, western Tennessee, and western Kentucky, to southern Illinois. 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. The SCSZ is centered near Charleston South Carolina and encompasses nearly the whole State. Calhoun County is at very low risk for earthquakes.
- 4.12.12 Earthquakes occurring in Calhoun County are predominantly low magnitude events. **Table 4.12-2** shows the Percent Ground Acceleration (PGA) with two percent 50 year exceedance probability. There is insufficient data to predict the future probability of an earthquake occurring in Calhoun County. The risk of a significant, damage-causing earthquake in Calhoun County is very low to low.
- 4.12.13 Although many areas of the United States are better known for their susceptibility, earthquakes do occur in Alabama. **Table 4.12-3** 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. Calhoun County did not experience any major earthquake events during the past ten years (January 1, 2003 – December 31, 2013);

however, Calhoun County experienced two minor earthquakes during the past ten years as noted in **Table 4.1-1**. One earthquake occurred on October 15, 2012, 3.29 miles from Hobson City, Alabama, registering a 2.3 magnitude (not a major event). Another earthquake occurred on April 29, 2003, 53.1 miles from the county's center, registering a 4.9 magnitude (not a major event).

- 4.12.14 One zone of frequent earthquake activity that could potentially impact Calhoun County is the Southern Appalachian Seismic Zone. Damage could be significant in Calhoun County if a powerful earthquake were to occur because buildings in this part of the country have not been constructed to withstand such a powerful force. In 1916 on October 18, a strong earthquake occurred on an unnamed fault east of Birmingham. It was apparently most strong at Easonville. Near the epicenter, chimneys were knocked down, windows broken, and frame buildings were greatly shaken. It was noted by residents in seven states and covered 100,000 square miles.
- 4.12.15 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.
- 4.12.16 Calhoun County experienced two earthquake events in a 10 year period resulting in a 20% (0.20) probability that an earthquake event will occur on an annual basis. The total amount of damages for an earthquake event is also unknown, as well as the expected annual damages from future earthquake events. According to the Modified Mercalli Scale of Earthquake Intensity, Calhoun County's extent is a magnitude of 4.9 - felt by nearly everyone; many awakened; some dishes and windows broken; unstable objects overturned; pendulum clocks may stop. The damage ranking is minimum to minor.
- 4.12.17 Primary effects from earthquake in Calhoun County would include:
1. Property Damage
 2. Underground infrastructure damage
 3. Building collapse
 4. Trigger for other natural disasters
- 4.12.18 Hazardous results from earthquake in Calhoun 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 Calhoun 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.

Table 4.12-2 – Alabama Peak Acceleration and Exceedance Probability

Source: National Seismic Hazard Mapping Project, 2008

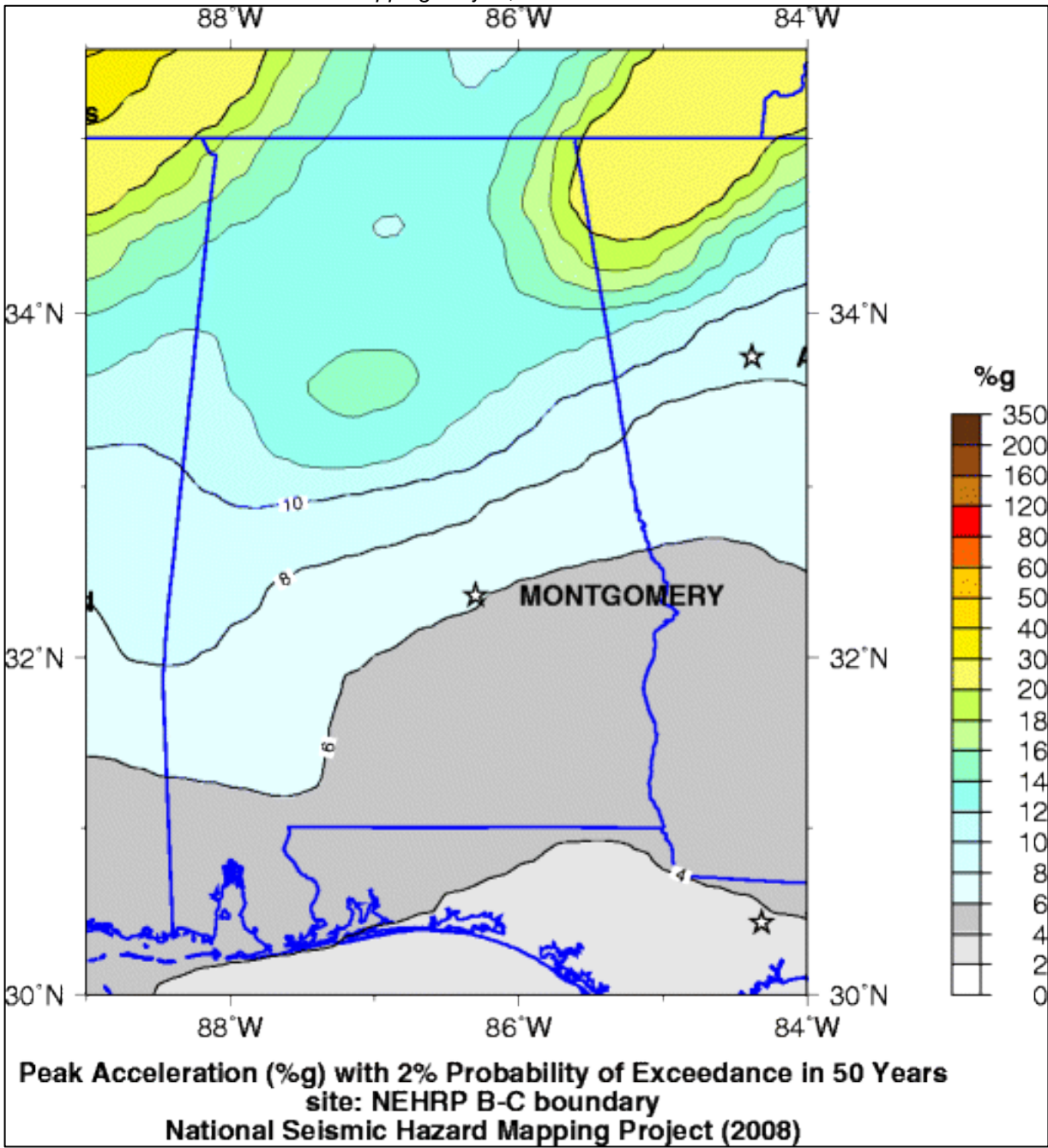
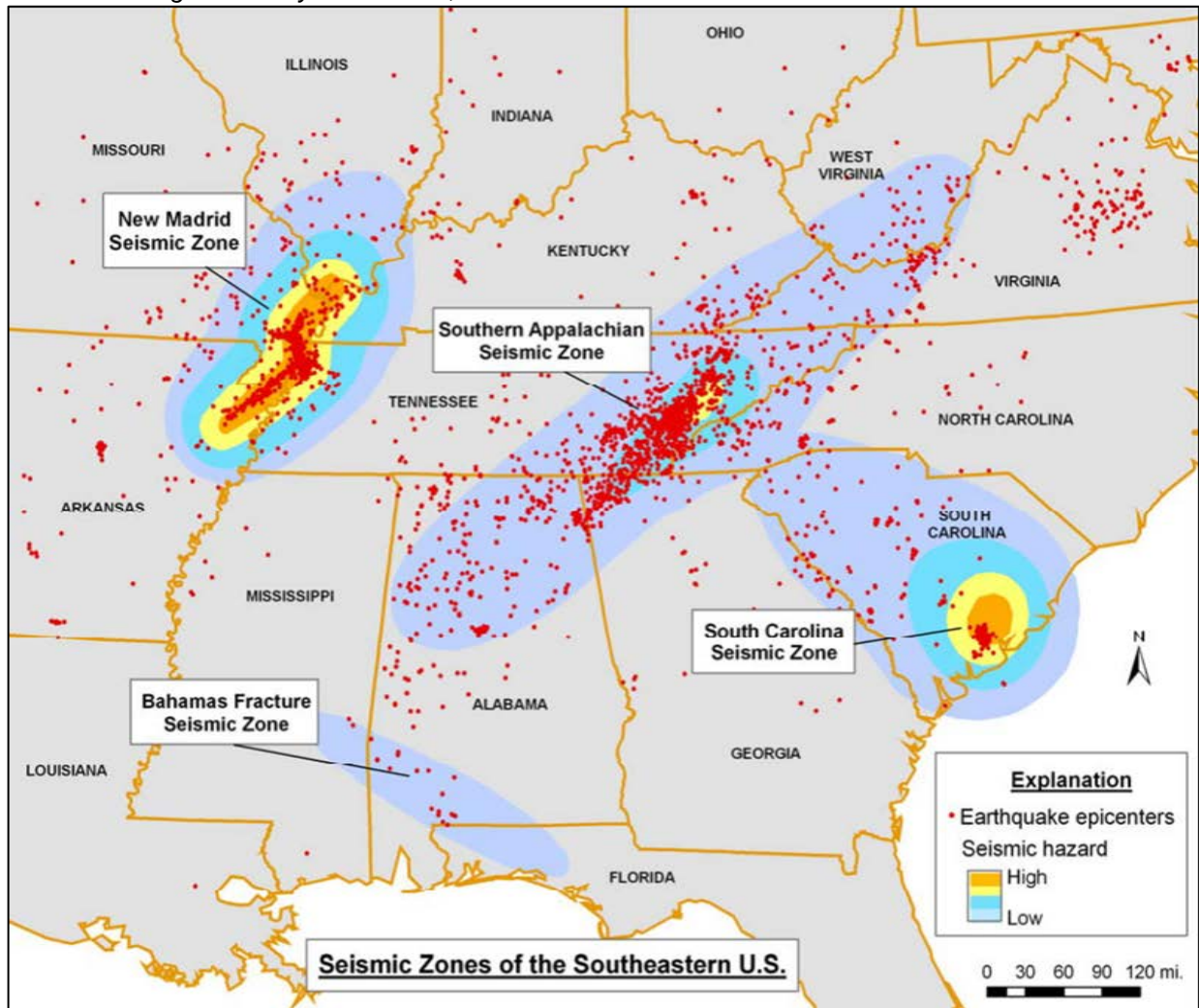


Figure 4.12-3 – Seismic Zones of the Southeastern United States

Source: Geological Survey of Alabama, 2014



4.13 Wildfire

- 4.13.1 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.
- 4.13.2 The frequency and severity of wildfires is dependent on weather and on human activity. Nearly all wildfires in Calhoun 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 4.13-1** shows the number of fires and acres burned during the period 2010 to 2013, as recorded by the Alabama Forestry Commission. Calhoun County had a total of 137 fires during this 3 year period, affecting a total of 3,17.25 acres. Calhoun County is located in an area where the current fire danger conditions are moderate, according to the U. S. Forestry Service. The greatest risk for wildfire property damage is in the area known as the wildland/urban interface (WUI). The WUI risk for Calhoun County is depicted in **Table 4.13-2**.
- 4.13.3 The US National Forest Service (USFS) maintains data nationwide and produces various maps and forecasts daily under the Wildland Fire Assessment System (WFAS). A review of this data showed Calhoun County has an 11-15 percent probability of a fire occurring because of a lightning strike. The probability of ignition by lightning depends mainly on fuel moisture. Fuel Model Maps help to determine susceptibility of vegetative cover to wildfires. Calhoun County is covered by Fuel Models A and C. Areas covered by these models consist of light fuel vegetation such as herbaceous plants and round woods that are less than one-quarter of an inch.

Table 4.13-1 – Wildfires in Calhoun County, 2010-2013

Source: Alabama Forestry Commission, 2014

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
Calhoun	137	46	3,517.25	1,196	26

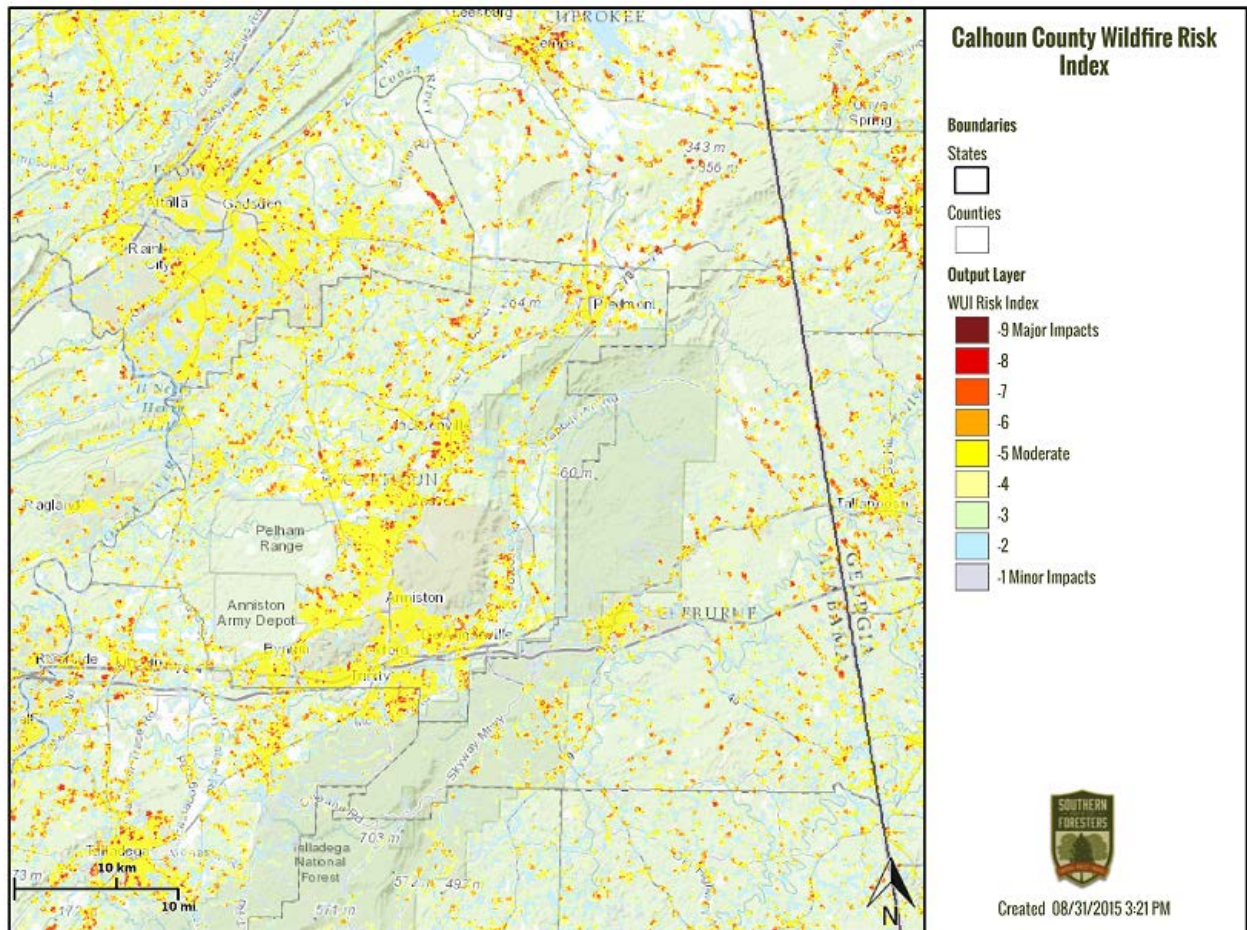
- 4.13.4 Calhoun County experienced 137 wildfire events in a 3 year period resulting in a greater than 100% (45.66) probability that a wildfire event will occur on an annual basis. The total amount of acres burned for the 137 wildfire events was 3,517.25 resulting in an estimated 26 acres burned per wildfire event. The total amount of acres burned was 3,517.25 multiplied by \$1,900 (the average market value for an acre of land in Calhoun County) equals \$6,682,775 damages for the 137 wildfire events with 137 wildfire events causing damage resulting in an estimated \$48,779 multiplied by 1.09 (projected loss expresses an estimated damage amount per future occurrence by converting the average loss figures from a midpoint of 2008 dollars to 2014 dollars - \$1 in 2008 = \$1.09 in 2014...a cumulative rate of inflation of 9%) equals a total of \$53,169 of expected annual damages from future events. No deaths or injuries were reported. The extent/range of magnitude or severity of wildfires for Calhoun County is a total of 1,196 acres burned per year. The damage ranking is minimum to minor.
- 4.13.5 Primary effects from wildfire in Calhoun County would include:
1. Loss of property
 2. Loss of livestock
 3. Destruction of wilderness
 4. Crop destruction

4.13.6 Hazardous results from significant wildfire in Calhoun 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.

Figure 4.13-1 – Calhoun County Wildland/Urban Interface Risk Index

Source: SouthWRAP, 2015



4.14 Dam Failures

- 4.14.1 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).
- 4.14.2 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.
- 4.14.3 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
- 4.14.4 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 Calhoun 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 Calhoun County during 2003 - 2013.
- 4.14.5 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 Calhoun 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.

4.14.6 According to HAZUS-MH 2.1 and NOAA, Calhoun County has 46 High Density Polyethylene (HDPE - Earth) Dams including two high hazard dam (failure or poor operation would likely result in the loss of human life), nine significant hazard dams (failure or poor operation would not likely result in the loss of human life, but would result in economic loss, environmental damage, and disruption of lifeline facilities), and 35 low hazard dams (failure or poor operations would not likely result in the loss of human life, but would result in low economic and environmental damage). None of the dams is located within a municipality. All dams are located in sparsely populated areas scattered throughout the unincorporated jurisdiction.

Table 4.14-1 shows risk categories of dams. **Table 4.14-2** provides an inventory listing of all the dams in Calhoun County and includes additional data on each.

4.14.7 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. The extent is high hazard for dam failures in Calhoun County.

4.14.8 Primary effects of dam failure in Calhoun 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

4.14.9 Hazardous results from dam failure in Calhoun 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.

Table 4.14-1 – Calhoun County Dams by Risk Category

Source: HAZUS-MH 2.1

Risk Categories	Number of Dams
High - Loss of one human life is likely if the dam fails	2
Significant - possible loss of human life and likely significant property or environmental destruction if the dam fails if the dam fails	9
Low	35
Total	46

Table 4.14-2 – Dam Inventory Listing for Calhoun County*Source: USACE, National Inventory of Dams*

Dam ID	Dam Name	River	Dam Type	Hazard	Latitude	Longitude
AL00913	SPORTSMEN CLUB	TR EASTABOGA CREEK	HPDE	L	33.61167	-85.993329
AL00925	COLEY	TR TALLASSEHATCHEE CREEK	HPDE	L	33.809999	-85.905
AL00924	MCCULLARS # 2	TR ALEXANDRIA CREEK	HPDE	L	33.786669	-85.936669
AL00923	MCCULLARS # 1	TR ALEXANDRIA CREEK	HPDE	L	33.778329	-85.936669
AL00922	LYLES	TR COOSA RIVER	HPDE	S	33.833329	-86.04333
AL00919	HARPER # 1	TR COTTAQUILA CREEK	HPDE	L	33.741669	-85.80167
AL00918	HARPER # 2	TR COTTAQUILA CREEK	HPDE	L	33.741669	-85.681669
AL00928	BELLS	TR OHATCHEE CREEK	HPDE	L	33.87167	-85.978329
AL00914	ROD AND REEL	TR EASTABOGA CREEK	HPDE	S	33.606669	-86.001669
AL00929	POLICEMEN LAKE	WEAVER CREEK	HPDE	L	33.77333	-85.81833
AL00912	SHELTON	TR COTTAQUILA CREEK	HPDE	L	33.799999	-85.70167
AL00911	PRESBYTERIAN CHURCH	TR OHATCHEE CREEK	HPDE	L	33.90667	-85.878329
AL00907	TERRAPIN CREEK WATERSHED DAM # 9	TR TERRAPIN CREEK	HPDE	L	33.946669	-85.555
AL00917	YARBROUGH	TR CANE CREEK	HPDE	L	33.71167	-86.069999
AL00940	RANKINS	TR TERRAPIN CREEK	HPDE	L	33.93	-85.67
AL00950	COTTAQUILLA	TR COTTAQUILLA	HPDE	L	33.76	-85.715
AL00949	SAXON	TR TALLAHATCHEE CREEK	HPDE	L	33.808329	-85.899999
AL00948	MCGOUIRK	TR OHATCHEE CREEK	HPDE	L	33.745	-86.036669
AL00947	DONNER	TR OHATCHEE CREEK	HPDE	L	33.833329	-85.966669
AL00927	NUNALLY	TR OHATCHEE	HPDE	L	33.843329	-85.975
AL00941	BOOZER	TR BALLPLAY CREEK	HPDE	L	33.91833	-85.71333
AL00939	HOLLIS	TR FLAT TIRE CREEK	HPDE	L	33.89333	-85.706669
AL00938	HAVEN	TR TERRAPIN CREEK	HPDE	L	33.89667	-85.65667
AL00937	BONNER	TR OHATCHEE CREEK	HPDE	L	33.944999	-85.833329
AL00935	LAY	TR OHATCHEE CREEK	HPDE	L	33.888329	-85.93
AL00934	LEE	TR OHATCHEE CREEK	HPDE	L	33.879999	-85.933329
AL00933	GRAY	TR TALLASSEHATCHEE CREEK	HPDE	L	33.856669	-85.78167

Dam ID	Dam Name	River	Dam Type	Hazard	Latitude	Longitude
AL00932	PATTERSON	TR TALLAHATCHEE CREEK	HPDE	L	33.829999	-85.86333
AL00930	EDWARD	TR TALLAHATCHEE CREEK	HPDE	L	33.799999	-85.856669
AL00944	ROBERSON	TR CHOCCOLOCCO CREEK	HPDE	L	33.6	-85.776669
AL01777	KEYES DAM	TR OHATCHEE CREEK	HPDE	S	33.86333	-85.856669
AL01780	THRASHER DAM	TR OHATCHEE CREEK	HPDE	L	33.858329	-85.975
AL01779	BIG OAK DAM	TR OHATCHEE CREEK	HPDE	L	33.87333	-85.979999
AL01781	DOSS DAM	TR CANE CREEK	HPDE	S	33.72167	-85.866669
AL01782	THRIFT DAM	TR EGONIAGA CREEK	HPDE	L	33.65833	-85.64167
AL00921	FINKS	CANE CREEK	HPDE	S	33.733329	-85.833329
AL02000	LAKE LOUISE	TR CHOCCOLOCCO CREEK	HPDE	S	33.649999	-85.78333
AL00901	TERRAPIN CREEK WATERSHED DAM # 9	TR TERRAPIN CREEK	HPDE	L	33.94778	-85.552219
AL00004	CHOCCOLOCCO # 2	CHOCCOLOCCO CREEK	HPDE	S	33.81667	-85.625
AL00908	CHOCCOLOCCO CREEK WATERSHED DAM # 3	SCARBROUGH CREEK	HPDE	L	33.790829	-85.64167
AL01517	CHOCCOLOCCO CREEK WATERSHED DAM # 6	SHOAL CREEK	HPDE	H	33.73833	-85.656109
AL00909	CHOCCOLOCCO CREEK WATERSHED DAM # 9	TR JOSEPH CREEK	HPDE	L	33.677219	-85.65139
AL00910	CHOCCOLOCCO CREEK WATERSHED DAM # 11	HILLABEE CREEK	HPDE	S	33.579999	-85.753329
AL00945	RUSH	TR CHOCCOLOCCO CREEK	HPDE	L	33.593059	-85.75
AL00920	YAHOU	REMOUNT CREEK	HPDE	H	33.686669	-85.799999
AL01721	REILLY LAKE	TR TALLASSEEHATCHEE CREEK	HPDE	S	33.74667	-85.78167

5. VULNERABILITY ASSESSMENT

5.1 Overview

- 5.1.1 In the previous section, the primary effects and hazardous results were considered for all identified hazards. In this section each hazard is 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 5.21-2** and for each jurisdiction in their individual *Estimated Loss Projections from Specified Hazards* table in Section Six of this plan.
- 5.1.2 *Vulnerability* is the extent to which something is damaged by a hazard. Vulnerability is very often measured using “damage functions.” These are based on studies of how buildings perform when they are exposed to hazards. Similar functions are available for infrastructure and other physical assets. Injury and mortality functions (how many people are injured or die during events) are also sometimes used as indicators of vulnerability, but these are generally not as reliable as functions for physical assets because there are many more variables.

5.2 Thunderstorms

- 5.2.1 Damage from thunderstorms can have a wide range of severity. All jurisdictions are vulnerable to thunderstorm events.
- 5.2.2 A thunderstorm event in Calhoun County during 2003-2013 occurred in Anniston. The wind magnitude was 83 miles per hour (95.53 kts.). On February 26, 2008, an advancing cold front moving through the state caused widespread wind damage and a few tornadoes across Central Alabama, especially in the eastern half of the state (*Source: NOAA/NCDC*). Wind damage was widespread from near the Anniston/Oxford Airport, eastward to Douglas Drive and Glover Drive, southeast of Oxford. Most of the damage near the airport was in the form of snapped and uprooted trees and broken tree limbs. There were some blown down signs and some damage to billboards. Farther to the east, numerous oak trees were uprooted and numerous pine trees were snapped, with an estimated 50 to 100 trees damaged total. There was some roof damage to a few homes, a roof was blown off a barn, and a few fences were also blown down. There were no reported injuries, deaths, or crop damage. An estimated \$260,000 in property damage was reported.
- 5.2.3 On January 6, 2009, a slow moving frontal system caused several large areas of showers and thunderstorms to move across Central Alabama, during the period from January 5 to January 7. Some of the thunderstorms became severe, producing sporadic wind damage. Storm total rainfall from the storms ranged from 1 to 3 inches south of Interstate 20, to 3 to 7 inches north of the Interstate. The highest rainfall totals, of over 6 inches, occurred in a broad swath from Walker to Etowah Counties. Numerous locations, again mainly north of Interstate 20, saw significant flash flooding due to the heavy rainfall, which later turned into river flooding that lasted for several more days. A few dozen large trees were uprooted or snapped along a 1.5 mile long, half mile wide, swath of damage near the city of Oxford. One mobile home was destroyed when a tree fell on it, and an apartment complex also sustained damage from falling trees. In all, at least 3 dozen structures sustained varying degrees of damage, most of it roof damage. Maximum winds were estimated around 85 mph, although most locations experienced winds around 50 mph. No injuries, deaths, or crop damage was reported. An estimated \$160,000 in property damages was reported.

5.3 Lightning

- 5.3.1 Lightning can cause substantial property damage and loss of human lives. All jurisdictions are vulnerable to lightning events.
- 5.3.2 On June 13, 2004, a lightning event occurred in Jacksonville resulting in three injuries and \$20,000 property damages. Lightning struck the Mount Sinai Baptist Church as fifty people were eating dinner. The lightning blew a hole in a wall, hitting a few people with debris. All injuries were minor. The lightning damaged a few walls and ignited a small fire.
- 5.3.3 On July 1, 2007, a lightning event occurred in the Saks Community resulting in \$500,000 property damages. Lightning struck a house in the Indian Oaks Area of Saks, causing it to catch fire. The fire completely destroyed the attic and second story of the home, which collapsed onto the first floor, causing extensive damage throughout. The owners, after first attempting to extinguish the fire, escaped unharmed.

5.4 Hail

- 5.4.1 Severe thunderstorms have been known to produce hailstones 4.50 inch in diameter (soft ball size) in Calhoun County. On May 2, 2003, hail fell across Piedmont. A majority of the hail was golf ball size and covered the ground in a few locations; however, the largest hail reported in the county was soft ball size. Property damages of \$100,000 were reported. On the same day, Calhoun County experienced 1.75 inch hailstones and \$250,000 property damages. A few homes received roof damage from the large hail. Some locations that reported hail were Jacksonville, Anniston, Oxford, Alexandria, and Weaver. All jurisdictions are vulnerable to hail events.

5.5 Tornado

- 5.5.1 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. **Table 5.5-1** provides community safe room information.

Table 5.5-1 – Community Safe Rooms in Calhoun County

Source: Calhoun County EMA, 2014

Location	Status	Grant #
244 Harts Ferry Rd, Ohatchee, AL 36271	Complete	HMGP 1971-865
700 Tom Bible Highway, Piedmont, AL 36272	Complete	PDM
1551 AP Hollingsworth Rd, Wellington, AL 36279	Complete	1971-121
12900 Highway 9, Piedmont, AL 36272	Complete	1971-302
Public Safety Complex on Henry Rd., Jacksonville, AL	Under Construction	1971-___

- 5.5.2 Areas with higher population densities pose the greatest potential for property damage, injury, and death. The City of Anniston and the City of Jacksonville 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. Calhoun County has a total of 409 mobile homes countywide. The greatest concentration of mobile homes in a municipality is in the Town of Ohatchee where 7.88% of the units are mobile homes. (*Sources: U.S. Census Bureau, 2010-2012 American Community Survey and Easidemographics.com*)
- 5.5.3 A powerful storm system crossed the Southeast United States on Wednesday, April 27, 2011, 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. This one event resulted in 25+ major injuries, 9 deaths and \$122 million in property damages in Calhoun County.
- 5.5.4 Central Alabama had two rounds of severe weather that day. During the early morning hours, a Quasi-Linear Convective System quickly moved across the northern half of the National Weather Service, Birmingham county warning area. Straight line winds of 90 mph (78kts) or greater and 11 tornadoes lead to widespread damage and power outages. During the afternoon, long-lived supercell thunderstorms produced long-track, strong and violent tornadoes. Destruction and loss of life across many towns and communities was devastating.
- 5.5.5 A long track tornado moved across the city of Tuscaloosa and the western suburbs of Birmingham, resulting in the complete destruction of whole neighborhoods and numerous injuries and fatalities in those heavily populated areas. The same parent supercell produced another violent tornado in east Central Alabama as it tracked across St. Clair and Calhoun Counties, resulting in additional fatalities and incredible damage to a number of neighborhoods. Another violent EF4 tornado tracked across portions of Elmore and Tallapoosa Counties, including Lake Martin, destroying numerous homes and a large section of a mobile home park.
- 5.5.6 An EF4 tornado occurred in the Middleton Community resulting in 8 deaths, 25 injuries and \$122 million property damages. An EF1 occurred in the Maxwellborn Community resulting in one death, one injury and \$4 million property damages.
- 5.5.7 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.

5.6 Flood/Flash Flood

- 5.6.1 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 such as the City of Anniston, Jacksonville, and Oxford 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.
- 5.6.2 On May 7, 2003, several roads across the county were flooded and impassable. Ohatchee City Park was flooded and damage occurred to the ball fields. Oxford Lake also had some damaged ball fields. Numerous homes and businesses in Hobson City were damaged by flood waters. Oxford Fire Department rescued several individuals using boats. Three structures

were struck by lightning, one in Hobson City and two in Anniston. Each resulted in a fire that produced varying degrees of damage. Source: (NOAA NCDC)

- 5.6.3 On May 27, 2008, heavy rain associated with thunderstorms caused isolated flooding in eastern Alabama. Water was running over the roads at a depth of up to one foot. A dozen cars were flooded in a parking lot at the intersection of Elm Street and AL-21. Source: (NOAA NCDC)

5.7 Drought/Extreme Heat

- 5.7.1 All jurisdictions are vulnerable to occurrences of drought and extreme heat. 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.
- 5.7.2 Calhoun County experienced severe (D2) to extreme (D3) drought conditions in two continuous months in 2006 having hydrologic and agricultural impacts, severe (D2) to exceptional (D4) drought conditions ten continuous months in 2007 and eight continuous months in 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 in some Central Alabama counties. Around 80 percent of the corn and soybean crop, 70 percent of the cotton crop, and 40 percent of the peanut crop, was considered to be in poor or very poor condition by month's end 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. On Lake Martin, all marinas had to be shut down because there was no access to them due to the 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. An initial five wells were selected to track water levels around the state, with plans to increase the number of monitoring wells to 25. Drought conditions continued to escalate into 2007 and by August all 67 Alabama counties were declared Natural Disaster areas by the Federal Government. Impacts were felt by farmers of all crops, including timber, livestock producers, and the forestry service. Additionally, electricity providers were affected as river and lake levels dropped and some municipalities were forced to place restrictions on water consumption as supplies became strained. The State Agriculture Commissioner (at the time) Ron Sparks referred to this event as the worst drought in 30-40 years. (*Source: NOAA NCDC*)
- 5.7.3 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). Heat stress can be indexed by combining the effects of temperature and humidity. 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.

5.8 Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold

- 5.8.1 Calhoun County commonly has extreme cold and winter storm events in any given year. 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 Calhoun County are vulnerable to severe winter storms.
- 5.8.2 One extreme cold/wind chill event was reported during this time; however, no damage resulted from this event. Beginning on January 24, 2003 and ending on January 25, 2003, the coldest temperatures in seven years occurred across much of North and Central Alabama and lasted for about two days. Early morning temperatures ranged from 2 to 10 degrees. The coldest temperatures were measured in outlying areas. Although no new records were established, these temperatures were very cold for the Deep South. Many area residents reported frozen and broken water pipes as a result of the extended cold.
- 5.8.3 Two frost freeze events were reported for Calhoun County between 2003 and 2013: April 7-8, 2007 as an unusually cold spring time air mass settled across Central Alabama, bringing record cold temperatures to the entire region.
- 5.8.4 One heavy snow event was reported for Calhoun County between 2003 and 2013: December 25, 2010 A surface low in the northern Gulf of Mexico along with an upper level disturbance moving southeastward from the Great Plains contributed to heavy snowfall on Christmas Day in Alabama, resulting in the first White Christmas for much of the area. Precipitation began during the early morning hours in northwest Central Alabama and spread eastward through the day. Many locations saw precipitation begin as rain and change over to snow. In some places, this change over was brief. In others, warm ground conditions caused snowfall to melt on contact, preventing significant accumulation. Snowfall totals ranged from a trace as far south as Troy to 4.00 inches in several locations across north Central Alabama. In many locations, snowfall up to 1.5 inches accumulated on grassy surfaces, not causing any inconvenience to travel or threat to life or property.
- 5.8.5 An average snowfall accumulation of 2.0 inches occurred across the county with isolated amounts of 3.0 inches. In addition, several roads were closed and numerous accidents occurred due to slick and icy conditions.
- 5.8.6 One ice storm event was reported for Calhoun County between 2003 and 2013: January 28, 2005, Strong Cold Air Damming along the Southern Appalachians provided a continuous source of surface cold and dry air from the east. This colder air, in combination with an approaching storm system with abundant gulf moisture, changed the rain to freezing rain across a large part of eastern Alabama. Exposed surfaces had ice accumulation to at least one quarter of an inch with a few locations reporting ice accumulations of around one half inch. Several trees, tree limbs, and power lines were knocked down and many of the fallen trees temporarily blocked roadways. The rain changed over to freezing rain just after sunset on January 28. Icing conditions started in the early evening hours and tapered off to no additional significant accumulations early on January,
- 5.8.7 Four winter weather events were reported for Calhoun County between 2003 and 2013: December 15, 2010 as moisture increased ahead of a weak storm system across Central

Alabama. Temperatures near or below freezing at the surface resulted in widespread freezing rain and sleet beginning around sunrise and lasting through most of the day. Although precipitation was light, ice quickly accumulated on area roadways, causing hazardous driving conditions, numerous vehicle accidents, and road closures. Hazardous driving conditions due to ice on the roadway persisted well after precipitation moved out of the area, with many counties maintaining road closures for extended periods of time. A period of freezing rain led to a light glaze of ice on many surfaces.

5.9 Hurricanes/Tropical Storms/Tropical Depressions/Strong Winds/High Winds

- 5.9.1 Tropical Storms and Tropical Depressions such as Arlene, Dennis, Faye, Ivan, and Katrina have affected Calhoun 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. Mobile homes in the county represent <1% of the housing stock. 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.
- 5.9.2 Hurricane Ivan impacted Southern Alabama from September 13-16, 2004, making landfall near Gulf Shores at approximately 10:00 a.m. on September 16 as a Category 3 Hurricane. Storm surge values of 10-14 feet along the Alabama and Florida coastlines were the highest observed in over 100 years. As the storm moved inland, high winds and heavy rains wreaked havoc across the state. Heavy rainfall ranges between five and eight inches caused minor flooding across various areas of the state. Hurricane force winds were experienced for two to four hours across all inland Alabama counties, causing major damage to trees. These fallen trees were determined to be the primary cause of all inland structural damage attributed to the storm and electricity to residents to be interrupted for a week or more. Alabama totaled an estimated \$500,000,000 in damage to timber. Most of the soybean and pecan crops were destroyed, while the cotton crop suffered significantly though was not completely ruined. . In Calhoun County, hundreds of trees and power lines were knocked down in association with Ivan's high winds. Power outages lasted as long as 5 days in some locations. Hundreds of homes suffered varying degrees of wind damage. Maximum wind gusts were estimated around 50 miles an hour resulting in \$350,000 in property damage. (Source: NOAA NCDC)
- 5.9.3 As a Category 3 Hurricane, Dennis came ashore at Navarre Beach in the Florida Panhandle around 2 p.m. on July 10, 2005. Dennis brought with him sustained wind speed at 135 MPH and estimated storm surges of 10-15 feet. The National Weather Service issued an inland hurricane warning which indicated areas would experience substantial winds in excess of 74 MPH with gusts up to 90 MPH. The hurricane downgraded to a Tropical Storm produced 5-10 inches of rain throughout Alabama. President Bush approved a disaster declaration to provide infrastructure assistance to governments in counties across Alabama, making them eligible to receive federal and state assistance to recover costs of debris removal operations and emergency protective measures. Property damages totaled \$16,000 in Calhoun County. (Source: NOAA NCDC).
- 5.9.4 Hurricane Katrina made landfall on August 29, 2005 near Buras, Louisiana as a Category 3 storm and became known not only as the costliest but also as one of the most devastating hurricanes in the history of the United States. It is the deadliest hurricane to strike U.S. coastlines since 1928 and produced damages in excess of \$75 billion. Katrina had maximum sustained winds estimated to be 120 MPH at landfall. As Katrina moved across land, the storm

weakened, though it maintained hurricane status past Laurel, Mississippi. Southwestern Alabama experienced hurricane conditions as Katrina moved through neighboring Mississippi. The effects of Katrina were widespread across Alabama, particularly areas in the western portions of the state. These effects included significant rainfall values totaling between 5 and 6 inches near the Mississippi state line and high winds with gusts recorded to be 68 MPH out of Vance, Alabama. The rain and winds resulted in thousands of fallen trees and downed power lines. Power outages lasted from a few days to a week or more, and Alabama Power reported Katrina to be the worst storm in their history for statewide damage and power outages. Additionally, minor damages occurred to some structures throughout the area. In Alabama, six tornados also stemmed from Katrina, four of which were F-0 and two that were F-1. Local sources in Calhoun County reported a total of \$40,000 in damages as a result of Hurricane/Tropical Storm Katrina. Extensive tree and power line damage occurred as Katrina affected the area. Many roadways were impassable due to fallen trees. Power outages were widespread. Several structures were damaged. (*Source: NOAA NCDC*)

5.10 Sinkholes/Expansive Soils

- 5.10.1 During the risk assessment, it was determined that Calhoun County has a very limited area of outcrops of carbonate rocks, and no active areas of sinkholes in the county; however wherever limestone and dolomite are found underground, sinkholes are to be expected. Limestone and dolomite are very common in North Alabama, including Calhoun County. Impacts would include damage to roadways, infrastructure or other property.
- 5.10.2 Five sinkhole events have occurred during 2003-2013: 3 in Oxford, one in Anniston and one in Calhoun County. Damage figures for all but two events are unknown. One event in Oxford resulted in \$1 million property damages and one event in the county resulted in \$9.4 million property damages.
- 5.10.3 Though the soils present in the county do have some shrink-swell potential, the risk assessment determined that a profile was not necessary. No expansive soil issues were reported from NOAA NCDC or other sources.

5.11 Landslides

- 5.11.1 Landslide occurrences in Calhoun County have been restricted to soil erosion along roadways during past construction of major road projects. No current events have been reported. The absence of occurrences indicates a low vulnerability to landslides at this time.

5.12 Earthquakes

- 5.12.1 Calhoun County experienced two earthquake events during 2003-2013. One earthquake event was reported by www.homefacts.com/earthquakes/Alabama.html, 53.1 miles from the county's center having a 4.9 magnitude. Another earthquake event was reported locally, 3.29 miles from Hobson City having a 2.3 magnitude. The occurrences were minor and did not cause any damages.
- 5.12.2 A major earthquake in Calhoun County could result in great loss of life and property damage in the billions of dollars. Adding to the danger is the fact that structures in the area were not built to withstand earthquake shaking. Construction of many buildings on steep slopes susceptible to landslides and in karst terrains susceptible to sinkholes will be a major contributing factor to damage from future earthquakes in the county. Earthquakes can trigger other natural disasters such as landslides and sinkholes. No earthquakes were reported by the *Alabama Geological Survey; USGS Database; or NOAA NCDC*.

5.13 Wildfires

- 5.13.1 Calhoun County has a significant amount of acreage that is comprised of forestland and is therefore vulnerable to wildfires, especially during times of drought. Both rural and urban areas in all jurisdictions are impacted by wildfires and result in loss of wilderness, crops, livestock and other property. Loss of human life, both residents and firefighters, is also possible. Calhoun County experienced 137 wildfires from 2010 – 2013 resulting in 3,517 acres burned. (*Source: Alabama Forestry Commission*)

5.14 Dam/Levee Failures

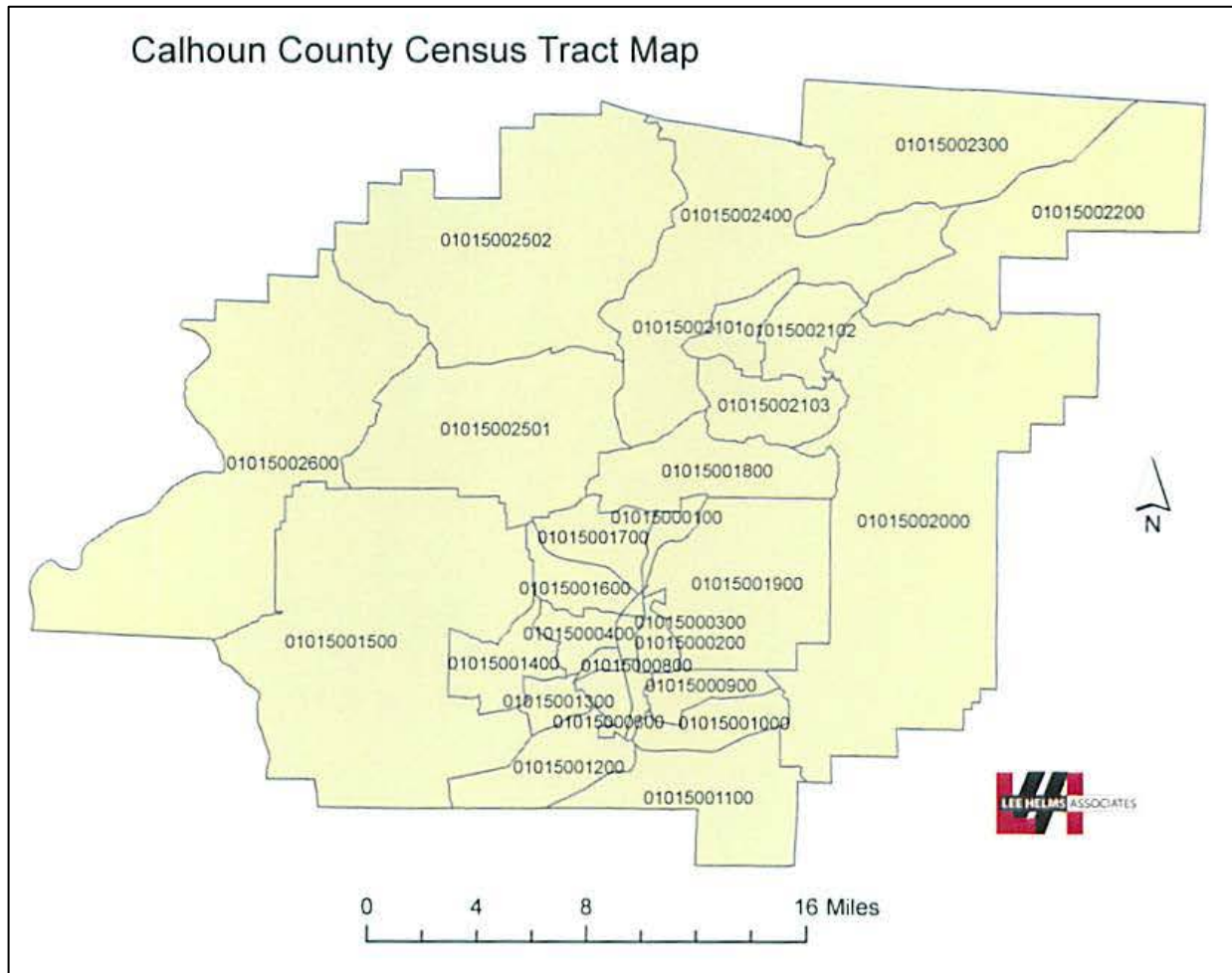
- 5.14.1 There are 46 dams in Calhoun County, two of which is classified as having High Hazard potential. The high hazard dams are located in the rural areas identified by Shoal Creek and Remount Creek. Potential impacts would include unregulated water flow, possible crop and property damage, and an increase of waterborne disease. 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 Calhoun County during 2003 - 2013. (*Sources: HAZUS MH 2.1; Local Input*)

5.15 Socially Vulnerable Populations

- 5.15.1 Certain populations are generally more affected by hazard events. These populations can be defined in terms of social, racial, and economic characteristics. Data provided in the section was obtained from 2010 Census using breakouts for entire municipalities and census tracts. According to the 2010 Census, Calhoun County has 605.87 acres of land area and 193.65 persons per square mile.
- 5.15.2 **Table 5.15-1** shows the county's population characteristics by jurisdiction and by census tract. The City of Anniston is the most populated jurisdiction, followed by the City of Oxford. The county has thirty one census tracts (See **Table 5.15-2**). In terms of vulnerability, the larger the population of an area the more people and structures that could possibly be damaged or destroyed. Tract 2000 is the most populated tract. Tract 1800 is the second most populated tract. Tract 1903 followed by 1902 with a population of 5 are the least populated tracts.

Table 5.15-1 – Calhoun County Population Characteristics from Census*Source: 2010 Census and USA.gov*

	Population	Race – White	Race – Black	Race – Other*	Under 18 Years	Age 18-64 Years	Age 65 and Over
Calhoun County	118,572	88,840	24,382	5,350	31,051	70,531	16,990
Anniston	23,106	10,327	11,903	876	5,560	13,450	4,096
Hobson City	771	97	662	12	256	433	82
Jacksonville	12,548	8,618	3,362	568	3,394	7,712	1,442
Ohatchee	1,170	1,101	38	31	276	729	165
Oxford	21,348	17,187	2,682	1,479	5,903	12,602	2,843
Piedmont	4,878	4,242	489	147	1,296	2,773	809
Weaver	3,038	2,474	412	152	899	1,791	348
Census Tracts by #:							
200	3,104	1,275	1,725	104	774	1,878	452
300	2,951	504	2,387	60	773	1,792	386
400	2,812	1,017	1,712	83	1,017	1,712	83
500	1,814	121	1,647	46	558	955	301
600	2,191	529	1,594	68	642	1,382	167
700	2,715	1,435	1,101	179	762	1,608	345
800	1,379	706	602	71	273	817	289
900	3,362	2,679	593	90	561	1,772	1,029
1000	5,792	4,165	1,183	444	1,233	3,540	1,019
1100	6,565	5,081	876	608	1,721	4,050	794
1201	3,482	2,217	1,016	249	915	1,896	671
1202	4,318	3,464	515	339	1,226	2,488	604
1300	2,211	2,075	64	72	587	1,282	342
1400	3,731	2,909	726	96	891	2,302	538
1500	5,198	4,525	431	242	1,391	3,107	700
1600	3,791	3,043	541	207	1,059	2,240	492
1700	6,329	4,622	1,399	308	1,558	3,623	1,148
1800	6,919	5,747	858	314	2,001	4,026	892
1901	6	6	0	0	N/A	N/A	N/A
1902	5	2	3	0	2	1	2
1903	0	0	0	0	0	0	0
2000	7,335	6,667	358	310	2,012	4,515	808
2101	3,992	2,187	1,679	126	1,247	2,593	152
2102	3,411	2,811	465	135	797	1,970	644
2103	6,801	4,988	1,405	408	1,792	4,180	829
2200	3,652	3,442	134	76	911	2,113	628
2300	3,843	3,245	466	132	1,034	2,195	614
2400	4,518	4,304	90	124	1,207	2,725	586
2501	7,069	6,301	569	199	1,987	4,194	888
2502	4,661	4,449	77	135	1,211	2,842	608
2600	4,615	4,324	166	125	1,194	2,851	570

Table 5.15-2 – Calhoun County Census Tracts for 2010 Census*Source: LHA*

- 5.15.3 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.
- 5.15.4 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.
- 5.15.5 Additionally, according to the US Dept of Health and Human Services, around 1576 people in Calhoun County zip codes are currently filing federal benefits claims for electricity-dependent medical equipment. In the event of a power outage, these residents will need a backup source of electrical power. These populations are outlined in **Table 5.15-3**.

Table 5.15-3 – Residents Utilizing Electrically-Powered Medical Equipment

Source: HHS emPOWER Map, 2015

Zip Code	Medicare Beneficiaries	Electricity-Dependent
36201	4,353	314
36203	3,353	197
36205	148	11
36206	2,155	145
36207	4,094	219
36250	848	50
36260	934	62
36265	3,326	198
36271	1,187	79
36272	3,117	198
36277	1,029	59
36279	548	44
Totals:	25,092	1576

- 5.15.6 Language can often be a barrier that increases disaster vulnerability. According to Census figures, Spanish is the most widely spoken language other than English in Calhoun County, with several thousand Spanish-speaking homes.
- 5.15.7 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 5.15-4** shows the median household income, per capita income, and poverty level data for the jurisdictions and census tracts in Calhoun County.
- 5.15.8 The median household income for the State of Alabama is \$43,160. The median household income for the United States is \$53,046. Tracts 900, 1700, 2102, and 2400 are the only tracts that exceeds the state and national averages. Only two of the municipalities, Ohatchee and Oxford have 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 and www.usa.com)
- 5.15.9 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. Tracts 900, 1000, and 2102 are the only tracts that exceeds the state and national averages. None of the municipalities have a per capita income that exceeds the state and national averages. (Source: 2010 Census and www.usa.com)
- 5.15.10 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%. Much of the county is above one or both of these rates. Tracts 900,1000,1100,1500,1700,2102,2200,2400,2502,2600 are below the state and national rates. Only the Ohatchee, Oxford, and Weaver have rates that are below the state and national rates. The City of Jacksonville has the highest poverty rate in the county at 36.77%. (Source: 2010 Census and www.usa.com)

Table 5.15-4 – Calhoun County Income Data from CensusSource: 2010 Census, www.usa.gov, 2014

	Median Household Income	Per Capita Income	Persons Below Poverty Level	Percent Below Poverty Level
Calhoun County	\$40,093	\$20,881	24,597	21.41%
Anniston	\$33,572	\$21,338	6,219	26.92%
Hobson City	\$23,264	\$14,243	288	32.95%
Jacksonville	\$37,210	\$18,297	3,963	36.77%
Ohatchee	\$52,986	\$22,564	82	6.57%
Oxford	\$50,066	\$23,147	2,608	12.52%
Piedmont	\$33,370	\$19,605	984	20.33%
Weaver	\$41,398	\$19,289	398	13.12%
Census Tracts by #:				
200	\$34,914	\$18,946	940	26.07%
300	\$19,933	\$12,034	1,327	47.02%
400	\$26,989	\$14,608	715	25.84%
500	\$15,556	\$12,082	1,050	58.53%
600	\$19,615	\$9,687	966	54.89%
700	\$26,199	\$17,134	958	32.93%
800	\$34,550	\$21,102	255	22.47%
900	\$57,036	\$38,532	130	4.19%
1000	\$44,545	\$31,364	534	9.84%
1100	\$52,486	\$26,731	750	11.76%
1201	\$36,034	\$17,673	791	23.95%
1202	\$52,357	\$24,771	643	16.20%
1300	\$25,530	\$14,520	742	31.41%
1400	\$35,525	\$17,084	575	15.86%
1500	\$40,510	\$20,350	686	13.38%
1600	\$29,471	\$15,460	1,068	28.08%
1700	\$63,079	\$25,368	355	5.51%
1800	\$37,173	\$17,798	1,828	28.46%
1901	\$0	N/A	N/A	N/A
1902	\$0	\$13,776	N/A	N/A
1903	N/A	N/A	N/A	N/A
2000	\$51,110	\$22,391	1,461	19.53%
2101	\$12,361	\$8,429	1,640	63.71%
2102	\$55,129	\$31,860	314	10.23%
2103	\$40,777	\$18,945	2,408	34.85%
2200	\$32,798	\$19,607	492	13.25%
2300	\$34,048	\$17,508	955	25.62%
2400	\$62,028	\$24,059	425	9.37%
2501	\$44,320	\$21,855	1,380	19.50%
2502	\$40,714	\$20,813	637	14.20%
2600	\$47,146	\$21,351	572	12.75%

5.16 Vulnerable Structures

5.16.1 Housing is an important consideration of mitigation planning. The concentration and the type of housing are two primary factors. In Calhoun County there are a total of 53,053 housing units. **Table 5.16-1** shows the housing characteristics of the county by jurisdiction.

5.16.2 The City of Anniston has the greatest concentration of housing units, followed by Oxford and Jacksonville. The Town of Anniston the highest number of mobile home units within a municipality. Ohatchee 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 5.16-1 – Calhoun County Housing Characteristics

Source: 2010 Census, www.usa.gov

Geographic Area	Total Housing Units	Mobile Home Units	Mobile Home %
Calhoun County	53,053	409	.77%
Anniston	11,599	64	.55%
Hobson City	358	1	.28%
Jacksonville	5,382	23	.43%
Ohatchee	571	45	7.88%
Oxford	8,806	19	.22%
Piedmont	2,404	22	.92%
Weaver	1,307	5	.38%

5.16.3 **Table 5.16-2** shows the building stock in Calhoun 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 1200 has the highest number of structures in the county. Complementing this information is **Table 5.16-3** that provides the value totals for these building types and **Table 5.16-4** that provides the content value for these building types, each table is shown by Census Tract. Tract 1000 also has the highest total value for structures in the county.

Table 5.16-2 – Calhoun County Building Stock by General Occupancy

(These structures are vulnerable to: Thunderstorms, lightning, hail, tornados, floods/flash floods, drought/extreme heat, winter weather, frost freeze, heavy snow, ice storms, winter weather, extreme cold, tropical storms, tropical depressions, high winds, strong winds, sinkholes, earthquakes, wildfires, and dam failures.) Source: HAZUS-MH 2.1

Census Tract	Residential	Commercial	Industrial	Agriculture	Religious	Government	Education	Building Count
100	1104	69	8	1	8	3	2	497
200	1762	105	14	0	12	3	4	1900
300	1982	101	14	0	24	9	1	2131
400	1372	34	17	2	15	0	2	1442
500	1467	37	13	0	15	2	1	1535
600	945	40	10	1	7	2	0	1005
800	872	323	53	5	29	18	8	1308
900	1783	58	6	4	8	0	4	1863
1000	2257	125	48	4	9	3	5	2451
1100	2660	213	68	9	11	4	1	2966
1200	3691	210	57	3	26	3	7	3997
1300	1276	42	18	2	13	0	1	1352
1400	1648	28	15	2	6	0	0	1699
1500	2344	92	48	8	14	5	4	2515
1600	1863	71	23	2	9	0	2	1970
1700	2756	97	26	5	13	0	0	2897
1800	3091	84	23	7	12	3	1	3221
1900	381	15	3	1	1	3	2	406
2000	2378	77	28	11	12	4	2	2512
2101	861	51	5	1	8	2	3	931
2102	1259	66	10	2	9	4	1	1351
2103	2118	109	22	7	8	3	7	2274
2200	1856	70	17	8	7	2	1	1961
2300	2143	104	37	9	18	6	3	2320
2400	1878	49	30	6	7	2	0	1972
2501	2707	130	45	18	20	2	4	2926
2502	1879	59	29	9	10	0	1	1987
2600	1952	74	25	7	12	2	2	2074
TOTAL	52285	2533	712	134	343	85	69	56161

Table 5.16-3 – Calhoun County Building Structure Exposure

(These structures are vulnerable to: Thunderstorms, lightning, hail, tornados, floods/flash floods, drought/extreme heat, winter weather, frost freeze, heavy snow, ice storms, winter weather, extreme cold, tropical storms, tropical depressions, high winds, strong winds, sinkholes, earthquakes, wildfires, and dam failures.) Source: HAZUS-MH 2.1

Figures shown in Thousands USD

Census Tract	Residential	Commercial	Industrial	Agriculture	Religious	Government	Education	Building Exposure
100	97718	34104	2144	125	4738	2601	3517	144,947
200	137861	74859	2571	0	8817	1392	3375	228,875
300	153780	42878	7115	0	13911	6213	681	224,578
400	95635	13754	25393	250	7692	0	246	142,970
500	98450	10174	37038	0	8511	152	217	154,542
600	75799	12137	8239	156	4841	719	0	101,891
800	86791	206846	29707	1111	23980	8739	2649	359,823
900	237051	22228	3528	461	4862	0	1537	269,667
1000	360184	95903	65220	308	8019	640	7277	537,551
1100	329724	106812	48497	1221	5979	2147	918	495,298
1200	361641	104148	43053	299	18165	2357	8302	537,965
1300	87731	13778	17348	117	6321	0	1551	126,846
1400	123294	8996	5659	130	4318	0	0	142,397
1500	212877	35880	48799	1346	9114	1533	2156	311,705
1600	165036	22866	17602	213	7453	0	3401	216,571
1700	377424	36341	3905	4864	6946	0	0	429,480
1800	281659	19261	5625	838	8818	591	2402	319,194
1900	65466	18673	2340	69	1182	3351	3221	94,302
2000	197258	18492	4807	6604	6473	1917	7165	242,716
2101	125541	16607	890	56	5729	1179	2949	152,951
2102	202876	23726	4865	181	6046	2022	161	239,877
2103	169547	56073	12443	723	5272	2111	4783	250,952
2200	167976	21097	6083	955	4986	790	1012	202,899
2300	139210	44900	12948	995	10405	3616	6571	218,645
2400	166836	9577	4825	764	3533	1157	0	186,692
2501	282920	41161	8656	2905	12446	1636	4263	353,987
2502	152571	12332	3768	1314	6627	0	5977	182,589
2600	149690	19463	6304	1257	6416	1153	2666	186,949
TOTAL *	5,102,546	1,143,066	439,372	27,262	221,600	46,016	76,997	7,056,859

Table 5.16-4 – Calhoun County Building Contents Exposure

(These structures are vulnerable to: Thunderstorms, lightning, hail, tornados, floods/flash floods, drought/extreme heat, winter weather, frost freeze, heavy snow, ice storms, winter weather, extreme cold, tropical storms, tropical depressions, high winds, strong winds, sinkholes, earthquakes, wildfires, and dam failures.) Source: HAZUS-MH 2.1

Figures shown in Thousands USD

Census Tract	Residential	Commercial	Industrial	Agriculture	Religious	Government	Education	Contents Exposure
100	48952	34818	2819	125	4738	2601	3517	97,570
200	69072	97045	3368	0	8817	1816	3375	183,493
300	77087	43629	10424	0	13911	6213	681	151,945
400	47889	14407	36716	250	7692	0	246	107,200
500	49348	10262	55490	0	8511	152	217	123,980
600	38008	12137	12094	156	4841	719	0	67,955
800	43498	227425	40433	1111	23980	8739	2649	347,835
900	118597	24067	4956	461	4862	0	1537	154,480
1000	180168	97587	96332	308	8019	640	9538	392,592
1100	165042	110508	70245	1221	5979	2147	918	356,060
1200	181074	110122	59807	299	18165	3254	8302	381,023
1300	43934	14458	25418	117	6321	0	1551	91,799
1400	61717	8996	7967	130	4318	0	0	83,128
1500	106500	35880	71499	1346	9114	1533	2156	228,028
1600	82602	23163	25356	213	7453	0	3401	142,188
1700	188814	36711	4052	4864	6946	0	0	241,387
1800	140964	19534	7537	838	8818	766	2402	180,859
1900	32740	18839	3355	69	1182	3351	4165	63,701
2000	98728	19373	5875	6604	6473	2846	7165	147,064
2101	62890	16741	1027	56	5729	1179	3204	90,826
2102	101518	23976	7124	181	6046	2699	161	141,705
2103	84970	63023	17430	723	5272	2111	4783	178,312
2200	84095	22709	8142	955	4986	790	1012	122,689
2300	69781	45640	17824	995	10405	3992	6571	155,208
2400	83489	9877	5758	764	3533	1670	0	105,091
2501	141543	43942	11083	2905	12446	2303	4263	218,485
2502	76359	12365	4604	1314	6627	0	5977	107,246
2600	74967	20009	8247	1257	6416	1563	2666	115,125
TOTAL	2,554,346	1,217,243	624,982	27,262	221,600	51,084	80,457	4,776,974

5.17 Critical Facility Inventory

5.17.1 Critical facilities are crucial to the daily operation of Calhoun County. Critical facilities help maintain a certain quality of life. Loss of operation could result in severe impacts on the community. Each of the critical facilities listed in **Table 5.17-1** is vulnerable to each of the hazards identified in the risk assessment. Critical facilities include but are not limited to the following:

- Governmental services
- Police, Fire, and EMS Stations
- Public Works and Utilities facilities
- Education
- Major Industrial and Commercial
- Medical and Healthcare

5.17.2 Each jurisdiction listed facilities based on the location of the facility without regard to ownership or function. HAZUS-MH 2.1 was also utilized for building and content values.

5.17.3 Critical facilities were reviewed to consider vulnerability to special flood hazard areas. The determination utilized the review of existing FIRMs or FHBMs. Critical facilities in Calhoun County identified as being in a special flood hazard area and particularly vulnerable to floods are listed in **Table 5.17-1**. HAZUS-MH 2.1 (Accessed 2014) was utilized for facility listing and replacement values.

Table 5.17-1 – Calhoun County Critical Facilities

Facility	Location	Jurisdiction	Replacement Cost
GOVERNMENTAL FACILITIES			
CALHOUN COUNTY COURTHOUSE	1702 NOBLE ST.	ANNISTON	
CALHOUN COUNTY COURTHOUSE SECURITY	25 W. 11 th STREET	ANNISTON	
ANIMAL CONTROL SERVICES	3605 MORRISVILLE ROAD	ANNISTON	
CALHOUN COUNTY LANDFILL & TRANSFER STATION	3625 MORRISVILLE ROAD	ANNISTON	
CALHOUN COUNTY HIGHWAY DEPT	160 SEATON DRIVE	ANNISTON	
EDUCATIONAL FACILITIES			
OXFORD HIGH SCHOOL	915 STEWART ST	OXFORD	\$18,878,470
OXFORD ELEMENTARY SCHOOL	1401 CAFFEY DR	OXFORD	\$12,736,490
OXFORD MIDDLE SCHOOL	1750 HIGHWAY 78 W	OXFORD	\$10,646,800
OXFORD AREA VOCATIONAL SCHOOL	915 STEWART ST	OXFORD	\$6,733,560
CE HANNA SCHOOL	715 MARTIN LUTHER KING DR	HOBSON CITY	\$5,150,290
COLDWATER ELEMENTARY SCHOOL	530 TAYLORS CHAPEL ROAD	ANNISTON	\$7,678,460
DE ARMANVILLE ELEMENTARY SCHOOL	101 SCHOOL RD	ANNISTON	\$4,902,510

Facility	Location	Jurisdiction	Replacement Cost
PIEDMONT HIGH SCHOOL	750 AL HIGHWAY 200	PIEDMONT	\$3,851,490
THE DONOHO SCHOOL	2501 HENRY ROAD	ANNISTON	\$4,506,500
TRINITY CHRISTIAN ACADEMY	1500 AIRPORT ROAD	OXFORD	\$2,200,850
SACRED HEART CATHOLIC SCHOOL	16 MORTON RD.	FT MCCLELLAN	\$2,502,160
HARVEST CHILD CARE AND LEARNIN	1600 GREENBRIER ROAD	ANNISTON	\$318,150
CORNERSTONE CHRISTIAN ACADEMY	2885 CHOCCOLOCCO RD	ANNISTON	\$445,410
FAITH CHRISTIAN SCHOOL	4100 RONNAKI RD	ANNISTON	\$4,283,800
THE LEARNING TREE, INC.	6344 ROY WEBB ROAD	PIEDMONT	\$602,610
MARTIN LUTHER KING CHILD DEV C	1614 HANNA AVENUE	ANNISTON	\$233,930
JACKSONVILLE CHRISTIAN ACADEMY	831 ALEXANDRIA RD SW	JACKSONVILLE	\$2,973,770
PIEDMONT ELEMENTARY SCHOOL	504 HOOD ST WEST	PIEDMONT	\$6,316,030
ANNISTON CITY BOOT CAMP SCHOOL	4804 MCCLELLAN BLVD	ANNISTON	\$6,733,560
ANNISTON MIDDLE SCHOOL	4800 MCCLELLAN BLVD	ANNISTON	\$8,794,050
COOSA VALLEY REGIONAL DETENTION CENTER	4625 MCCLELLAN BLVD	ANNISTON	\$4,349,300
CALHOUN COUNTY ALTERNATIVE SCHOOL	4400 MCCLELLAN BLVD	ANNISTON	\$4,349,300
ANNISTON HIGH SCHOOL	1301 WOODSTOCK AVE	ANNISTON	\$7,906,970
TENTH STREET ELEMENTARY SCHOOL	1525 E 10TH ST	ANNISTON	\$1,123,000
GOALS ALTERNATIVE SCHOOL	1301 WOODSTOCK AVE	ANNISTON	\$1,123,000
RANDOLPH PARK ELEMENTARY SCHOOL	2200 W 17TH ST	ANNISTON	\$1,123,000
COBB ELEMENTARY SCHOOL	1325 COBB AVE	ANNISTON	\$1,123,000
CONSTANTINE ELEMENTARY SCHOOL	1200 JOHNSON AVE	ANNISTON	\$1,123,000
GOLDEN SPRINGS ELEMENTARY SCHOOL	100 FEARY DR	ANNISTON	\$1,123,000
WELLBORN ELEMENTARY SCHOOL	525 COOPER CIR	ANNISTON	\$1,123,000
WELLBORN HIGH SCHOOL	135 PINSON RD	ANNISTON	\$1,123,000
SAKS ELEMENTARY SCHOOL	31 WATSON	ANNISTON	\$1,123,000
SAKS HIGH SCHOOL	4401 SAKS RD	ANNISTON	\$1,123,000
SAKS MIDDLE SCHOOL	32 WATSON	ANNISTON	\$1,123,000
WEAVER ELEMENTARY SCHOOL	444 SCHOOL DR	WEAVER	\$1,123,000
WEAVER HIGH SCHOOL	917 CLAIRMONT DR	WEAVER	\$1,123,000
WHITE PLAINS HIGH SCHOOL	250 WHITE PLAINS RD	ANNISTON	\$1,123,000
WHITE PLAINS ELEMENTARY SCHOOL	5600 ALABAMA HWY 9	ANNISTON	\$1,123,000
KITTY STONE ELEMENTARY SCHOOL	115 COLLEGE ST SW	JACKSONVILLE	\$1,123,000

Facility	Location	Jurisdiction	Replacement Cost
CALHOUN COUNTY CAREER TECHNICAL CENTER	1200 CHURCH ST SE	JACKSONVILLE	\$1,123,000
JACKSONVILLE HIGH SCHOOL	1000 GEORGE DOUTHIT DR SW	JACKSONVILLE	\$1,123,000
LEARNING TREE INC WEBB	P O BOX 908	JACKSONVILLE	\$1,123,000
PLEASANT VALLEY ELEMENTARY SCHOOL	265 MARK GREEN ROAD	JACKSONVILLE	\$1,123,000
ALEXANDRIA HIGH SCHOOL	353 STADIUM DR	ALEXANDRIA	\$1,123,000
ALEXANDRIA ELEMENTARY SCHOOL	2525 ALEX-WELLINGTON RD	ALEXANDRIA	\$1,123,000
PLEASANT VALLEY HIGH SCHOOL	4141 PLEASANT VALLEY RD	JACKSONVILLE	\$1,123,000
OHATCHEE HIGH SCHOOL	100 CHEROKEE TRL	OHATCHEE	\$1,123,000
OHATCHEE ELEMENTARY SCHOOL	365 J STREET	OHATCHEE	\$1,123,000
PIEDMONT MIDDLE SCHOOL	401 N MAIN ST	PIEDMONT	\$1,123,000
MEDICAL FACILITIES			
STRINGFELLOW MEMORIAL HOSPITAL	301 EAST 18TH STREET	ANNISTON	\$25,146,200
NE ALABAMA REGIONAL MED CENTER	400 EAST TENTH STREET	ANNISTON	\$52,102,930
JACKSONVILLE HOSPITAL	1701 PELHAM ROAD SOUTH	JACKSONVILLE	\$11,265,500
ANNISTON METROPOLITAN AIRPORT		ANNISTON	\$10,651,000
COMMUNICATION FACILITIES			
WNSI 810		JACKSONVILLE	\$90,000
WHOG 1120		HOBSON CITY	\$90,000
WPID 1280		PIEDMONT	\$90,000
WDNG 1450		ANNISTON	\$90,000
WARB 1580		OXFORD	\$90,000
WLIS-FM CH 220		JACKSONVILLE	\$90,000
WWWQ CH 263		ANNISTON	\$90,000
WJCK CH 202		PIEDMONT	\$90,000
WVOK CH 250		OXFORD	\$90,000
WGRW CH 214		ANNISTON	\$90,000
BUS FACILITIES			
ANNISTON CITY BUS LINES	6814 MCCLELLAN BLVD.	ANNISTON	\$981,000
TNT TRANSIT PRODUCTS, INC.	14055 US HIGHWAY 431	WELLINGTON	\$981,000
FIRE FACILITIES			
ANNISTON FIRE DEPARTMENT	225 E. SEVENTEENTH ST.	ANNISTON	\$1,260,000
QUAD CITIES VOL. FIRE DEPT.	75 EART ROBERTS ROAD	ANNISTON	\$1,260,000
JACKSONVILLE FIRE DEPARTMENT	506 CHINABEE AVE. S.E.	JACKSONVILLE	\$1,260,000
WHITE PLAINS VOL. FIRE DEPT.	12900 AL HWY 9	PIEDMONT	\$1,260,000
CITY OF PIEDMONT FIRE DEPT.	312 N. CENTER AVE.	PIEDMONT	\$1,260,000
ALEXANDRIA VOL. FIRE DEPT.	2222 ALEXANDRIA-WELLINGTON ROAD	ALEXANDRIA	\$1,260,000

Facility	Location	Jurisdiction	Replacement Cost
WEBSTER'S CHAPEL VOL. FIRE DEPT.	1552 A. P. HOLLINGSWORTH RD.	WELLINGTON	\$1,260,000
MOUNT OLIVE VOL. FIRE DEPT.	2807 BOILING SPRINGS ROAD	OHATCHEE	\$1,260,000
WEAVER FIRE DEPT.	105 CHURCH ST	WEAVER	\$1,260,000
OHATCHEE VOL. FIRE DEPT.	2396 HARTS FERRY ROAD	OHATCHEE	\$1,260,000
HAZARDOUS MATERIALS FACILITIES			
U.S. ARMY ANNISTON ARMY DEPOT	7 FRANKFORD AVE.	ANNISTON	
BRADDOCK METALLURGICAL	3008 RED MORRIS PARKWAY	ANNISTON	
UNITED DEFENSE L.P.	2101 W. 10 TH STREET	ANNISTON	
PROGRESSIVE INK CO. L.L.C.	104 NATIONAL DRIVE	ANNISTON	
MULTMETCO INC.	1610 FRANK AKERS ROAD	ANNISTON	
PARKER HANNIFIN CORP. IVD	2651 ALABAMA HWY. 21 N.	JACKSONVILLE	
SOLUTIA INC.	702 CLYDESDALE AVE.	ANNISTON	
UNION FOUNDRY CO.	1501 W. 17 TH ST.	ANNISTON	
U.S. CASTINGS CORP.	1831 FRONT STREET	ANNISTON	
SOUTHERN TOOL, INC.	112 HWY 78 W.	OXFORD	
LEE BRASS CO.	1800 GOLDEN SPRINGS ROAD	ANNISTON	
WALLACE METAL PRODUCTS	1803 COLEMAN ROAD	ANNISTON	
FABARC STEEL SUPPLY INC.	111 MEADOW LANE	OXFORD	
TYSON FOODS, INC.	1520 MCPHERSON STREET	OXFORD	
DEFENSE RESEARCH INC.	1425 COMMERCE BLVD.	ANNISTON	
NORTH AMERICAN BUS INDUSTRY, INC.	106 NATIONAL DRIVE	ANNISTON	
LAW ENFORCEMENT FACILITIES			
OXFORD POLICE DEPT.	100 E. CHOCOLOCCO STREET	OXFORD	\$1,260,000
JACKSONVILLE POLICE DEPT.	116 LADIGA ST. S. E.	JACKSONVILLE	\$1,260,000
PIEDMONT POLICE DEPT.	116 W. LADIGA STREET	PIEDMONT	\$1,260,000
ANNISTON POLICE DEPT.	1200 GURNEE AVE.	ANNISTON	\$1,260,000
OHATCHEE POLICE DEPT.	301 MAIN STREET	OHATCHEE	\$1,260,000
WEAVER POLICE DEPT.	500 ANNISTON STREET	WEAVER	\$1,260,000
HOBSON POLICE DEPT.	600 PARK AVE.	ANNISTON	\$1,260,000
MEDICAL FACILITIES			
STRINGFELLOW MEMORIAL HOSPITAL	301 EAST 18 TH STREET	ANNISTON	\$25,146,200
NE ALABAMA REGIONAL MEDICAL CENTER	400 EAST TENTH STREET	ANNISTON	\$52,102,931
JACKSONVILLE HOSPITAL	1701 PELHAM ROAD SOUTH	JACKSONVILLE	\$112,654,986
RAILWAY FACILITIES			
ANNISTON ALABAMA	126 WEST 4 TH STREET	ANNISTON	\$2,663,000
EAGLE WAREHOUSE, INC.		OXFORD	\$2,663,000
WASTE WATER TREATMENT PLANTS			
CHOCOLOCCO CREEK WWTP	35 FRIENDSHIP ROAD	OXFORD	\$599,400

Facility	Location	Jurisdiction	Replacement Cost
FORT MCCLELLAN WWTP	6112 MCCLELLAN BLVD.	ANNISTON	\$599,400
JACKSONVILLE WWTP	110 WHITES GAP ROAD	JACKSONVILLE	\$599,400
PIEDMONT WWTP	STIENBURG ROAD	PIEDMONT	\$599,400
TOWNSHIP SERVICE CORP SILVER LAKE		ALEXANDRIA	\$599,400
GAS COMPRESSOR PLANT FACILITIES			
SOUTHERN NATURAL GAS	HWY 78 E.	ANNISTON	\$981,000
SOUTHERN NATURAL GAS CO.		CALHOUN COUNTY	\$981,000
SOUTHERN NATURAL GAS – DEARMANVILLE	539 CHEVRON ROAD	ANNISTON	\$981,000
ELECTRIC POWER PLANTS			
ALABAMA POWER CO. HENRY HYDRO	1021 HIGHWAY 144	OHATCHEE	\$990,000
ALABAMA POWER-ANNISTON GARAGE	217 WEST 10 TH STREET	ANNISTON	\$990,000
ALABAMA POWER-NEELY HENRY DAM	1021 HWY 144W	OHATCHEE	\$990,000
EMERGENCY OPERATIONS CENTER			
CALHOUN COUNTY EMA	507 FRANCIS STREET W.	JACKSONVILLE	
WATER AND SEWER BOARDS			
ANNISTON WATER WORKS AND SEWER BOARD	931 NOBLE STREET	ANNISTON	\$25,000,000
JACKSONVILLE WATER WORKS, GAS & SEWER BOARD	330 CHURCH AVE., S.W.	JACKSONVILLE	
TOTAL			\$478,053,717

5.18 Development Trends

- 5.18.1 The 2010 Census for Calhoun County, Alabama shows a countywide population of 118,572. Current population projection numbers show that the population in Calhoun County will continue increasing within the next 20 years. There is a population change of 7,906 from 2010 to 2040, which is a 6.7% population increase. **Table 5.18-1** provides the population projections for Calhoun County.
- 5.18.2 Recent development in Calhoun County has mostly centered on the expansion in size and population in the City of Oxford. Another area of possible future development includes the former Fort McClellan property northeast of the City of Anniston. Should these communities continue to develop, public alerting systems and emergency plans might require updating to reflect new development and increased populations in those areas.
- 5.18.3 The anticipated development trends in the county do not indicate any marked increase in vulnerability to identified hazards.

Table 5.18-1 – Calhoun County Population Projections

Source: Center for Business and Economic Research, University of Alabama; Alabama Hazard Mitigation Plan, 2014

Year	Population Projection
2015	120,651
2020	122,520
2025	124,044
2030	125,166
2035	125,920
2040	126,478

5.19 Public Alerting and Warning

- 5.19.1 Calhoun County Emergency Management Agency and the county's jurisdictions have developed an integrated warning system that provides multiple means to transmit public alerts and warnings, such as weather advisories, watches, warnings.
- 5.19.2 **Social Media:** Many residents utilize computers, smart phones, and other internet-enabled devices to keep up with breaking news and other information. As a result, social media is a modern cornerstone of all hazards messaging before, during, and after an emergency. The Calhoun County EMA, in addition to many local law enforcement and other public safety agencies within Calhoun County, maintain a presence on social media. Specifically, the Calhoun County EMA is on Twitter @BeReadyCalhoun and Facebook at <http://www.facebook.com/CalhounCountyEMA>. During recent emergencies, some posts through Calhoun County EMA's Facebook page have seen views by over 25,000 residents. Importantly, many local agencies "re-post" and "re-tweet" information from the Calhoun County EMA, increasing visibility of important information in an emergency.
- 5.19.3 **Mass Notification Systems:** Calhoun County EMA utilizes a mass notification system known as Nixle to provide "push" alerts via email and text message to subscribers. In addition to public safety groups for emergency alerts, the general public can subscribe to receive information on this system. As of 2015, Calhoun County EMA had over 5,000 subscribers on its Nixle alert system (almost 5% of the county population). Another MNS component of the integrated warning system is the Integrated Public Alert and Warning System (IPAWS) Commercial Mobile Alert System (CMAS). IPAWS/CMAS provides 'push' capability for EAS activations for high-level alerts (such as tornado warnings) to all capable cellular devices within the alert area. This is a crucial component of the integrated warning system, as it allows emergency alerts to reach residents who have not 'subscribed' to another alerting system. Additionally, many other systems, such as the Alabama Saf-T-Net and TV media outlet 'apps' offer subscription-based or 'push' alerting.
- 5.19.4 **NOAA Weather Radio (NWR):** NWR is a nationwide network of radio stations broadcasting weather and other emergency information 24 hours a day. All National Weather Service-issued watches, warnings, forecasts and other emergency messages are broadcast on one of seven frequencies. National Weather Service personnel at the weather forecast office in Birmingham record weather information that plays in a cyclical pattern repeating every three to six minutes. Broadcasts generally include local area five-day forecasts, current weather conditions, radar reports, weather summaries, climatic data, river and lake stage readings, and other weather information. The broadcasts are continuously updated to provide the listener with the latest information. NOAA Weather Radio is useful any time for the latest weather information but becomes even more important during severe or hazardous weather. During

episodes of severe weather, the normal broadcast cycle is interrupted and focus shifted to the local severe weather threat. Watches, warnings, and statements are given the highest priority and are updated frequently as conditions change. In an emergency each transmitter is capable of transmitting a warning alarm tone signal and the new Specific Area Message Encoding (SAME) signal, followed by information on the emergency situation. These signals will activate specially designed receivers, either bringing up the volume or producing a visual and/or audible alarm. Not all weather band receivers have this capability, but all radios that receive NOAA Weather Radio transmissions can receive the emergency broadcasts. The warning alarm device is tested each Wednesday, between 11 am and noon, weather permitting, directly by the NWS WFO in Birmingham. Calhoun County is covered by a single NOAA NWR transmitter, located on Mt. Cheaha in Cleburne County. This transmitter is a single-point-of-failure in the warning system.

- 5.19.5 **Outdoor Warning Sirens:** Calhoun County EMA has 108 in-place outdoor warning sirens. Although these sirens cover most of the populated areas, there are many places without an outdoor siren. **Table 5.19-2** lists the existing sirens. The existing sirens have an effective radiated coverage area of one mile around the siren. The sirens are activated only for Tornado Warnings. There is no ALL CLEAR siren sounding due to the possibility of public confusion. Weather Warnings sound like a long, continuous tone, for up to two minutes, known as the 'alert' tone. This alert tone has been used for natural disaster (non-attack) alerts pursuant to Civil Defense and FEMA guidance for many decades. The sirens are activated from the Calhoun County EMA Emergency Operations Center (EOC) with a backup compatibility at the Calhoun County E-911 Communications Center as well as a portable backup system. Sirens are automatically activated by computer for a tornado warning. Automatic tornado warning activations are for geographic areas located inside the tornado warning polygon *only*. Sirens are also programmed for use for various other hazard scenarios as outlined in **Table 5.19-1**. Sirens may be activated in groups by local jurisdiction, county sectors or individually. The entire countywide Outdoor Siren Warning System is tested monthly, weather permitting. Notification of siren tests occurs through the monthly alert and notification messaging. Residents are advised to not rely on outdoor warning sirens. The sirens are designed to be heard outdoors only and are installed near recreational areas, schools, and shopping malls where there are large outdoor populations. As a backup to the outdoor siren warning system, police and fire units throughout the county can be instructed to sound their sirens, in a process known as Route Alerting. Additionally, Anniston Army Depot, Fort McClellan-Pelham Range, and the City of Piedmont each operate independent outdoor warning siren systems.

Table 5.19-1 – Calhoun County EMA Outdoor Warning Siren Tones

Source: Calhoun County EMA, 2015

Event Type	Warning Siren Sound
Tornado Warning	Alert Tone (steady)
Hazmat Incident	Hi-Lo Tone (European-style siren)
Monthly Test	Wail
Hostile Attack on the US	Attack Tone (wavering)
Public Address	No Tone / Live PA Only
Silent Test	No Tone / No PA / Diagnostic Only

Table 5.19-2 – Calhoun County EMA Outdoor Warning Sirens

Source: Calhoun County EMA, 2015

Siren ID	E-911 Physical Address	General Location
1	140 Johnny Green Rd	West Alexandria

Siren ID	E-911 Physical Address	General Location
2	1281 Lowimore Rd	Lowimore Rd.
3	2476 Mt View Rd	Corner of Mt View & Grayton Rd. S.
4	3147 Gladden Ln W	Alexandria, Gladden Lane
5	2106 Webster's Rd	Crystal Springs Lake Park
6	22 Alexandria Heights Cir	Alexandria Heights Circle
7	5662 Alexandria Wellington Rd	Alex-Well. Rd
8	352 Stadium Dr	Alexandria Schools
9	771 Holland Finley Rd	Holland Finley & Old Mill Rd
10	4331 Wellington Rd	Wellington Rd
11	1024 Crane Av	Anniston, Spencer Ave. behind FMC
12	2529 Simpson St	Simpson Street W Anniston
13	602 W 11th St	Anniston, 11th & Pine
14	352 W 29th St	Anniston, Norwood 29th St.
15	S Quintard Ave/Behind old Ramada Inn	Anniston, Near Ramada Inn
16	319 Rockwood Dr	Anniston, Rockwood Dr.
17	1215 Vine St	Anniston, Vine St. East Side
18	542 Hillyer High Rd	Anniston, Hilyer High Mountain
19	690 Mary Ln	Anniston, Henry Rd. @ Fire Station
20	88 Eagle Cove Rd	Willow Point Marina
21	183 Lakeshore Dr	Lakeshore Marina
22	454 Pope Rd	Pope Rd.
23	5489 Jake Mintz Rd	Big Oak Ranch
24	331 Amber Nunnelle Rd	Amber-Nunnally Rd.
25	4184 Rock Springs Rd	Rock Springs Rd
26	3154 Oak Grove Rd	Silver Lakes
27	1481 Fish Hatchery Rd	Fish Hatchery Rd.
28	198 Victory Dr	Bynum Elementary School
29	402 Scenic Cir	Calhoun Co Alternative School Coldwater
30	675 Beck Rd	Beck Rd. North of Hwy. 78 W.
31	528 Taylors Chapel Rd	Coldwater Elementary School
32	4545 Airport Rd	Airport Rd & Coldwater Pump Rd.
33	144 Craft Rd	Craft Rd off Coldwater Pump Rd.
34	291 Old County 109	Wellborn, Old 109 & Kyle Rd.
35	25 Knoxville Cir	Coldwater, Hwy 78 & Knoxville Circle
36	5991 Choccolocco Rd	Pine Hill Golf Course
37	235 Chosea Springs Rd	Chosea Springs Rd off Choccolocco Rd
38	2633 Old Downing Mill Rd	DeArmanville CCRD Barn
39	107 Rainbow Dr	White Plains Elementary School
40	791 Iron City Rd	Iron City Rd near Hwy 9
41	710 Pleasant Valley Rd	Pleasant Valley Rd.
42	252 Crow Farm Rd	Crowe Farm Rd.

Siren ID	E-911 Physical Address	General Location
43	1348 Francis St W	Francis St.
44	321 Henry Rd SW	Henry Farm Park
45	505 Francis St W	Jacksonville EOC
46	561 Roy Webb Rd	Germania Springs Park
47	1198 Church Av SE	Jacksonville, Tech School
48	1389 Whites Gap Rd	Whites Gap Rd. SE
49	1661 Boiling Springs Rd	Kirksey's Bend & Boiling Springs Rd
50	15 River Rd	River Rd & Boiling Springs Rd.
51	45 Sulphur Springs Rd	Sulphur Springs & Mitchellville Rd.
52	6500 Boiling Springs Rd	Boiling Springs & Mudd St.
53	2051 Francis Mill Rd	Francis Mill Rd.
54	6673 AL Hwy 77	River Park Marina
55	2430 Harts Ferry Rd	Ohatchee, HWY 144 near VFD
56	1245 Cherokee Tr	Cherokee Trail
57	129 Nunnally Lake Rd	Nunnally Lake Rd.
58	769 Ingram Wells Rd	Ingram-Wells Rd.
59	1326 Watson Dr	Oxford Middle School
60	907 Allred St	Allred St
61	911 Martin Luther King Dr	Hobson City, MLK Dr.
62	15 Short St	Oxford, Barry St. & Short St.
63	404 Elm St	Anniston, Constantine Ave.
64	807 Stewart St	Oxford, Stewart St. @ OHS
65	507 McCullars Ln	Oxford Lake
66	1611 Frank Ackers Rd	Ayers Tech Campus Frank Ayers Dr
67	1809 Friendship Rd	Friendship Fire Station
68	5007 Red Oak Dr	Oxford, Mellon Dr. & Dale Ct.
69	3127 Spring Valley Rd	Golden Springs Community Center
70	541 Jones Rd	Jones Rd. near Werner
71	17 Camp Lee Main Rd	Camp Lee
72	141 College St	DeArmanville School
73	8816 Roy Webb Rd	Knighten's Crossroads VFD
74	15816 Al Hwy 9	HWY 9 N Piedmont near Smith Sales
75	760 Tom Bible Memorial Pkwy	Piedmont High School
76	152 Parker St	Piedmont Elementary
77	3611 Rocky Hollow Rd	Pleasant Valley School
78	5580 Nisbet Lake Rd	Williams Community Center
79	471 Merrellton Rd	Merrellton Rd.
80	11456 New Liberty Rd	Roy Webb and New Liberty Rd.
81	90 Alexandria Wellington Rd	Alexandria, Hwy 431 & Alexandria/Wellington Rd.
82	92 Reaves Rd	Eulaton, Reeves Rd. & Lee Ln.

Siren ID	E-911 Physical Address	General Location
83	203 Cherokee Tr	Saks, Indian Oaks Club House
84	2000 Winchester Rd	Winchester Rd off Bynum Leatherwood
85	425 State Farm Rd	Weaver, State Farm Rd.
86	5854 Saks Rd	Saks, Mary Jane & Vida Dr.
87	505 W 52nd St	Saks, 52nd St. & Arrow Dr.
88	4350 Harrison Av	Saks High School
89	919 Clairmont Dr	Weaver High School
90	5432 Long Av	Hillcrest Housing Dr.
91	1635 Nelson Rd	Nelson Rd in Weaver
92	18 Morton Rd	Scared Heart School Ft. McClellan
93	303 Sanders Hill Dr	Weaver, Near Sands Hill Rd.
94	339 Cave Rd	Pelham Heights Park
95	15 Town Center Dr	Corner at animal clinic
96	84 Four Mile Church Rd	Anniston Beach Rd.
97	308 Anthony Dr	Anthony Drive Trailer Park
98	163 Craig Dr	Craig Dr next to E AL portables
99	2631 Morrisville Rd	Eulaton, County 109 and Morrisville Rd.
100	172 Deupree Ln	Eulaton, Carolyn & Brown St.
101	1634 Reaves Rd	Reaves Rd.
102	1451 Pine Ridge Rd	Pine Ridge Rd
103	61 Noah Valley Rd	Noah Valley Rd. corner of Mt. Gilead
104	244 Webster's Chapel Rd	Webster's Chapel & Ross Lake Rd
105	2498 Cottaquilla Rd	Camp Cottaquilla
106	2153 Hollingsworth Rd	Hollingsworth Rd & Old Rocky Ridge Rd
107	3679 Rainbow Dr	White Plains School
108	2957 Brown Bridge Rd	Brown Bridge Rd off Rabbittown Rd

5.19.6 Broadcast Media: A key element of the integrated warning system is broadcast media. Most of the radio, television, and cable companies that serve Calhoun County residents are dedicated to informing their audiences of impending emergencies. Many of these broadcasters are committed to bring their listeners and viewers fast, accurate, and important severe weather and civil emergency information via the Emergency Alert System (EAS) and traditional newsgathering methods. Most of the television stations serving the Calhoun County market (ABC 33/40, CBS42, NBC 13, Fox 6) feature live Doppler radar and certified TV meteorologists. Many of the radio stations provide continuous severe weather coverage. Additionally, Calhoun County EMA's Emergency Operations Center (EOC) maintains a direct two-way secure voice radio link with WCKA Alabama 810/94.3FM and WVOK K-98 97.9FM – both of which are EAS stations – for use in emergencies.

5.20 Vulnerability Summary

5.20.1 Table 5.20-1 provides a summary of Calhoun County's vulnerability to specified hazards by jurisdiction. Each jurisdiction was tasked with considering how vulnerable they are to each hazard by considering the percentage of potential damage and the frequency of occurrences.

Using information from the Risk Assessment in Section Four as well as the data in the earlier parts of this section as a basis for evaluation, the committee members assigned either N/A: Not Applicable, L: Low Risk, M: Medium Risk, and H: High Risk as defined in the Table Key.

Table 5.20-1 – Calhoun County Vulnerability Summary

Source: Calhoun County EMA, 2014

Key:

- N/A - 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)

Natural Hazards	Anniston	Hobson City	Jacksonville	Ohatchee	Oxford	Piedmont	Weaver	Unincorporated County
Thunderstorm	H	M	H	H	M	H	M	H
Lightning	M	L	M	L	L	L	L	M
Hail	H	H	H	H	H	H	H	H
Tornado	M	M	M	M	M	M	M	M
Flood/Flash Flood	H	M	L	L	M	M	M	M
Drought/ Extreme Heat	H	H	H	H	H	H	H	H
Winter Storm/ Frost Freeze/ Heavy Snow/ Ice Storm/Winter Weather/ Extreme Cold	M	M	M	M	M	M	M	M
Hurricane/Tropical Storm/Tropical Depression/ High Wind/ Strong Wind	M	M	M	M	M	M	M	M
Sinkhole/ Expansive Soil	L	L	L	L	L	L	L	L
Landslide	L	L	L	L	L	L	L	L
Earthquake	L	L	L	L	L	L	L	L
Wildfire	M	M	M	M	M	M	M	M
Dam/Levee Failure	L	L	L	M	L	L	L	M

5.21 Estimated Loss Projections

5.21.1 **Table 5.21-1** shows the 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.

Table 5.21-1 – Values for Monetary Conversion of Tornado Deaths and Injuries*Source: FEMA, 2014*

Damage Category	Value
Injury (blended major and minor)	\$23,175
Death	\$3,660,003

5.21.2 **Table 5.21-2** shows the estimated loss projections for each hazard. The average number of occurrences per year is shown along with total number of deaths and injuries. The average amount of loss per event was determined by combining crop and property loss damages for each event type and then dividing by the corresponding total number of events reported during the ten-year study period. This amount is shown under the column heading Average Crop and Property Loss. There are instances where the Average Crop and Property Loss (per event) and Projected Loss (per Event) for an identified hazard could not be determined due to the absence of historical event data. This is a data limitation beyond the control of an affected jurisdiction.

5.21.3 The Projected Loss is shown per event by hazard type. Due to the fluctuations in the value of a dollar over the ten-year study period, the year 2008 was chosen as a midpoint year. The Projected Loss was then calculated by adjusting the 2008 value of \$1 up to \$1.09, a 9 % increase to reflect the value of the dollar in 2014. Average loss amounts were increased by 9% to achieve a 2014 value for an estimated projected loss per event occurrence. (*Source: U. S. Inflation Calculator based on the U. S. Government Consumer Price Index Data*)

Table 5.21-2 – Estimated Loss Projections for Specified Hazards

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, 2014, www.homefacts.com

Calhoun County						
Natural Hazard	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	8	0	0	Unknown	\$15,938	\$17,372
Lightning	0.6	0	3	\$11,588	\$113,833	\$136,709
Hail	7.1	0	0	Unknown	\$32,885	\$35,845
Tornado	0.9	10	29	\$957,234	\$15,821,750	\$18,289,093
Flood/Flash Flood	1.9	0	0	Unknown	\$67,917	\$74,030
Drought/Extreme Heat	2.8	0	0	Unknown	Unknown	Unknown
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	1.1	0	0	Unknown	\$20,000	\$21,800
Hurricane/Tropical Storm/ Tropical Depression/High Wind/ Strong Wind	1.1	0	0	Unknown	\$46,727	\$50,932
Sinkhole/Expansive Soil	0.5	0	0	Unknown	\$5,200,000	\$5,668,000
Landslide	Unknown	0	0	Unknown	Unknown	Unknown
Earthquake	0.2	0	0	Unknown	Unknown	Unknown

Wildfire (3 year study period)	46	0	0	Unknown	\$49,400	\$53,846
Dam/Levee Failure	Unknown	0	0	Unknown	Unknown	Unknown

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 causing damage during the ten-year period with the exception of wildfire which is a 3-year period (# fires x # acres per fire x \$1,900/acre average). Projected loss expresses an estimated damage amount per future occurrence by converting the average loss figures 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.

6. MITIGATION STRATEGIES

6.1 Mitigating Potential Losses

6.1.1 The Hazard Mitigation Planning Committee set forth mitigation goals and objectives for the county and its jurisdictions. Each jurisdiction sets forth its own mitigation strategies and action plan herein. The types of mitigation actions are as follows:

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

6.1.2 In the preparation of the mitigation strategy, the Hazard Mitigation Planning Committee reviewed the goals and objectives of the 2009 plan revision. In order to make simple and streamline the original eight mitigation goals, the committee agreed the goals would change from:

- To protect human life and health
- To protect property
- To minimize damage to public facilities and utilities, such as water and gas mains, electric, telephone and sewer lines, streets, and bridges
- To increase public awareness of risk and mitigation
- To minimize expenditure of public money for costly flood control projects
- To minimize prolonged business interruptions
- To help maintain a stable tax base by providing for the sound use and development of flood prone areas
- To do all these things in a manner that is equitable to all citizens of the county

to the ones below:

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

6.2 Mitigation Actions

6.2.1 Mitigation ideas can be found on the FEMA.gov website. FEMA summarizes mitigation actions into four types: Local Planning and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, Education and Awareness.

6.2.2 Jurisdictions sought and selected their own mitigation actions to support the goals and objectives of the mitigation strategy. The identification of mitigation actions has been shaped by the events that occurred over the past five years, vulnerabilities, and available mitigation actions. Each significant event revealed strengths and weaknesses within the hazard mitigation program; therefore, jurisdictions adjusted their mitigation actions to address these weaknesses accordingly. Because of these events, the prioritization of actions has been re-evaluated and ranked as follows:

- 6.2.3 Actions identify the activity, what hazard(s) are addressed, whether the activity applies to a new or existing asset, and an estimated cost. The action also identifies the planning mechanism, possible funding sources, and a time frame for completion of the activity.

6.3 Action Priority and Cost Benefit Review

- 6.3.1 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.
- 6.3.2 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.

6.4 Mitigation Status

- 6.4.1 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 6.5-1** shows Calhoun County's updated mitigation actions for the 2015 plan revision. During the plan update process new actions were identified and added to the plan. In the 2009 plan revision, priorities were placed on actions according to hazard frequency and project costs. For this plan revision, the committee decided to assign a new prioritization labeling as one project may be equally as important as another project. As a result, projects will be labeled high, medium, and low in priority. All actions will be addressed as soon as possible depending on available funding and resources; however, actions labeled high in priority will be addressed first, medium in priority will be addressed secondly, and low in priority will be addressed last. The most important determination is funding, which greatly affects which projects can be completed. Current mitigation action status can be found under benchmark in **Table 6.5-1**.

6.5 Calhoun County Mitigation Strategy

Table 6.5-1 – Calhoun County Mitigation Strategy

Mitigation Action	Buyouts of properties in Special Flood Hazard Areas
Type	Property Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Floods/Flash Flooding
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Calhoun County Engineer

Estimated Time Frame for Completion	2020
Estimated Cost	\$2,000,000
Funding Sources	HMA, County Funds
Priority	Low
Benchmark	County still has interest but budgetary restraints have prevented it from being completed.
Mitigation Action	County wide bridge repair and replacement.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Floods/Flash Flooding
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Calhoun County Engineer
Estimated Time Frame for Completion	2018
Estimated Cost	\$2,000,000
Funding Sources	HMA, County Funds
Priority	High
Benchmark	20 bridges have been repaired or replaced since 2009. The remaining 8 bridges are expected to be completed by 2018.
Mitigation Action	Drainage improvement projects on Post Oak Rd, Rock Springs Rd, Golden Valley Rd, Meeks Rd, Hollingsworth Dr, and Hellamanard Rd.
Type	Structural Projects
Goal	Reduce Calhoun County's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Flooding
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Calhoun County Engineer
Estimated Time Frame for Completion	2020
Estimated Cost	\$2,000,000
Funding Sources	HMA, County Funds
Priority	High
Benchmark	Work has started on these projects.
Mitigation Action - NEW	Install at least one community safe room in each County Commission district.
Type	Structural Project
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Tornado, Hurricane, Severe Storms
Applies to new/existing asset(s)	New
Local Planning Mechanism	Calhoun County Commission
Estimated Time Frame for Completion	2020
Estimated Cost	\$125,000
Funding Sources	PDM, HMGP
Priority	High
Benchmark	NEW ACTION: Currently 4 of the 5 commission districts have safe rooms.

Mitigation Action - NEW	Install back-up generators at critical operating locations such as logistical sites, designated mass care shelter facilities, public safety sites, environmental/waste control sites, administration building, and government office annexes.
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	New
Local Planning Mechanism	Calhoun County Commission
Estimated Time Frame for Completion	2020
Estimated Cost	\$35-75,000 per generator
Funding Sources	HMA
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Install safe rooms at critical locations such as schools, county highway department, landfill, administration building, and courthouse annex.
Type	Structural Project
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	New
Local Planning Mechanism	Calhoun County Commission
Estimated Time Frame for Completion	2020
Estimated Cost	\$100-500,000 per Safe room
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Support the installation of residential safe rooms in private dwellings, mobile home parks, businesses, houses of worship, and other locations.
Type	Structural
Goal	Prevent loss of life from tornado
Hazard(s) Addressed	Tornado, Hurricane, Severe Storms
Applies to new/existing asset(s)	Establish a comprehensive countywide hazard mitigation system
Local Planning Mechanism	Calhoun County Commission
Estimated Time Frame for Completion	2020
Estimated Cost	\$5-10,000 per Saferoom
Funding Sources	HMGP, private funds
Priority	High
Benchmark	NEW ACTION

6.6 City of Anniston Jurisdictional Assessment & Mitigation Strategy

6.6.1 An overview of risk and vulnerability for this jurisdiction is presented in **Table 6.6-1**. Historical events utilized in developing the mitigation strategy are presented in **Table 6.6-2**. Critical facilities are presented in **Table 6.6-3**. Estimated losses are presented in **Table 6.6-4**.

Table 6.6-1 – Risk and Vulnerability Overview, City of Anniston

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

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. These prioritized threats may or may not be the same as the mitigation actions prioritization.

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

19 Thunderstorms 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	Ini	PrD	CrD
COUNTYWIDE	CALHOUN CO.	AL	05/01/2003	18:25	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/05/2003	18:41	CST	Thunderstorm Wind	55 kts. EG	0	0	20.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	07/21/2003	16:45	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	06/22/2004	17:50	CST	Thunderstorm Wind	60 kts. EG	0	0	18.00K	0.00K

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COUNTYWIDE	CALHOUN CO.	AL	07/14/2004	16:22	CST	Thunderstorm Wind	52 kts. EG	0	0	34.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	04/30/2005	03:43	CST	Thunderstorm Wind	52 kts. EG	0	0	7.00K	0.00K
ANNISTON	CALHOUN CO.	AL	08/15/2006	14:25	CST	Thunderstorm Wind	50 kts. EG	0	0	4.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	02/26/2008	04:10	CST-6	Thunderstorm Wind	83 kts. EG	0	0	260.00K	0.00K
ANNISTON	CALHOUN CO.	AL	07/05/2008	16:46	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	01/06/2009	17:00	CST-6	Thunderstorm Wind	74 kts. EG	0	0	160.00K	0.00K
ANNISTON	CALHOUN CO.	AL	04/02/2009	21:50	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	04/02/2009	21:52	CST-6	Thunderstorm Wind	40 kts. EG	0	0	5.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	06/12/2009	20:51	CST-6	Thunderstorm Wind	39 kts. EG	0	0	2.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	02/25/2011	01:08	CST-6	Thunderstorm Wind	50 kts. MG	0	0	0.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	03/26/2011	21:30	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
ANNISTON	CALHOUN CO.	AL	04/04/2011	19:47	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	04/27/2011	05:47	CST-6	Thunderstorm Wind	60 kts. EG	0	0	3.00K	0.00K
ANNISTON	CALHOUN CO.	AL	06/22/2011	17:00	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	06/24/2011	16:50	CST-6	Thunderstorm Wind	40 kts. EG	0	0	1.00K	0.00K
Totals:								0	0	544.00K	0.00K

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

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

Location	County/Zone	St.	Date	Time	I.Z.	Type	Mag	Dth	Inj	PrD	CrD
ANNISTON	CALHOUN CO.	AL	05/06/2003	19:50	CST	Lightning		0	0	30.00K	0.00K
ANNISTON	CALHOUN CO.	AL	05/07/2003	15:30	CST	Lightning		0	0	75.00K	0.00K
Totals:								0	0	105.00K	0.00K

12 Hail 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
ANNISTON	CALHOUN CO.	AL	03/19/2003	15:30	CST	Hail	1.75 in.	0	0	10.00K	0.00K
ANNISTON	CALHOUN CO.	AL	03/19/2003	15:30	CST	Hail	0.88 in.	0	0	0.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/02/2003	17:07	CST	Hail	1.75 in.	0	0	250.00K	0.00K

ANNISTON CALHOUN ARP	CALHOUN CO.	AL	05/18/2004	13:52	CST	Hail	0.75 in.	0	0	0.00K	0.00K
ANNISTON	CALHOUN CO.	AL	04/22/2005	16:25	CST	Hail	0.88 in.	0	0	1.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	12/28/2005	13:29	CST	Hail	1.00 in.	0	0	0.00K	0.00K
ANNISTON	CALHOUN CO.	AL	02/18/2009	15:45	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
WEST END ANNISTON	CALHOUN CO.	AL	05/28/2010	13:52	CST-6	Hail	1.25 in.	0	0	0.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	06/24/2011	16:55	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	06/14/2012	14:19	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	07/01/2012	15:45	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	03/18/2013	14:37	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
Totals:								0	0	261.00K	0.00K

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

(Source: NOAA NCDC Storm Events Database)

No/unknown Tornado events were reported in Anniston during this period

9 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	CALHOUN CO.	AL	05/05/2003	22:30	CST	Flash Flood		0	0	45.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/07/2003	16:00	CST	Flash Flood		0	0	700.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/18/2003	10:17	CST	Flash Flood		0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	09/16/2004	10:45	CST	Flash Flood		0	0	3.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	11/24/2004	07:13	CST	Flash Flood		0	0	18.00K	0.00K
ANNISTON	CALHOUN CO.	AL	07/10/2005	17:30	CST	Flash Flood		0	0	3.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	05/27/2008	17:15	CST-6	Flash Flood		0	0	15.00K	0.00K
WEST END ANNISTON	CALHOUN CO.	AL	01/30/2013	10:50	CST-6	Flash Flood		0	0	0.00K	0.00K
(ANB)ANNISTON CALHOU	CALHOUN CO.	AL	04/17/2013	14:15	CST-6	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	794.00K	0.00K

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

(Source: NOAA NCDC Storm Events Database)

All drought events were reported County Wide none specific to Anniston

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	03/27/2007	06:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K

Calhoun County Hazard Mitigation Plan

CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/26/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/20/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

11 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)

All Winter Weather events were reported County Wide none specific to Anniston

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/24/2003	00:00	CST	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/25/2004	18:30	CST	Winter Storm		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/28/2005	20:45	CST	Ice Storm		0	0	20.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/07/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/12/2010	13:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/15/2010	11:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/25/2010	07:30	CST-6	Heavy Snow		0	0	0.00K	0.00K

CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/26/2010	03:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/09/2011	16:40	CST-6	Winter Storm		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/17/2013	14:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	20.00K	0.00K

11 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)

All hurricane events were reported County Wide none specific to Anniston

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/16/2004	09:00	CST	High Wind	50 kts. EG	0	0	350.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/02/2005	08:00	CST	Strong Wind	35 kts. MG	0	0	1.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/12/2005	03:00	CST	Strong Wind	40 kts. EG	0	0	1.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	16.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/29/2005	23:30	CST	Tropical Storm		0	0	40.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/20/2007	17:45	CST-6	Strong Wind	30 kts. EG	0	0	10.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/23/2008	12:00	CST-6	Tropical Depression		0	0	5.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/10/2009	13:45	CST-6	Strong Wind	39 kts. EG	0	0	3.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/13/2009	03:00	CST-6	Strong Wind	44 kts. MG	0	0	61.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/09/2009	14:00	CST-6	Tropical Depression		0	0	2.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/09/2009	01:00	CST-6	Strong Wind	45 kts. EG	0	0	25.00K	0.00K
Totals:								0	0	514.00K	0.00K

LOCAL INPUT ON TROPICAL STORMS/STRONG WIND DAMAGES

Location	Date	Type	Dth	Inj	PrD	CrD	Total Cost	Associated Hurricane
Calhoun Zone	9/16/2004	High Wind	0	0	\$350,000	0	\$350,000	Ivan
Anniston	4/2/2005	Strong Wind	0	0	\$1,000	0	\$1,000	None
Calhoun Zone	4/12/2005	Strong Wind	0	0	\$1,000	0	\$1,000	None
Calhoun Zone	7/10/2005	Tropical Storm	0	0	\$16,000	0	\$16,000	Dennis
Calhoun Zone	8/29/2005	Tropical Storm	0	0	\$40,000	0	\$40,000	Katrina
Calhoun Zone	12/20/2007	Strong Wind	0	0	\$10,000	0	\$10,000	None
Calhoun Zone	8/23/2008	Tropical Depression	0	0	\$5,000	0	\$5,000	Fay
Calhoun Zone	4/10/2009	Strong Wind	0	0	\$3,000	0	\$3,000	None

Calhoun Zone	4/13/2009	Strong Wind	0	0	\$61,000	0	\$61,000	None
Calhoun Zone	11/9/2009	Tropical Depression	0	0	\$2,000	0	\$2,000	Ida
Calhoun Zone	12/09/2009	Strong Wind	0	0	\$25,000	0	\$25,000	None
Totals			0	0	\$504,000	0	\$504,000	

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

(Source: *The Anniston Star*, October 13, 2015)

<u>Location</u>		<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>Type</u>	<u>Depth</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
Calhoun County	AL 21 at Mile Marker 225	AL	August 2013		Sinkhole			0	0	9.4M	0.00K
Anniston	Intersection of Weaver Road and Glade Road	AL	May 2013		Sinkhole	80 ft.		0	0	Unknown	0.00K
TOTAL										9.40M	0.00K

0 Landslide Events - 01/01/2003 thru 12/31/2013 (4018 days)

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

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

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

(Source: www.homefacts.com/earthquakes/Alabama.html and local input)

<u>Location</u>		<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>Type</u>	<u>Depth</u>	<u>Mag/Intensity</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
Calhoun County	53.1 miles from county's center	AL	4/29/2003	8:59 a.m.	Earthquake	12.2 miles	4.9/ IV-V	0	0	0.00K	0.00K
Calhoun County	3.29 miles from Hobson City	AL	10/15/2012		Earthquake		2.3	0	0	0.00K	0.00K

No/unknown events occurred or were reported by the NOAA NCDC Storm Events Database/U.S. Geological Survey/Alabama Geological Survey during 01/01/2003 thru 12/31/2013.

137 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
Calhoun	137	46	3,517.25	1,196	26

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

(Source: NOAA NCDC Storm Events Database)

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

Table 6.6-2 – Hazard Probability Assessment, City of Anniston

Sources: 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, 2014

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 summary. Zero denotes no data available to determine the probability, extent, or affected area.

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	19	>100%	>10%	Citywide
Lightning	2	20%	5-10%	Citywide
Hail	12	>100%	>10%	Citywide
Tornado	Unknown	Unknown	5-10%	Citywide
Flood/Flash Flood	9	90%	>10%	Citywide
Drought/Extreme Heat	28	>100%	5-10%	Countywide
Winter Storm/Frost Freeze/Heavy Snow /Ice Storm/Winter Weather/Extreme Cold	11	>100%	5-10%	Countywide
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	11	>100%	5-10%	Countywide
Sinkhole/Expansive Soil	2	20%	<5%	Citywide
Landslide	Unknown	Unknown	<5%	N/A
Earthquake	2	20%	<5%	Citywide
Wildfire (2010-2013 – 3 year study period – 1095 days)	137	>100%	5-10%	Countywide
Dam/Levee Failure	Unknown	Unknown	5-10%	Citywide

Table 6.6-3 – Critical Facilities, City of Anniston

Source: Local Jurisdiction; HAZUS-MH 2.1 (Values depicted for software modeling)

Facility	Location	Use	Value
Government			
Calhoun County Courthouse	1702 Noble St.	Anniston	
Calhoun County Courthouse Security	25 W. 11 th Street	Anniston	
Animal Control Services	3605 Morrisville Rd	Anniston	
Calhoun County Landfill & Transfer Station	3625 Morrisville Rd	Anniston	
Calhoun County Highway Dept	160 Seaton Drive	Anniston	
Law Enforcement			
Anniston Police Department	1200 Gurnee Ave.	Police Department	\$1,260,000
Calhoun County Sheriff's Office	400 W. 8 th Street	Sheriff's Department	\$1,260,000
Hobson Police Department	600 Park Ave.	Police Department	\$1,260,000
Fire and Rescue			
Anniston Fire Department	225 E Seventeenth St	Fire Department	\$1,260,000
Quad Cities Volunteer Fire Department	75 Earl Roberts Road	Fire Department	\$1,260,000
Education			
Coldwater Elementary School	530 Taylors Chapel Road	School Primary or High	\$7,678,460
DeArmanville Elementary School	101 School Road	School Primary or High	\$4,902,510
The Donoho School	2501 Henry Road	School Primary or High	\$4,506,500
Harvest Child Care & Learning	1600 Greenbrier	School Primary or High	\$318,150
Cornerstone Christian Academy	2885 Choccoloco Rd	School Primary or High	\$445,410
Faith Christian School	4100 Ronnaki Road	School Primary or High	\$4,283,800
Martin Luther King Child Development	1614 Hanna Ave.	School Primary or High	\$233,930
Anniston City Boot Camp School	4804 McClellan	School Primary or High	\$6,733,560
Anniston Middle School	4800 McClellan	School Primary or High	\$8,794,050
Coosa Valley Regional Detention Center	4625 McClellan Blvd	School Primary or High	\$4,349,300
Calhoun County Alternative School	4400 McClellan Blvd	School Primary or High	\$4,349,300
Anniston High School	1301 Woodstock Ave	School Primary or High	\$7,906,970
Tenth Street Elementary School	1525 E 10th St.	School Primary or High	\$1,123,000
Goals Alternative School	1301 Woodstock Ave	School Primary or High	\$1,123,000
Randolph Park Elementary School	2200 W 17th St.	School Primary or High	\$1,123,000
Cobb Elementary School	1325 Cobb Ave.	School Primary or High	\$1,123,000
Constantine Elementary School	1200 Johnson Ave.	School Primary or High	\$1,123,000
Golden Springs Elementary School	100 Feary Dr.	School Primary or High	\$1,123,000
Wellborn Elementary School	525 Cooper Circle	School Primary or High	\$1,123,000
Wellborn High School	135 Pinson Road	School Primary or High	\$1,123,000
Saks Elementary School	31 Watson	School Primary or High	\$1,123,000
Saks High School	4401 Saks Road	School Primary or High	\$1,123,000
Saks Middle School	32 Watson	School Primary or High	\$1,123,000
White Plains High School	250 White Plains Rd	School Primary or High	\$1,123,000
White Plains Elementary School	5600 AL Hwy 9	School Primary or High	\$1,123,000

Facility	Location	Use	Value
Medical			
Stringfellow Memorial Hospital	301 East 18TH Street	Hospital	\$25,146,200
NE Alabama Regional Medical Center	400 East Tenth Street	Hospital	\$52,102,930
Railway			
Anniston AL	126 West 4 th St	Railroad Facility	\$2,663,000
Waste Water Treatment			
Fort McClellan WWTP	6112 McClellan Blvd.	Waste Water Facility	\$599,400
Gas Compressor			
Southern Natural Gas	Hwy. 78 E.	Gas Facility	\$981,000
Southern Natural Gas - DeArmanville	539 Chevron Rd.	Gas Facility	\$981,000
Electric Power			
Alabama Power – Anniston Garage	217 West 10 th St.	Power Facility	\$990,000
Communication			
WDNG 1450	Anniston	AM Radio - Newstalk	\$90,000
WWWQ CH 263	Anniston	TV	\$90,000
WGRW CH 214	Anniston	TV	\$90,000
Hazardous Materials			
U. S. Army Anniston Army Depot	7 Frankford Ave.	Haz Mat Facility	
Braddock Metallurgical	3008 Red Morris Parkway	Haz Mat Facility	
United Defense L. P.	2101 W. 10 th Street	Haz Mat Facility	
Progressive Ink Co. L.L.C.	104 National Drive	Haz Mat Facility	
Multmetco Inc.	1610 Frank Akers Rd	Haz Mat Facility	
Solutia Inc.	702 Clydesdale Ave.	Haz Mat Facility	
Union Foundry Co.	1501 W. 17 th St.	Haz Mat Facility	
U. S. Castings Corp.	1831 Front Street	Haz Mat Facility	
Lee Brass Co.	1800 Golden Springs Rd	Haz Mat Facility	
Wallace Metal Products	1803 Coleman Rd	Haz Mat Facility	
Defense Research Inc.	1425 Commerce Blvd	Haz Mat Facility	
North American Bus Industry, Inc.	106 National Drive	Haz Mat Facility	
Miscellaneous			
Anniston Water Works and Sewer Bd	931 Noble St.	Water and Sewer	\$25,000,000
Anniston City Bus Lines	6814 McClellan Blvd.	Bus Facility	\$981,000
Total			\$185,158,740

Table 6.6-4 – Estimated Loss Projections from Specified Hazards, City of Anniston

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, 2014

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 causing damage during the ten-year period with the exception of wildfire. 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.

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	1.9	0	0	Unknown	30,222	\$32,942
Lightning	0.2	0	0	Unknown	\$52,500	\$57,225
Hail	1.2	0	0	Unknown	\$87,000	\$94,830
Tornado	Unknown	0	0	Unknown	Unknown	Unknown
Flood/Flash Flood	0.9	0	0	Unknown	\$113,429	\$123,637
Drought/Extreme Heat	2.8	0	0	Unknown	Unknown	Unknown
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	1.1	0	0	Unknown	\$20,000	\$21,800
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	1.1	0	0	Unknown	\$46,727	\$50,933
Sinkhole/Expansive Soils	0.2	0	0	Unknown	\$9,400,000	\$10,246,000
Landslide	N/A	N/A	N/A	N/A	N/A	N/A
Earthquake	0.2	0	0	Unknown	Unknown	Unknown
Wildfire (3 year study period)	46	0	0	Unknown	\$49,400	\$53,846
Dam/Levee Failure	Unknown	0	0	Unknown	Unknown	Unknown

- 6.6.2 **City of Anniston Mitigation Action Plan:** The City of Anniston recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.
- 6.6.3 **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 6.6-5** shows the City of Anniston's updated mitigation actions. During the plan update process new actions were identified and added to the plan. In the 2009 plan revision, priorities were placed on actions according to hazard frequency and project costs. For this plan revision, the committee decided to assign a new prioritization labeling as one project may be equally as important as another project. As a result, projects will be labeled high, medium, and low in priority. All actions will be addressed as soon as possible depending on available funding and resources; however, actions labeled high in priority will be addressed first, medium in priority will be addressed secondly, and low in priority will be addressed last. Current mitigation action status can be found under benchmark in **Table 6.6-5**.

Table 6.6-5 Mitigation Strategy, City of Anniston

Mitigation Action	Comprehensive drainage plan for the City of Anniston to include newly annexed areas of Blue Mountain, Fort McClellan, and Coldwater Mountain.
Type	Prevention
Goal	Reduce Anniston's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Public Works Director
Estimated Time Frame for Completion	5 Years
Estimated Cost	\$100,000
Funding Sources	HMGP, FMA, CDBG, City Funds
Priority	Low
Benchmark	The city has reviewed this project and wants the action to remain in this plan revision. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action	North Noble Street drainage project.
Type	Prevention
Goal	Reduce Anniston's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Public Works Director
Estimated Time Frame for Completion	5 Years
Estimated Cost	\$150,000
Funding Sources	City Funds, HMGP, FMA, CDBG
Priority	High
Benchmark	The city has upgraded drainage system and continues to correct problems as they occur. They want the action to remain in this plan revision.
Mitigation Action	Rocky Hallow Drainage Improvements.
Type	Prevention
Goal	Reduce Anniston's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Public Works Director
Estimated Time Frame for Completion	5 Years
Estimated Cost	\$150,000
Funding Sources	City Funds, HMGP, FMA, CDBG
Priority	High
Benchmark	The city has upgraded drainage system and continues to correct problems as they occur. They want the action to remain in this plan revision.
Mitigation Action - Completed	31 st Street and Walnut Ave. Culvert Improvement.
Type	Prevention
Goal	Reduce Anniston's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing

Local Planning Mechanism	Public Works Director
Estimated Time Frame for Completion	5 Years
Estimated Cost	\$30,000
Funding Sources	DOT, CDBG, HMGP
Priority	High
Benchmark	Deleted - This project was completed in 2013.
Mitigation Action	E Street to G Street Culvert, along Wilmer Avenue.
Type	Prevention
Goal	Reduce Anniston's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Public Works Director
Estimated Time Frame for Completion	5 Years
Estimated Cost	\$50,000
Funding Sources	City Funds, HMGP, FMA, PDM
Priority	High
Benchmark	The city increased preventative maintenance resulting in reduced flooding events. They want the action to remain in this plan revision.
Mitigation Action	Anchor Metals Drainage Ditch Improvements
Type	Prevention
Goal	Reduce Anniston's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Public Works Director
Estimated Time Frame for Completion	5 Years
Estimated Cost	\$100,000
Funding Sources	EPA, CDBG, City Funds, FMA, HMGP
Priority	High
Benchmark	Increased preventative maintenance resulting in reduced flooding events. They want the action to remain in this plan revision.
Mitigation Action	14 th Street and Boynton Avenue Culvert Improvement.
Type	Prevention
Goal	Reduce Anniston's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Public Works Director
Estimated Time Frame for Completion	5 Years
Estimated Cost	\$100,000
Funding Sources	CDBG, City Funds, HMGP, FMA
Priority	Low
Benchmark	The City has reviewed this project and wants the action to remain in this plan revision. Budgetary restraints have prevented this from being implemented thus far.

Mitigation Action	Obtain a Public Works Emergency Radio System
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	New
Local Planning Mechanism	Public Works Director
Estimated Time Frame for Completion	5 Years
Estimated Cost	\$50,000
Funding Sources	City Funds, DHS, Nextel Grants
Priority	Low
Benchmark	The city has reviewed this project and wants the action to remain in this plan revision. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action- COMPLETED	Create a public Works Emergency Response Center.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	New
Local Planning Mechanism	Public Works Director
Estimated Time Frame for Completion	10 Years
Estimated Cost	\$1,500,000
Funding Sources	RDA Community Facilities Program, City Funds, CDBG, DHS
Priority	High
Benchmark	Deleted - Center was established in 2012 located at the old National Guard Armory at 2501 McClellan Blvd.
Mitigation Action	Construct a series of retention ponds for flood control.
Type	Structural Projects
Goal	Reduce Anniston's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	New/ Existing
Local Planning Mechanism	Public Works Director
Estimated Time Frame for Completion	Ongoing Project
Estimated Cost	\$2,000,000
Funding Sources	City Funds, HMGP, FMA, CDBG
Priority	Medium
Benchmark	The city has reviewed this project and wants the action to remain in this plan revision. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action - NEW	Purchase back-up generators for all fire stations.
Type	Structural Projects
Goal	Reduce Anniston's risk from natural hazards
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	New/ Existing
Local Planning Mechanism	Fire Chief
Estimated Time Frame for Completion	5 years

Estimated Cost	\$35-50,000 per generator
Funding Sources	City Funds, HMGP
Priority	High
Benchmark	NEW ACTION

6.7 Town of Hobson City Jurisdictional Assessment & Mitigation Strategy

- 6.7.1 An overview of risk and vulnerability for this jurisdiction is presented in **Table 6.7-1**. Historical events utilized in developing the mitigation strategy are presented in **Table 6.7-2**. Critical facilities are presented in **Table 6.7-3**. Estimated losses are presented in **Table 6.7-4**.

Table 6.7-1 – Risk and Vulnerability Overview, Town of Hobson City

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

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. These prioritized threats may or may not be the same as the mitigation actions prioritization.

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

8 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	Ini	PrD	CrD
COUNTYWIDE	CALHOUN CO.	AL	05/01/2003	18:25	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/05/2003	18:41	CST	Thunderstorm Wind	55 kts. EG	0	0	20.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	07/21/2003	16:45	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN	AL	06/22/2004	17:50	CST	Thunderstorm Wind	60 kts. EG	0	0	18.00K	0.00K

Calhoun County Hazard Mitigation Plan

	CO.										
COUNTYWIDE	CALHOUN CO.	AL	07/14/2004	16:22	CST	Thunderstorm Wind	52 kts. EG	0	0	34.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	04/30/2005	03:43	CST	Thunderstorm Wind	52 kts. EG	0	0	7.00K	0.00K
HOBSON CITY	CALHOUN CO.	AL	02/18/2009	15:52	CST-6	Thunderstorm Wind	56 kts. EG	0	0	15.00K	0.00K
HOBSON CITY	CALHOUN CO.	AL	07/01/2012	17:21	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
Totals:								0	0	114.00K	0.00K

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

(Source: NOAA NCDC Storm Events Database)

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

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
COUNTYWIDE	CALHOUN CO.	AL	05/02/2003	17:07	CST	Hail	1.75 in.	0	0	250.00K	0.00K
HOBSON CITY	CALHOUN CO.	AL	05/20/2008	17:33	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
HOBSON CITY	CALHOUN CO.	AL	05/20/2008	17:57	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
HOBSON CITY	CALHOUN CO.	AL	02/18/2009	15:50	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
HOBSON CITY	CALHOUN CO.	AL	05/28/2010	13:50	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
HOBSON CITY	CALHOUN CO.	AL	07/01/2012	15:45	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
HOBSON CITY	CALHOUN CO.	AL	07/01/2012	16:08	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
Totals:								0	0	250.00K	0.00K

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

(Source: NOAA NCDC Storm Events Database)

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

6 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	CALHOUN CO.	AL	05/05/2003	22:30	CST	Flash Flood		0	0	45.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/07/2003	16:00	CST	Flash Flood		0	0	700.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/18/2003	10:17	CST	Flash Flood		0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	09/16/2004	10:45	CST	Flash Flood		0	0	3.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	11/24/2004	07:13	CST	Flash Flood		0	0	18.00K	0.00K
HOBSON CITY	CALHOUN CO.	AL	01/30/2013	10:50	CST-6	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	776.00K	0.00K

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

All drought events were reported County Wide none specific to Hobson City.

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	03/27/2007	06:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/26/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/20/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

11 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)

All Winter Storm events were reported County Wide none specific to Hobson City

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/24/2003	00:00	CST	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/25/2004	18:30	CST	Winter Storm		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/28/2005	20:45	CST	Ice Storm		0	0	20.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/07/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/12/2010	13:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/15/2010	11:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/25/2010	07:30	CST-6	Heavy Snow		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/26/2010	03:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/09/2011	16:40	CST-6	Winter Storm		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/17/2013	14:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	20.00K	0.00K

11 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)

All Hurricane events were reported County Wide none specific to Hobson City.

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/16/2004	09:00	CST	High Wind	50 kts. EG	0	0	350.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/02/2005	08:00	CST	Strong Wind	35 kts. MG	0	0	1.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/12/2005	03:00	CST	Strong Wind	40 kts. EG	0	0	1.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	16.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/29/2005	23:30	CST	Tropical Storm		0	0	40.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/20/2007	17:45	CST-6	Strong Wind	30 kts. EG	0	0	10.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/23/2008	12:00	CST-6	Tropical Depression		0	0	5.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/10/2009	13:45	CST-6	Strong Wind	39 kts. EG	0	0	3.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/13/2009	03:00	CST-6	Strong Wind	44 kts. MG	0	0	61.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/09/2009	14:00	CST-6	Tropical Depression		0	0	2.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/09/2009	01:00	CST-6	Strong Wind	45 kts. EG	0	0	25.00K	0.00K
Totals:								0	0	514.00K	0.00K

LOCAL INPUT ON TROPICAL STORMS/STRONG WIND DAMAGES

Location	Date	Type	Dth	Inj	PrD	CrD	Total Cost	Associated Hurricane
Calhoun Zone	9/16/2004	High Wind	0	0	\$350,000	0	\$350,000	Ivan
Calhoun Zone	4/12/2005	Strong Wind	0	0	\$1,000	0	\$1,000	None
Calhoun Zone	7/10/2005	Tropical Storm	0	0	\$16,000	0	\$16,000	Dennis
Calhoun Zone	8/29/2005	Tropical Storm	0	0	\$40,000	0	\$40,000	Katrina
Calhoun Zone	12/20/2007	Strong Wind	0	0	\$10,000	0	\$10,000	None
Calhoun Zone	8/23/2008	Tropical Depression	0	0	\$5,000	0	\$5,000	Fay
Calhoun Zone	4/10/2009	Strong Wind	0	0	\$3,000	0	\$3,000	None
Calhoun Zone	4/13/2009	Strong Wind	0	0	\$61,000	0	\$61,000	None
Calhoun Zone	11/9/2009	Tropical Depression	0	0	\$2,000	0	\$2,000	Ida
Calhoun Zone	12/09/2009	Strong Wind	0	0	\$25,000	0	\$25,000	None
Totals			0	0	\$503,000	0	\$503,000	

1 Sinkhole/Expansive Soil Events - 01/01/2003 thru 12/31/2013 (4018 days)*(Source: The Anniston Star, October 13, 2015)*

<u>Location</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>Type</u>	<u>Depth</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
Calhoun County	AL	August 2013		Sinkhole			0	0	9.4M	0.00K
TOTAL									9.4 M	0.00K

No/unknown events occurred or were reported to NOAA NCDC Storm Events Database/U.S. Geological Survey during 01/01/2003 thru 12/31/2013.

0 Landslide Events - 01/01/2003 thru 12/31/2013 (4018 days)*(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)*

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

2 Earthquake Events – 01/01/2003 thru 12/31/2013 (4018 days)*(Source: www.homefacts.com/earthquakes/Alabama.html and local input)*

<u>Location</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>Type</u>	<u>Depth</u>	<u>Mag/ Intensity</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
Calhoun County	AL	4/29/2003	8:59 a.m.	Earthquake	12.2 miles	4.9/ IV-V	0	0	0.00K	0.00K

Calhoun County	3.29 miles from Hobson City	AL	10/15/2012		Earthquake		2.3	0	0	0.00K	0.00K
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No/unknown earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013 by the NOAA NCDC Storm Events Database/U.S. Geological Survey/Alabama Geological Survey.

137 Wildfire Events – 2010 thru 2013 (1095 days)
(Source: Alabama Forestry Commission)

All Wildfire events were reported County Wide none specific to Hobson City.

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
Calhoun	137	46	3,517.25	1,196	26

0 Dam/Levee Failure Events - 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

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

Table 6.7-2 – Hazard Probability Assessment, Town of Hobson City

Sources: 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, 2014

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 summary. Zero denotes no data available to determine the probability, extent, or affected area.

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	8	80%	>10%	Town wide
Lightning	Unknown	Unknown	5-10%	Town wide
Hail	7	70%	<5%	Town wide
Tornado	Unknown	Unknown	>10%	Town wide
Flood/Flash Flood	6	60%	>10%	Town wide
Drought/Extreme Heat	28	>100%	5-10%	Countywide
Winter Storm/Frost Freeze/Heavy Snow/ Ice Storm/Winter Weather/ Extreme Cold	11	>100%	5-10%	Countywide

Hurricane/High Wind/ Strong Wind/ Tropical Storm/ Tropical Depression	11	>100%	5-10%	Countywide
Sinkhole/Expansive Soil	1	10%	<5%	N/A
Landslide	Unknown	Unknown	<5%	N/A
Earthquake	2	20%	<5%	Town wide
Wildfire (2010-2013 – 3 year study period 1095 days)	137	>100%	5-10%	Town wide
Dam/Levee Failure	Unknown	Unknown	5-10%	Town wide

Table 6.7-3 – Critical Facilities, Town of Hobson City

Source: Local Jurisdiction; HAZUS-MH 2.1 (Values depicted for software modeling)

Facility	Location	Use	Value
Government			
Hobson City Town Hall	715 Martin Luther King Drive	Government	Unknown
Hobson City Water Department	600 Barry Street	Utility	Unknown
Education			
CE Hanna School	715 Martin Luther King Drive	Educational	\$5,150,290
Communication			
WHOG 1120	Hobson City	AM Radio	\$90,000
TOTAL			\$5,240,290

Table 6.7-4 – Estimated Loss Projections from Specified Hazards, Town of Hobson City

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, 2014

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 causing damage during the ten-year period with the exception of wildfire. 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.

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	0.8	0	0	Unknown	\$16,286	\$17,751
Lightning	Unknown	0	0	Unknown	Unknown	Unknown
Hail	0.7	0	0	Unknown	\$250,000	\$272,500
Tornado	Unknown	0	0	Unknown	Unknown	Unknown

Flood/Flash Flood	0.6	0	0	Unknown	\$155,200	\$169,168
Drought/Extreme Heat	2.8	0	0	Unknown	Unknown	Unknown
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	1.1	0	0	Unknown	\$20,000	\$21,800
Hurricane/Tropical Storm/ Tropical Depression/High Wind/ Strong Wind	1.1	0	0	Unknown	\$46,727	\$50,933
Sinkhole/Expansive Soils	0.1	0	0	Unknown	\$9,400,000	\$10,246,000
Landslide	Unknown	0	0	Unknown	Unknown	Unknown
Earthquake	0.2	0	0	Unknown	Unknown	Unknown
Wildfire (3 year study period)	46	0	0	Unknown	\$49,400	\$53,846
Dam/Levee Failure	Unknown	0	0	Unknown	Unknown	Unknown

- 6.7.2 **Mitigation Action Plan:** The Town of Hobson City recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated. During the past five years, the town has not had the funds to complete all the mitigation actions listed in the 2009 plan revision.
- 6.7.3 **Mitigation Status:** In order to track the progress of identified actions, the Town of Hobson City's 2009 Mitigation Action Plan is shown below. During the plan update process, new actions were identified and added to the plan. In the 2009 plan revision, priorities were placed on actions according to hazard frequency and project costs. For this plan revision, the committee decided to assign a new prioritization labeling as one project may be equally as important as another project. As a result, projects will be labeled high, medium, and low in priority. All actions will be addressed as soon as possible depending on available funding and resources; however, actions labeled high in priority will be addressed first, medium in priority will be addressed secondly, and low in priority will be addressed last.

Table 6.7-5 Mitigation Strategy, Town of Hobson City

Mitigation Action	Initiate drainage improvements along the Eastern portion of Martin Luther King, Jr. Drive.
Type	Prevention
Goal	Reduce Hobson City's risk from natural hazards.
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	City Clerk, Mayor
Estimated Time Frame for Completion	2019
Estimated Cost	\$150,000
Funding Sources	CDBG, HMGP, FMA
Priority	High
Benchmark	The town would like to complete this project, but budgetary restraints have prevented it from being completed thus far.
Mitigation Action - COMPLETED	Update FIRM's.
Type	Property Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Floods/Flash Floods

Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Mayor
Estimated Time Frame for Completion	2020
Estimated Cost	Unknown
Funding Sources	FMA
Priority	Low
Benchmark	DELETE - FIRMs for Calhoun County and its municipalities were updated in 2007 and 2015.
Mitigation Action	Adopt and enforce standard building codes.
Type	Property protection
Goal	Establish a comprehensive countywide hazard mitigation system.
Hazard(s) Addressed	Thunderstorms, Heavy Snow, Ice Storms, Extreme Cold, Hurricanes, Tropical Storms, Tropical Depressions, High Winds and Strong Winds
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	City Clerk, Mayor
Estimated Time Frame for Completion	2020
Estimated Cost	Unknown
Funding Sources	This project is under review at this time. The City will amend the plan if it chooses to remove this action item. Ultimately developers of new structures and the purchasers of those structures would absorb costs of building codes.
Priority	High
Benchmark	The town still has interest in this project but budgetary restraints have prevented it from being completed thus far.
Mitigation Action	Adopt and enforce landscape ordinance.
Type	Property Protection
Goal	Establish a comprehensive countywide hazard mitigation system.
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	City Clerk, Mayor
Estimated Time Frame for Completion	2019
Estimated Cost	Unknown
Funding Sources	Ultimately developers of new structures and the purchasers of those structures would absorb costs of ordinances.
Priority	High
Benchmark	This town still has interest in this project but budgetary restraints have prevented it from being completed thus far.
Mitigation Action - NEW	Emergency backup generator for City Hall.
Type	Structural project
Goal	Reduce Hobson City's vulnerability to natural hazards
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	City Clerk, Mayor
Estimated Time Frame for Completion	2020
Estimated Cost	\$35,000

Funding Sources	HMA
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Construct community safe room for the town.
Type	Structural project
Goal	Reduce Hobson City's risk from natural hazards
Hazard(s) Addressed	Thunderstorms, Hail, High Winds, Strong Winds, Tornadoes
Applies to new/existing asset(s)	New
Local Planning Mechanism	City Clerk, Mayor
Estimated Time Frame for Completion	2020
Estimated Cost	\$150-300,000
Funding Sources	HMA
Priority	High
Benchmark	NEW ACTION

6.8 City of Jacksonville Jurisdictional Assessment & Mitigation Strategy

6.8.1 An overview of risk and vulnerability for this jurisdiction is presented in **Table 6.8-1**. Historical events utilized in developing the mitigation strategy are presented in **Table 6.8-2**. Critical facilities are presented in **Table 6.8-3**. Estimated losses are presented in **Table 6.8-4**. The City of Jacksonville participated by providing and reviewing plan information through email and telephone.

Table 6.8-1 – Risk and Vulnerability Overview, City of Jacksonville

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

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. These prioritized threats may or may not be the same as the mitigation actions prioritization.

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

13Thunderstorm 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	CALHOUN CO.	AL	05/01/2003	18:25	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/05/2003	18:41	CST	Thunderstorm Wind	55 kts. EG	0	0	20.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	07/21/2003	16:45	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	06/22/2004	17:50	CST	Thunderstorm Wind	60 kts. EG	0	0	18.00K	0.00K

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COUNTYWIDE	CALHOUN CO.	AL	07/14/2004	16:22	CST	Thunderstorm Wind	52 kts. EG	0	0	34.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	11/24/2004	07:30	CST	Thunderstorm Wind	52 kts. EG	0	0	17.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	04/30/2005	03:43	CST	Thunderstorm Wind	52 kts. EG	0	0	7.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	04/04/2008	14:36	CST-6	Thunderstorm Wind	52 kts. EG	0	0	3.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	06/19/2010	12:30	CST-6	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
JACKSONVILLE MUNI AR	CALHOUN CO.	AL	06/19/2010	12:30	CST-6	Thunderstorm Wind	43 kts. EG	0	0	1.00K	0.00K
JACKSONVILLE MUNI AR	CALHOUN CO.	AL	02/28/2011	15:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	06/22/2011	12:38	CST-6	Thunderstorm Wind	50 kts. EG	0	0	12.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	03/18/2013	15:05	CST-6	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
Totals:								0	0	140.00K	0.00K

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
JACKSONVILLE	CALHOUN CO.	AL	06/13/2004	16:45	CST	Lightning		0	3	20.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	08/15/2006	14:25	CST	Lightning		0	0	10.00K	0.00K
Totals:								0	3	30.00K	0.00K

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
COUNTYWIDE	CALHOUN CO.	AL	05/02/2003	17:07	CST	Hail	1.75 in.	0	0	250.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	04/19/2006	13:36	CST	Hail	0.75 in.	0	0	0.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	04/19/2006	14:01	CST	Hail	1.00 in.	0	0	0.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	04/04/2008	14:36	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	04/10/2009	17:06	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	03/28/2011	01:38	CST-6	Hail	1.75 in.	0	0	0.50K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	03/28/2011	01:38	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	03/28/2011	02:10	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
JACKSONVILLE	CALHOUN CO.	AL	03/02/2012	18:30	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
Totals:								0	0	250.00K	0.00K

0 Tornado Events – 01/01/2003 thru 12/31/2013 (4018 days)*(Source: NOAA NCDC Storm Events Database)*

No/unknown tornado events occurred or were reported during 01/01/2003 thru 12/31/2013

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	CALHOUN CO.	AL	05/05/2003	22:30	CST	Flash Flood		0	0	45.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/07/2003	16:00	CST	Flash Flood		0	0	700.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/18/2003	10:17	CST	Flash Flood		0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	09/16/2004	10:45	CST	Flash Flood		0	0	3.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	11/24/2004	07:13	CST	Flash Flood		0	0	18.00K	0.00K
Totals:								0	0	815.00K	0.00K

28 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>
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	03/27/2007	06:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/26/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K

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CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/20/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

11 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
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/24/2003	00:00	CST	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/25/2004	18:30	CST	Winter Storm		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/28/2005	20:45	CST	Ice Storm		0	0	20.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/07/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/12/2010	13:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/15/2010	11:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/25/2010	07:30	CST-6	Heavy Snow		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/26/2010	03:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/09/2011	16:40	CST-6	Winter Storm		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/17/2013	14:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	20.00K	0.00K

11 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
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/16/2004	09:00	CST	High Wind	50 kts. EG	0	0	350.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/02/2005	08:00	CST	Strong Wind	35 kts. MG	0	0	1.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/12/2005	03:00	CST	Strong Wind	40 kts. EG	0	0	1.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	16.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/29/2005	23:30	CST	Tropical Storm		0	0	40.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/20/2007	17:45	CST-6	Strong Wind	30 kts. EG	0	0	10.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/23/2008	12:00	CST-6	Tropical Depression		0	0	5.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/10/2009	13:45	CST-6	Strong Wind	39 kts. EG	0	0	3.00K	0.00K

CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/13/2009	03:00	CST-6	Strong Wind	44 kts. MG	0	0	61.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/09/2009	14:00	CST-6	Tropical Depression		0	0	2.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/09/2009	01:00	CST-6	Strong Wind	45 kts. EG	0	0	25.00K	0.00K
Totals:								0	0	514.00K	0.00K

LOCAL INPUT ON TROPICAL STORMS/STRONG WIND DAMAGES

Location	Date	Type	Dth	Inj	PrD	CrD	Total Cost	Associated Hurricane
Calhoun Zone	9/16/2004	High Wind	0	0	\$350,000	0	\$350,000	Ivan
Calhoun Zone	4/12/2005	Strong Wind	0	0	\$1,000	0	\$1,000	None
Calhoun Zone	7/10/2005	Tropical Storm	0	0	\$16,000	0	\$16,000	Dennis
Calhoun Zone	8/29/2005	Tropical Storm	0	0	\$40,000	0	\$40,000	Katrina
Calhoun Zone	12/20/2007	Strong Wind	0	0	\$10,000	0	\$10,000	None
Calhoun Zone	8/23/2008	Tropical Depression	0	0	\$5,000	0	\$5,000	Fay
Calhoun Zone	4/10/2009	Strong Wind	0	0	\$3,000	0	\$3,000	None
Calhoun Zone	4/13/2009	Strong Wind	0	0	\$61,000	0	\$61,000	None
Calhoun Zone	11/9/2009	Tropical Depression	0	0	\$2,000	0	\$2,000	Ida
Calhoun Zone	12/09/2009	Strong Wind	0	0	\$25,000	0	\$25,000	None
Totals			0	0	\$503,000	0	\$503,000	

1 Sinkhole Event – 01/01/2003 thru 12/31/2013 (4018 days)*(Source: The Anniston Star, October 13, 2015)*

<u>Location</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>Type</u>	<u>Depth</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
Calhoun County	AL	August 2013		Sinkhole			0	0	9.4M	0.00K
TOTAL									9.4 M	0.00K

No/unknown sinkhole events occurred or were reported to *NOAA NCDC Storm Events Database/U.S. Geological Survey* during 01/01/2003 thru 12/31/2013.

0 Landslide Events – 01/01/2003 thru 12/31/2013 (4018 days)*(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)*

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

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

(Source: www.homefacts.com/earthquakes/Alabama.html and local input)

<u>Location</u>		<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>Type</u>	<u>Depth</u>	<u>Mag/ Intensity</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
Calhoun County	53.1 miles from county's center	AL	4/29/2003	8:59 a.m.	Earthquake	12.2 miles	4.9/ IV-V	0	0	0.00K	0.00K
Calhoun County	3.29 miles from Hobson City	AL	10/15/2012		Earthquake		2.3	0	0	0.00K	0.00K

No/unknown earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013 by the NOAA NCDC Storm Events Database/U.S. Geological Survey/Alabama Geological Survey.

137 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
Calhoun	137	46	3,517.25	1,196	26

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

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

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

Table 6.8-2 – Hazard Probability Assessment, City of Jacksonville

Sources: 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, 2014

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 summary. Zero denotes no data available to determine the probability, extent, or affected area.

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	13	>100%	>10%	City wide
Lightning	2	20%	>10%	City wide
Hail	9	90%	5-10%	City wide
Tornado	Unknown	Unknown	5-10%	City wide
Flood/Flash Flood	5	50%	<5%	City wide

Drought/Extreme Heat	28	>100%	5-10%	Countywide
Winter Storm/Frost Freeze/Heavy Snow/ Ice Storm/Winter Weather/ Extreme Cold	11	>100%	5-10%	Countywide
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	11	>100%	<5%	Countywide
Sinkhole/Expansive Soil	1	10%	<5%	Countywide
Landslide	Unknown	Unknown	<5%	N/A
Earthquake	2	20%	<5%	City wide
Wildfire (2010-2013 – 3 year study period – 1095 days)	137	>100%	<5%	City wide
Dam/Levee Failure	Unknown	Unknown	<5%	City wide

Table 6.8-3 – Critical Facilities, City of Jacksonville

Source: Local Jurisdiction; HAZUS-MH 2.1 (Values depicted for software modeling)

Facility	Location	Jurisdiction	Replacement Cost
Governmental Facilities			
City Hall	320 Church Ave SE	Jacksonville	TBD
Educational Facilities			
Jacksonville Christian Academy	831 Alexandria Rd. SW	Jacksonville	\$2,973,770
Kitty Stone Elementary School	115 College St. SW	Jacksonville	\$1,123,000
Calhoun County Career Technical Center	1200 Church St. SE	Jacksonville	\$1,123,000
Jacksonville High School	1000 George Douthit Dr SW	Jacksonville	\$1,123,000
Learning Tree Inc Webb	P. O. Box 908	Jacksonville	\$1,123,000
Pleasant Valley Elementary School	265 Mark Green Road	Jacksonville	\$1,123,000
Pleasant Valley High School	4141 Pleasant Valley Road	Jacksonville	\$1,123,000
Medical Facilities			
Jacksonville Hospital	1701 Pelham Road South	Jacksonville	\$11,265,500
Communication Facilities			
WNSI 810		Jacksonville	\$90,000
WLIS-FM Ch 220		Jacksonville	\$90,000
Fire Facilities			
Jacksonville Fire Department	506 Chinabee Ave. SE	Jacksonville	\$1,260,000
Hazardous Materials Facilities			
Parker Hannifin Corp. IVD	2651 AL Hwy 21 N	Jacksonville	TBD
Law Enforcement Facilities			
Jacksonville Police Dept.	116 Ladiga St. SE	Jacksonville	\$1,260,000
Waste Water Treatment Plants			
Jacksonville Wwtp	110 Whites Gap Road	Jacksonville	\$599,400
Emergency Operations Center			
Calhoun County EMA	507 Francis Street W	Jacksonville	TBD

Water And Sewer Boards			
Jacksonville Water Works, Gas & Sewer Board	330 Church Ave. SW	Jacksonville	TBD
TOTAL			\$24,276,670

Table 6.8-4 – Estimated Loss Projections from Specified Hazards, City of Jacksonville

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, 2014

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 causing damage during the ten-year period with the exception of wildfire. 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.

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	1.3	0	0	\$0	\$11,667	\$12,717
Lightning	0.2	0	3	\$69,525	\$15,000	\$92,132
Hail	0.9	0	0	Unknown	\$250,000	\$272,500
Tornado	Unknown	0	0	Unknown	Unknown	Unknown
Flood/Flash Flood	0.5	0	0	\$0	\$163,000	\$177,670
Drought/Extreme Heat	2.8	0	0	Unknown	Unknown	Unknown
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	1.1	0	0	Unknown	\$20,000	\$21,800
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	1.1	0	0	\$0	\$46,727	\$50,933
Sinkhole/Expansive Soils	0.1	0	0	Unknown	\$9,400,000	\$10,246,000
Landslide	Unknown	0	0	Unknown	Unknown	Unknown
Earthquake	0.2	0	0	Unknown	Unknown	Unknown
Wildfire (3 year study period)	46	0	0	Unknown	\$49,400	\$53,846
Dam/Levee Failure	Unknown	0	0	Unknown	Unknown	Unknown

6.8.2 City of Jacksonville Mitigation Action Plan: The City recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

6.8.3 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 6.8-5** shows the updated mitigation actions. During the plan update process new actions were identified and added to the plan. In the 2009 plan revision, priorities were placed on actions according to hazard frequency and project costs. For this plan revision, the committee decided to assign a new prioritization labeling as one project may be equally as important as another project. As a result, projects will be labeled high, medium, and low in priority. All actions will be addressed as soon as possible depending on available funding and resources; however, actions labeled high in priority will be addressed first, medium in priority will be addressed secondly, and low in priority will be addressed last. The current status of the mitigation action can be found by benchmark in **Table 6-8-5**.

6.8.4 Table 6.8-5 Mitigation Strategy, City of Jacksonville

Mitigation Action	Compose and maintain a contingency plan for the City.
Type	Prevention
Goal	Establish a countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	New and existing
Local Planning Mechanism	Planning and Building
Estimated Time Frame for Completion	2017
Estimated Cost	\$6,500 initial cost, \$1,000 biannually for updates.
Funding Sources	CDBG Planning, DHS, HMGP
Priority	Medium
Benchmark	The City has reviewed this project and still has interest in it. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action – COMPLETED	Initiate drainage improvements along Eighth Avenue, S.E.. 2009
Type	Prevention
Goal	Reduce Jacksonville's risk from natural hazards.
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Street Department
Estimated Time Frame for Completion	2017
Estimated Cost	\$70,000
Funding Sources	HMGP, CDBG, DOT, City/County Funds, Loans
Priority	High
Benchmark	Delete - This project has been completed
Mitigation Action	Initiate drainage improvements along Skelton Street, Cardinal Lane, to West Avenue and Burke Avenue.
Type	Prevention
Goal	Reduce Jacksonville's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Street Department
Estimated Time Frame for Completion	2017
Estimated Cost	\$42,000.00
Funding Sources	HMGP, CDBG, DOT, City/County Funds, Loans

Priority	Medium
Benchmark	Would still like to complete this project. The City has reviewed this project and still has interest in it. Check-dams have been installed upstream that have helped but the problem still exists. Budgetary restraints have prevented this project from being completed.
Mitigation Action	Initiate drainage improvements along Morningside Drive NE to Fifth Avenue NE and Fourth Avenue NE. 2009
Type	Prevention
Goal	Reduce Jacksonville's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Street Department
Estimated Time Frame for Completion	2017
Estimated Cost	\$10,000.00
Funding Sources	HMGP, CDBG, DOT, City/County Funds, Loans
Priority	Medium
Benchmark	This project has begun and is halfway completed.
Mitigation Action	Initiate culvert improvements along Gadsden Road, NW, between Mountain Street, NW, and Washington Street, NW – engineering, utility relocation design and construction.
Type	Prevention
Goal	Reduce Jacksonville's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Street Department
Estimated Time Frame for Completion	2018
Estimated Cost	\$125,000.00
Funding Sources	HMGP, CDBG, DOT, City/County Funds, Loans
Priority	Low
Benchmark	The City has reviewed this project and still has interest in it. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action - COMPLETED	Update Flood Insurance Rate Maps. FIRM's for Calhoun County and its municipalities were updated in 2007.
Type	Property Protection
Goal	Establish a comprehensive countywide hazard mitigation system.
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Planning and Building
Estimated Time Frame for Completion	2017
Estimated Cost	Unknown
Funding Sources	FMA
Priority	Medium
Benchmark	Delete - This project is completed.
Mitigation Action	Adopt and enforce landscape ordinance.
Type	Property Protection
Goal	Establish a comprehensive countywide hazard mitigation

	system.
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	New/Existing
Local Planning Mechanism	Planning and Building
Estimated Time Frame for Completion	2019
Estimated Cost	Unknown
Funding Sources	Ultimately developers of new structures and the purchasers of those structures would absorb costs of ordinances.
Priority	Low
Benchmark	The City has reviewed this project and still has interest in it. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action	Investigate Community Rating System activities and assess the feasibility of implementing CRS activities of the NFIP.
Type	Property Protection
Goal	Establish a comprehensive countywide hazard mitigation system.
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	New/Existing
Local Planning Mechanism	Planning and Building
Estimated Time Frame for Completion	2017
Estimated Cost	\$2,000
Funding Sources	City Funds, DHS (FEMA)
Priority	Medium
Benchmark	The City has reviewed this project and still has interest in it. Budgetary restraints have prevented it from being implemented thus far.
Mitigation Action	Buyouts of repetitive loss properties located in Special Flood Hazard Areas.
Type	Property Protection
Goal	Reduce Jacksonville's vulnerability to natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	New/ Existing
Local Planning Mechanism	Planning and Building
Estimated Time Frame for Completion	2020
Estimated Cost	Unknown
Funding Sources	HMGP, City Funds
Priority	Medium
Benchmark	The City has reviewed this project and still has interest in it. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action	Improve public education about mitigation and natural hazards. 2009 – The Town supports public education regarding natural hazards. Information is made available at City Hall and the public library.
Type	Public Education and Awareness
Goal	Establish a comprehensive countywide hazard mitigation system.
Hazard(s) Addressed	All Hazards

Applies to new/existing asset(s)	New/ Existing
Local Planning Mechanism	All Departments
Estimated Time Frame for Completion	2020
Estimated Cost	\$1,000 per year
Funding Sources	NOAA, ED, HMGP, City Funds
Priority	High
Benchmark	The City supports public education regarding natural hazards. Information is made available at City Hall and the public library.
Mitigation Action	Initiate bridge replacement along Mountain Street, NW, at Madison Avenue, NW – engineering, utility relocation, design and construction.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation system.
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Street Department
Estimated Time Frame for Completion	2019
Estimated Cost	\$100,000
Funding Sources	HMGP, CDBG, DOT, City/County Funds, Loans
Priority	Medium
Benchmark	The City has reviewed this project and still has interest in it. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action	Initiate bridge replacement along Francis Street, W, between Alexander Road, NW, and Woodward Avenue, NW - engineering, utility relocation, design and construction.
Type	Structural Projects
Goal	Establish a comprehensive countywide hazard mitigation system.
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Street Department
Estimated Time Frame for Completion	2019
Estimated Cost	\$100,000
Funding Sources	HMGP, CDBG, DOT, City/County Funds, Loans
Priority	Low
Benchmark	The City has reviewed this project and still has interest in it. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action – NEW	Purchase of emergency generator with automatic transfer switch for Fourth Avenue, NE Water Booster Station, 1001 Fourth Avenue, NE.
Type	Emergency Services Protection
Goal	Establish a comprehensive city wide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Water Works, Gas and Sewer

Estimated Time Frame for Completion	2020
Estimated Cost	\$58,830
Funding Sources	HMGP
Priority	High
Benchmark	New Action - The City would like to complete this project as soon as budget allows.
Mitigation Action – NEW	Purchase of emergency generator with automatic transfer switch for the Mountain Water Booster Station, 908 Mountain St, NW.
Type	Emergency Services Protection
Goal	Establish a comprehensive city wide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Water Works, Gas and Sewer
Estimated Time Frame for Completion	2020
Estimated Cost	\$58,830
Funding Sources	HMGP
Priority	HIGH
Benchmark	New Action - The City would like to complete this project as soon as budget allows.
Mitigation Action – NEW	Purchase of emergency generator with an automatic transfer switch for the Skyline Booster Station, 1401 Seventh Street, NE.
Type	Emergency Services Protection
Goal	Establish a comprehensive city wide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Water Works, Gas and Sewer
Estimated Time Frame for Completion	2020
Estimated Cost	\$58,830
Funding Sources	HMGP
Priority	High
Benchmark	New Action - The City would like to complete this project as soon as budget allows.
Mitigation Action – NEW	Purchase emergency generator with automatic transfer switch for the White's Gap Booster Station, 110 White's Gap Road, SE.
Type	Emergency Services Protection
Goal	Establish a comprehensive city wide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Water Works, Gas and Sewer
Estimated Time Frame for Completion	2020
Estimated Cost	\$67,310
Funding Sources	HMGP
Priority	High
Benchmark	New Action -The City would like to complete this project as soon as budget allows.

Mitigation Action – NEW	Construction of community safe room within proposed public safety complex.
Type	Structural Project
Goal	Reduce Jacksonville's risk from natural hazards
Hazard(s) Addressed	Thunderstorms, Hail, High Winds, Strong Winds, Tornadoes
Applies to new/existing asset(s)	New
Local Planning Mechanism	Water Works, Gas and Sewer
Estimated Time Frame for Completion	2016
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	New Action -This project began in 2014.
Mitigation Action – NEW	Construction of first responder safe room within proposed public safety complex.
Type	Structural Project
Goal	Reduce Jacksonville's risk from natural hazards
Hazard(s) Addressed	Thunderstorms, Hail, High Winds, Strong Winds, Tornadoes
Applies to new/existing asset(s)	New
Local Planning Mechanism	Water Works, Gas and Sewer
Estimated Time Frame for Completion	2016
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	New Action -This project began in 2014.

6.9 Town of Ohatchee Jurisdictional Assessment & Mitigation Strategy

6.9.1 An overview of risk and vulnerability for this jurisdiction is presented in **Table 6.9-1**. Historical events utilized in developing the mitigation strategy are presented in **Table 6.9-2**. Critical facilities are presented in **Table 6.9-3**. Estimated losses are presented in **Table 6.9-4**.

Table 6.9-1 – Risk and Vulnerability Overview, Town of Ohatchee

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

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. These prioritized threats may or may not be the same as the mitigation actions prioritization.

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

13 Thunderstorms 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	CALHOUN CO.	AL	05/01/2003	18:25	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/05/2003	18:41	CST	Thunderstorm Wind	55 kts. EG	0	0	20.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	07/21/2003	16:45	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	08/27/2003	15:50	CST	Thunderstorm Wind	50 kts. EG	0	0	32.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	06/22/2004	17:50	CST	Thunderstorm Wind	60 kts. EG	0	0	18.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	07/14/2004	16:22	CST	Thunderstorm Wind	52 kts. EG	0	0	34.00K	0.00K

Calhoun County Hazard Mitigation Plan

OHATCHEE	CALHOUN CO.	AL	07/14/2004	16:45	CST	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	04/30/2005	03:43	CST	Thunderstorm Wind	52 kts. EG	0	0	7.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	04/08/2006	00:48	CST	Thunderstorm Wind	61 kts. EG	0	0	50.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	04/18/2006	18:05	CST	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	07/19/2006	15:45	CST	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	08/15/2006	14:05	CST	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	08/15/2006	14:28	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
Totals:								0	0	202.00K	0.00K

1 Lightning Event – 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
OHATCHEE	CALHOUN CO.	AL	08/27/2003	15:50	CST	Lightning		0	0	48.00K	0.00K
Total:										48.00K	

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
OHATCHEE	CALHOUN CO.	AL	03/19/2003	15:07	CST	Hail	1.00 in.	0	0	2.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/02/2003	17:07	CST	Hail	1.75 in.	0	0	250.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	04/22/2005	16:29	CST	Hail	1.75 in.	0	0	8.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	04/22/2005	10:10	CST	Hail	1.00 in.	0	0	1.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	04/18/2006	18:08	CST	Hail	0.75 in.	0	0	0.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	05/26/2011	13:20	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	05/05/2012	18:22	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
Total:										261.00K	

1 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
OHATCHEE	CALHOUN CO.	AL	04/08/2006	00:52	CST	Tornado	F1	0	0	14.00K	0.00K
Totals:								0	0	14.00K	0.00K

6 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	CALHOUN CO.	AL	05/05/2003	22:30	CST	Flash Flood		0	0	45.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/07/2003	16:00	CST	Flash Flood		0	0	700.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/18/2003	10:17	CST	Flash Flood		0	0	10.00K	0.00K

COUNTYWIDE	CALHOUN CO.	AL	09/16/2004	10:45	CST	Flash Flood		0	0	3.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	11/24/2004	07:13	CST	Flash Flood		0	0	18.00K	0.00K
OHATCHEE	CALHOUN CO.	AL	01/24/2010	09:45	CST-6	Flash Flood		0	0	10.00K	0.00K
Total:										786.00K	

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

All drought events were reported County Wide none specific to Ohatchee.

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	03/27/2007	06:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/26/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/20/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

11 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)

All Winter Storm events were reported County Wide none specific to Ohatchee.

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/24/2003	00:00	CST	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/25/2004	18:30	CST	Winter Storm		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/28/2005	20:45	CST	Ice Storm		0	0	20.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/07/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/12/2010	13:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/15/2010	11:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/25/2010	07:30	CST-6	Heavy Snow		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/26/2010	03:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/09/2011	16:40	CST-6	Winter Storm		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/17/2013	14:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	20.00K	0.00K

11 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)

All Hurricane events were reported County Wide none specific to Ohatchee

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/16/2004	09:00	CST	High Wind	50 kts. EG	0	0	350.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/02/2005	08:00	CST	Strong Wind	35 kts. MG	0	0	1.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/12/2005	03:00	CST	Strong Wind	40 kts. EG	0	0	1.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	16.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/29/2005	23:30	CST	Tropical Storm		0	0	40.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/20/2007	17:45	CST-6	Strong Wind	30 kts. EG	0	0	10.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/23/2008	12:00	CST-6	Tropical Depression		0	0	5.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/10/2009	13:45	CST-6	Strong Wind	39 kts. EG	0	0	3.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/13/2009	03:00	CST-6	Strong Wind	44 kts. MG	0	0	61.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/09/2009	14:00	CST-6	Tropical Depression		0	0	2.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/09/2009	01:00	CST-6	Strong Wind	45 kts. EG	0	0	25.00K	0.00K
Total:										514.00K	

LOCAL INPUT ON TROPICAL STORMS/STRONG WIND DAMAGES

Location	Date	Type	Dth	Inj	PrD	CrD	Total Cost	Associated Hurricane
Calhoun Zone	9/16/2004	High Wind	0	0	\$350,000	0	\$350,000	Ivan
Calhoun Zone	4/12/2005	Strong Wind	0	0	\$1,000	0	\$1,000	None
Calhoun Zone	7/10/2005	Tropical Storm	0	0	\$16,000	0	\$16,000	Dennis
Calhoun Zone	8/29/2005	Tropical Storm	0	0	\$40,000	0	\$40,000	Katrina
Calhoun Zone	12/20/2007	Strong Wind	0	0	\$10,000	0	\$10,000	None
Calhoun Zone	8/23/2008	Tropical Depression	0	0	\$5,000	0	\$5,000	Fay
Calhoun Zone	4/10/2009	Strong Wind	0	0	\$3,000	0	\$3,000	None
Calhoun Zone	4/13/2009	Strong Wind	0	0	\$61,000	0	\$61,000	None
Calhoun Zone	11/9/2009	Tropical Depression	0	0	\$2,000	0	\$2,000	Ida
Calhoun Zone	12/09/2009	Strong Wind	0	0	\$25,000	0	\$25,000	None
Totals			0	0	\$503,000	0	\$503,000	

1 Sinkhole Events – 01/01/2003 thru 12/31/2013 (4018 days)(Source: *The Anniston Star*, October 13, 2015)

Location	St.	Date	Time	Type	Depth	Mag	Dth	Inj	PrD	CrD
Calhoun County AL 21 at Mile Marker 225	AL	August 2013		Sinkhole			0	0	9.4M	0.00K
TOTAL									9.4 M	0.00K

No/unknown sinkhole events occurred or were reported to NOAA NCDC Storm Events Database/U.S. Geological Survey during 01/01/2003 thru 12/31/2013.

0 Landslide Events - 01/01/2003 thru 12/31/2013 (4018 days)

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

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

2 Earthquake Events – 01/01/2003 thru 12/31/2013 (4018 days)(Source: www.homefacts.com/earthquakes/Alabama.html and local input)

Location	St.	Date	Time	Type	Depth	Mag/Intensity	Dth	Inj	PrD	CrD
Calhoun County 53.1 miles from county's center	AL	4/29/2003	8:59 a.m.	Earthquake	12.2 miles	4.9/IV-V	0	0	0.00K	0.00K

Calhoun County	3.29 miles from Hobson City	AL	10/15/2012		Earthquake		2.3	0	0	0.00K	0.00K
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No/unknown earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013 by the NOAA NCDC Storm Events Database/U.S. Geological Survey/Alabama Geological Survey.

137 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
Calhoun	137	46	3,517.25	1,196	26

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

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

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

Table 6.9-2 – Hazard Probability Assessment, Town of Ohatchee

Sources: 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, 2014

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 summary. Zero denotes no data available to determine the probability, extent, or affected area.

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	13	>100%	5-10%	Town wide
Lightning	1	10%	5-10%	Town wide
Hail	7	70%	<5%	Town wide
Tornado	1	10%	5-10%	Town wide
Flood/Flash Flood	6	60%	<5%	Town wide
Drought/Extreme Heat	28	2.8%	5-10%	Town wide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	11	>100%	<5%	Town wide

Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	11	>100%	<5%	Town wide
Sinkhole/Expansive Soil	1	10%	<5%	Town wide
Landslide	Unknown	Unknown	<5%	N/A
Earthquake	2	20%	<5%	Town wide
Wildfire (2010-2013 – 3 year study period – 1095 days)	137	>100%	5-10%	Town wide
Dam/Levee Failure	Unknown	Unknown	<5%	Town wide

Table 6.9-3 – Critical Facilities, Town of Ohatchee

Source: Local Jurisdiction; HAZUS-MH 2.1 (Values depicted for software modeling)

Facility	Location	Use	Value
Governmental Services			
Town Hall	7801 AL Hwy 77	Government	
Fire Facilities			
Mount Olive Volunteer Fire Department	2807 Boiling Springs RD	Fire Station	\$1,260,000
Ohatchee Volunteer Fire Department	2396 Harts Ferry RD	Fire Station	\$1,260,000
Law Enforcement			
Ohatchee Police Dept	301 Main St	Police Station	\$1,260,000
Public Works			
Ohatchee Water System			
Educational			
Ohatchee High School	100 Cherokee Trail	School	\$1,123,000
Ohatchee Elementary School	365 J. Street	School	\$1,123,000
Electric Power Plants			
Alabama Power Co. Henry Hydro	1021 Highway 144	Electric Power	\$990,000
Alabama Power-Neely Henry Dam	1021 Hwy. 144 W	Electric Power	\$990,000
Source: Local Jurisdiction, 2014		TOTAL	\$8,006,000

Table 6.9-4 – Estimated Loss Projections from Specified Hazards, Town of Ohatchee

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, 2014

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 causing damage during the ten-year period with the exception of wildfire. 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.

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	1.3	0	0	Unknown	\$15,539	\$16,937
Lightning	0.1	0	0	Unknown	\$48,000	\$52,320
Hail	0.7	0	0	Unknown	\$62,750	\$68,398
Tornado	0.1	0	0	Unknown	\$14,000	\$15,260
Flood/Flash Flood	0.6	0	0	Unknown	\$131,000	\$142,790
Drought/Extreme Heat	2.8	0	0	Unknown	Unknown	Unknown
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	1.1	0	0	Unknown	\$20,000	\$21,800
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	1.1	0	0	Unknown	\$46,727	\$50,933
Sinkhole/Expansive Soils	0.1	0	0	Unknown	\$9,400,000	\$10,246,000
Landslide	Unknown	0	0	Unknown	Unknown	Unknown
Earthquake	0.2	0	0	Unknown	Unknown	Unknown
Wildfire (3 year study period)	46	0	0	Unknown	\$49,400	\$53,846
Dam/Levee Failure	Unknown	0	0	Unknown	Unknown	Unknown

6.9.2 **Town of Ohatchee Mitigation Action Plan:** The Town recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

6.9.3 **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 6.9-5** shows the updated mitigation actions. During the plan update process no new actions were identified. In the 2009 plan revision, priorities were placed on actions according to hazard frequency and project costs. For this plan revision, the committee decided to assign a new prioritization labeling as one project may be equally as important as another project. As a result, projects will be labeled high, medium, and low in priority. All actions will be addressed as soon as possible depending on available funding and resources; however, actions labeled high in priority will be addressed first, medium in priority will be addressed secondly, and low in priority will be addressed last.

Table 6.9-5 Mitigation Strategy, Town of Ohatchee

Mitigation Action	
Mitigation Action	Compose and maintain a contingency plan for the town.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation

	system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Mayor
Estimated Time Frame for Completion	2019
Estimated Cost	\$6,500 initial cost, \$1,000 biannually for update
Funding Sources	ARC, HMGP
Priority	Medium
Benchmark	The City has reviewed this project and still has interest in it. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action	Install rip-rap along the banks of the Coosa River.
Type	Property Protection
Goal	Reduce Ohatchee's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Flooding
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Mayor
Estimated Time Frame for Completion	2017
Estimated Cost	\$35,000
Funding Sources	HMGP, Alabama Power, Dept. of Agriculture, Conservation Service
Priority	High
Benchmark	This has been completed; however, it is a recurring issue/item.
Mitigation Action	Construct a clean- out box to alleviate drainpipe blockage on Hart's Ferry Road.
Type	Property Protection
Goal	Reduce Ohatchee's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Flooding
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Mayor
Estimated Time Frame for Completion	2018
Estimated Cost	Unknown at this time
Funding Sources	HMGP, City Funds, CDBG
Priority	High
Benchmark	This project is underway.
Mitigation Action	Buy outs of properties located in SFHA's.
Type	Property Protection
Goal	Reduce Ohatchee's vulnerability to natural hazards
Hazard(s) Addressed	Floods/Flash Flooding
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Mayor
Estimated Time Frame for Completion	2020
Estimated Cost	Unknown
Funding Sources	HMGP, FMA, Local funds
Priority	Low
Benchmark	The town has reviewed this project and still has interest in it. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action	Improve public education about mitigation and natural

	hazards.
Type	Public Education and Awareness
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	New and Existing
Local Planning Mechanism	Mayor
Estimated Time Frame for Completion	2020
Estimated Cost	\$1,000 / Year
Funding Sources	HMGP and Town Funds
Priority	Low
Benchmark	The Town supports public education regarding natural hazards. Information is made available at public locations throughout the town.
Mitigation Action	Retrofit the Senior Citizen's Center as a community safe room.
Type	Structural Project
Goal	Reduce Ohatchee's risk from natural hazards.
Hazard(s) Addressed	Thunderstorms, Hail, Tornados, Hurricanes, Tropical Storms, Tropical Depressions, High Winds, Strong Winds
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Mayor
Estimated Time Frame for Completion	2020
Estimated Cost	\$15,000
Funding Sources	CDBG, DHS, ARC
Priority	Low
Benchmark	The town has reviewed this project and still has interest in it. Budgetary restraints have prevented this from being implemented thus far.

6.10 City of Oxford Jurisdictional Assessment & Mitigation Strategy

- 6.10.1 An overview of risk and vulnerability for this jurisdiction is presented in **Table 6.10-1**. Historical events utilized in developing the mitigation strategy are presented in **Table 6.10-2**. Critical facilities are presented in **Table 6.10-3**. Estimated losses are presented in **Table 6.10-4**.

Table 6.10-1 – Risk and Vulnerability Overview, City of Oxford

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

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. These prioritized threats may or may not be the same as the mitigation actions prioritization.

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

8 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	CALHOUN CO.	AL	05/01/2003	18:25	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/05/2003	18:41	CST	Thunderstorm Wind	55 kts. EG	0	0	20.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	07/21/2003	16:45	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	06/22/2004	17:50	CST	Thunderstorm Wind	60 kts. EG	0	0	18.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	07/14/2004	16:22	CST	Thunderstorm Wind	52 kts. EG	0	0	34.00K	0.00K
OXFORD	CALHOUN CO.	AL	07/25/2004	16:00	CST	Thunderstorm Wind	50 kts. EG	0	0	8.00K	0.00K

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COUNTYWIDE	CALHOUN CO.	AL	04/30/2005	03:43	CST	Thunderstorm Wind	52 kts. EG	0	0	7.00K	0.00K
OXFORD	CALHOUN CO.	AL	06/30/2007	15:50	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
Totals:								0	0	107.00K	0.00K

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

(Source: NOAA NCDC Storm Events Database)

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

4 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
COUNTYWIDE	CALHOUN CO.	AL	05/02/2003	17:07	CST	Hail	1.75 in.	0	0	250.00K	0.00K
OXFORD	CALHOUN CO.	AL	07/12/2004	14:10	CST	Hail	0.75 in.	0	0	0.00K	0.00K
OXFORD	CALHOUN CO.	AL	12/28/2005	13:35	CST	Hail	1.00 in.	0	0	0.00K	0.00K
OXFORD	CALHOUN CO.	AL	02/26/2008	04:30	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
Total:										250.00K	

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

(Source: NOAA NCDC Storm Events Database)

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

6 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	CALHOUN CO.	AL	05/05/2003	22:30	CST	Flash Flood		0	0	45.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/07/2003	16:00	CST	Flash Flood		0	0	700.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/18/2003	10:17	CST	Flash Flood		0	0	10.00K	0.00K
OXFORD	CALHOUN CO.	AL	07/06/2004	20:00	CST	Flash Flood		0	0	3.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	09/16/2004	10:45	CST	Flash Flood		0	0	3.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	11/24/2004	07:13	CST	Flash Flood		0	0	18.00K	0.00K
Totals:								0	0	779.00K	0.00K

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

(Source: NOAA NCDC Storm Events Database)

All drought events recorded were County-Wide and none specific to Oxford.

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	03/27/2007	06:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K

CALHOUN (ZONE)	CALHOUN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/26/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/20/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

11 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)

All WinterStorm events reported were County-Wide none specific to Oxford.

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/24/2003	00:00	CST	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/25/2004	18:30	CST	Winter Storm		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/28/2005	20:45	CST	Ice Storm		0	0	20.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/07/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/12/2010	13:00	CST-6	Winter Weather		0	0	0.00K	0.00K

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CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/15/2010	11:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/25/2010	07:30	CST-6	Heavy Snow		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/26/2010	03:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/09/2011	16:40	CST-6	Winter Storm		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/17/2013	14:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	20.00K	0.00K

11 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)

All Hurricane events reported were County-Wide none specific to Oxford.

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/16/2004	09:00	CST	High Wind	50 kts. EG	0	0	350.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/02/2005	08:00	CST	Strong Wind	35 kts. MG	0	0	1.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/12/2005	03:00	CST	Strong Wind	40 kts. EG	0	0	1.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	16.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/29/2005	23:30	CST	Tropical Storm		0	0	40.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/20/2007	17:45	CST-6	Strong Wind	30 kts. EG	0	0	10.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/23/2008	12:00	CST-6	Tropical Depression		0	0	5.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/10/2009	13:45	CST-6	Strong Wind	39 kts. EG	0	0	3.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/13/2009	03:00	CST-6	Strong Wind	44 kts. MG	0	0	61.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/09/2009	14:00	CST-6	Tropical Depression		0	0	2.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/09/2009	01:00	CST-6	Strong Wind	45 kts. EG	0	0	25.00K	0.00K
Totals:								0	0	514.00K	0.00K

LOCAL INPUT ON TROPICAL STORMS/STRONG WIND DAMAGES

Location	Date	Type	Dth	Inj	PrD	CrD	Total Cost	Associated Hurricane
Calhoun Zone	9/16/2004	High Wind	0	0	\$350,000	0	\$350,000	Ivan
Calhoun Zone	4/12/2005	Strong Wind	0	0	\$1,000	0	\$1,000	None
Calhoun Zone	7/10/2005	Tropical Storm	0	0	\$16,000	0	\$16,000	Dennis
Calhoun Zone	8/29/2005	Tropical Storm	0	0	\$40,000	0	\$40,000	Katrina
Calhoun Zone	12/20/2007	Strong Wind	0	0	\$10,000	0	\$10,000	None
Calhoun Zone	8/23/2008	Tropical Depression	0	0	\$5,000	0	\$5,000	Fay
Calhoun Zone	4/10/2009	Strong Wind	0	0	\$3,000	0	\$3,000	None

Calhoun Zone	4/13/2009	Strong Wind	0	0	\$61,000	0	\$61,000	None
Calhoun Zone	11/9/2009	Tropical Depression	0	0	\$2,000	0	\$2,000	Ida
Calhoun Zone	12/09/2009	Strong Wind	0	0	\$25,000	0	\$25,000	None
Totals			0	0	\$503,000	0	\$503,000	

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

(Source: *The Anniston Star*, October 13, 2015)

<u>Location</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>Type</u>	<u>Depth</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
Oxford	AL	2005		Sinkhole	Large enough to drive a bus into		0	0	Unknown	0.00K
Oxford	AL	2009		Sinkhole			0	0	Unknown	0.00K
Oxford	AL	August 2013		Sinkhole			0	0	1.00M	0.00K
Calhoun County	AL	August 2013		Sinkhole			0	0	9.4M	0.00K
TOTAL									10.4 M	0.00K

No/unknown sinkhole events occurred or were reported to NOAA NCDC Storm Events Database/U.S. Geological Survey during 01/01/2003 thru 12/31/2013.

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

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

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

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

(Source: www.homefacts.com/earthquakes/Alabama.html and local input)

<u>Location</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>Type</u>	<u>Depth</u>	<u>Mag/Intensity</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
Calhoun County	AL	4/29/2003	8:59 a.m.	Earthquake	12.2 miles	4.9/IV-V	0	0	0.00K	0.00K
Calhoun County	AL	10/15/2012		Earthquake		2.3	0	0	0.00K	0.00K

No/unknown earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013 by the NOAA NCDC Storm Events Database/U.S. Geological Survey/Alabama Geological Survey.

137 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
Calhoun	137	46	3,517.25	1,196	26

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

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

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

Table 6.10-2 – Hazard Probability Assessment, City of Oxford

Sources: 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, 2014

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 summary. Zero denotes no data available to determine the probability, extent, or affected area.

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	8	80%	>10%	City wide
Lightning	Unknown	Unknown	>10%	City wide
Hail	4	40%	5-10%	City wide
Tornado	Unknown	Unknown	>10%	City wide
Flood/Flash Flood	6	60%	<5%	City wide
Drought/Extreme Heat	28	>100%	>10%	City wide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	11	>100%	>10%	City wide
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	11	>100%	>10%	City wide
Sinkhole/Expansive Soil	4	40%	<5%	City wide

Landslide	Unknown	Unknown	<5%	City wide
Earthquake	2	20%	<5%	City wide
Wildfire (2010-2013 – 3 year study period – 1095 days)	137	>100%	<5%	City wide
Dam/Levee Failure	Unknown	Unknown	<5%	City wide

Table 6.10-3 – Critical Facilities, City of Oxford

Source: Local Jurisdiction; HAZUS-MH 2.1 (Values depicted for software modeling)

Facility	Location	Use	Value
Governmental Services			
City Hall	145 Hamric Drive	Government	
Law Enforcement			
Oxford Police Dept	100 E Choccolocco St	Police Station	\$1,260,000
Fire Facilities			
Oxford Fire Department	70 E. 6 th St.		
Public Works			
Oxford Water Works and Sewer Board	60 Barry St.		
Oxford Street Dept.	2020 US-78		
Education			
Oxford BOE	310 E. 2 nd St.	Education Board	
Oxford High School	915 Stewart St.	School Primary or High	\$18,878,470
Oxford Elementary School	1401 Caffey Dr.	School Primary or High	\$12,736,490
Oxford Middle School	1750 Highway 78 W	School Primary or High	\$10,646,800
Oxford Area Vocational School	915 Stewart St.	School Primary or High	\$6,733,560
Trinity Christian Academy	1500 Airport Road	School Primary or High	\$2,200,850
Communications			
WARB 1580		AM Radio	\$90,000
WVOK 250		AM Radio	\$90,000
Railway Facilities			
Eagle Warehouse, Inc.			\$2,663,000
Hazardous Materials Facilities			
Southern Tool, Inc.	112 Hwy. 78 W		
Fabarc Steel Supply, Inc.	111 Meadow Lane		
Tyson Foods, Inc.	1520 McPherson Street		
Waste Water Treatment Plants			
Choccolocco Creek WWTP	35 Friendship Road	Waste Water	\$599,400
Emergency Services			
Oxford EMS	12 Hamric Dr.		
TOTAL			\$55,898,570

Table 6.10-4 – Estimated Loss Projections from Specified Hazards, City of Oxford

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, 2014

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 causing damage during the ten-year period with the exception of wildfire. 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 or unknown denotes no data available to determine the average occurrences, average loss or projected loss per event.

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	0.8	0	0	\$0	\$15,286	\$16,661
Lightning	Unknown	0	0	Unknown	Unknown	Unknown
Hail	0.4	0	0	Unknown	\$250,000	\$272,500
Tornado	Unknown	0	0	Unknown	Unknown	Unknown
Flood/Flash Flood	0.6	0	0	Unknown	\$129,833	\$141,518
Drought/Extreme Heat	2.8	0	0	Unknown	Unknown	Unknown
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	1.1	0	0	Unknown	\$20,000	\$21,800
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	1.1	0	0	Unknown	\$46,727	\$50,932
Sinkhole/Expansive Soils	0.4	0	0	Unknown	\$5,200,000	\$5,668,000
Landslide	Unknown	0	0	Unknown	Unknown	Unknown
Earthquake	0.2	0	0	Unknown	Unknown	Unknown
Wildfire (3 year study period)	46	0	0	Unknown	\$49,400	\$53,846
Dam/Levee Failure	Unknown	0	0	Unknown	Unknown	Unknown

6.10.2 City of Oxford Mitigation Action Plan: The City recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

6.10.3 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 6.10-5** shows the updated mitigation actions. During the plan update process new actions were identified and added to the plan. In the 2009 plan revision, priorities were placed on actions according to hazard frequency and project costs. For this plan revision, the committee decided to assign a new prioritization labeling as one project may be equally as important as another project. As a result, projects will be labeled high, medium, and low in priority. All actions will be addressed as soon as possible depending

on available funding and resources; however, actions labeled high in priority will be addressed first, medium in priority will be addressed secondly, and low in priority will be addressed last. The current status of the mitigation action can be found by benchmark in **Table 6.10-5**.

Table 6.10-5 Mitigation Strategy, City of Oxford

Mitigation Action	Buyouts of repetitive loss properties
Type	Property Protection
Goal	Reduce Oxford's vulnerability to natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	City Engineer
Estimated Time Frame for Completion	2018
Estimated Cost	Unknown at this time
Funding Sources	HMGP, City Funds
Priority	Low
Benchmark	The city has interest in continuing this project but budgetary restraints have prevented it from being completed.
Mitigation Action	Retrofit Oxford's Civic Center
Type	Structural Projects
Goal	Reduce Oxford's risk from natural hazards
Hazard(s) Addressed	Thunderstorms, Tornadoes, High/Strong Winds
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	City Engineer
Estimated Time Frame for Completion	2020
Estimated Cost	\$250,000
Funding Sources	HMGP, City Funds
Priority	High
Benchmark	The city has interest in completing this project but budgetary restraints have prevented it from being completed.
Mitigation Action - NEW	Improved drainage systems in flood prone areas of the city
Type	Property Protection
Goal	Reduce Oxford's vulnerability to natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	City Engineer
Estimated Time Frame for Completion	2020
Estimated Cost	Unknown at this time
Funding Sources	HMGP, City Funds
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Possible use of retention/detention ponds to aid in storm water runoff.
Type	Property Protection
Goal	Reduce Oxford's vulnerability to natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	City Engineer
Estimated Time Frame for Completion	2020
Estimated Cost	Unknown at this time

Funding Sources	HMGP, City Funds
Priority	Low
Benchmark	NEW ACTION
Mitigation Action - NEW	Continue to participate in the NFIP
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Flood Plain Manager
Estimated Time Frame for Completion	2020
Estimated Cost	
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Purchase emergency generators for post-disaster mitigation, as needed.
Type	Emergency Services Protection
Goal	Reduce Oxford's vulnerability to natural hazards
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2020
Estimated Cost	
Funding Sources	HMGP, ADECA
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Construct/Install adequate safe rooms and community shelters, to include generators.
Type	Structural Projects
Goal	Reduce the Oxford's vulnerability to natural hazards
Hazard(s) Addressed	Thunderstorms, Tornadoes, High/Strong Winds
Applies to new/existing asset(s)	Existing and New
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2020
Estimated Cost	\$125,000 each
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION

6.11 City of Piedmont Jurisdictional Assessment & Mitigation Strategy

- 6.11.1 An overview of risk and vulnerability for this jurisdiction is presented in **Table 6.11-1**. Historical events utilized in developing the mitigation strategy are presented in **Table 6.11-2**. Critical facilities are presented in **Table 6.11-3**. Estimated losses are presented in **Table 6.11-4**.

Table 6.11-1 – Risk and Vulnerability Overview, City of Piedmont

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

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. These prioritized threats may or may not be the same as the mitigation actions prioritization.

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

12 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	In	PrD	CrD
COUNTYWIDE	CALHOUN CO.	AL	05/01/2003	18:25	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/05/2003	18:41	CST	Thunderstorm Wind	55 kts. EG	0	0	20.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	07/21/2003	16:45	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	06/22/2004	17:50	CST	Thunderstorm Wind	60 kts. EG	0	0	18.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	07/14/2004	16:22	CST	Thunderstorm Wind	52 kts. EG	0	0	34.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	04/30/2005	03:43	CST	Thunderstorm Wind	52 kts. EG	0	0	7.00K	0.00K

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PIEDMONT	CALHOUN CO.	AL	06/14/2007	18:30	CST-6	Thunderstorm Wind	70 kts. EG	0	0	100.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	07/20/2007	10:35	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	06/22/2011	17:12	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	07/01/2012	16:14	CST-6	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
PIEDMONT SPGS	CALHOUN CO.	AL	07/01/2012	16:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
PIEDMONT SPGS	CALHOUN CO.	AL	07/01/2012	16:46	CST-6	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
Totals:								0	0	203.00K	0.00K

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

(Source: NOAA NCDC Storm Events Database)

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

13 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
PIEDMONT	CALHOUN CO.	AL	05/02/2003	14:54	CST	Hail	4.50 in.	0	0	100.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/02/2003	17:07	CST	Hail	1.75 in.	0	0	250.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	05/17/2003	19:09	CST	Hail	1.75 in.	0	0	5.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	05/09/2004	15:08	CST	Hail	0.88 in.	0	0	0.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	04/22/2005	19:15	CST	Hail	1.75 in.	0	0	2.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	05/19/2005	19:37	CST	Hail	0.88 in.	0	0	0.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	04/19/2006	13:29	CST	Hail	1.75 in.	0	0	0.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	04/19/2006	13:36	CST	Hail	1.00 in.	0	0	0.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	06/22/2006	16:05	CST	Hail	0.88 in.	0	0	0.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	03/26/2011	14:49	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	05/26/2011	13:57	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
PIEDMONT SPGS	CALHOUN CO.	AL	07/01/2012	16:20	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	03/18/2013	15:22	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
Totals:								0	0	357.00K	0.00K

1 Tornado Event – 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
PIEDMONT	CALHOUN CO.	AL	08/29/2005	14:53	CST	Tornado	F1	0	0	115.00K	0.00K
Totals:								0	0	115.00K	0.00K

6 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	CALHOUN CO.	AL	05/05/2003	22:30	CST	Flash Flood		0	0	45.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/07/2003	16:00	CST	Flash Flood		0	0	700.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/18/2003	10:17	CST	Flash Flood		0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	09/16/2004	10:45	CST	Flash Flood		0	0	3.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	11/24/2004	07:13	CST	Flash Flood		0	0	18.00K	0.00K
PIEDMONT	CALHOUN CO.	AL	06/06/2005	15:00	CST	Flash Flood		0	0	3.00K	0.00K
Totals:								0	0	779.00K	0.00K

28 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
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	03/27/2007	06:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/26/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K

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CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/20/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

11 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
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/24/2003	00:00	CST	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/25/2004	18:30	CST	Winter Storm		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/28/2005	20:45	CST	Ice Storm		0	0	20.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/07/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/12/2010	13:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/15/2010	11:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/25/2010	07:30	CST-6	Heavy Snow		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/26/2010	03:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/09/2011	16:40	CST-6	Winter Storm		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/17/2013	14:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	20.00K	0.00K

11 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
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/16/2004	09:00	CST	High Wind	50 kts. EG	0	0	350.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/02/2005	08:00	CST	Strong Wind	35 kts. MG	0	0	1.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/12/2005	03:00	CST	Strong Wind	40 kts. EG	0	0	1.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	16.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/29/2005	23:30	CST	Tropical Storm		0	0	40.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/20/2007	17:45	CST-6	Strong Wind	30 kts. EG	0	0	10.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/23/2008	12:00	CST-6	Tropical Depression		0	0	5.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/10/2009	13:45	CST-6	Strong Wind	39 kts. EG	0	0	3.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/13/2009	03:00	CST-6	Strong Wind	44 kts. MG	0	0	61.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/09/2009	14:00	CST-6	Tropical Depression		0	0	2.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/09/2009	01:00	CST-6	Strong Wind	45 kts. EG	0	0	25.00K	0.00K
Totals:								0	0	514.00K	0.00K

LOCAL INPUT ON TROPICAL STORMS/STRONG WIND DAMAGES

Location	Date	Type	Dth	Inj	PrD	CrD	Total Cost	Associated Hurricane
Calhoun Zone	9/16/2004	High Wind	0	0	\$350,000	0	\$350,000	Ivan
Calhoun Zone	4/12/2005	Strong Wind	0	0	\$1,000	0	\$1,000	None
Calhoun Zone	7/10/2005	Tropical Storm	0	0	\$16,000	0	\$16,000	Dennis
Calhoun Zone	8/29/2005	Tropical Storm	0	0	\$40,000	0	\$40,000	Katrina
Calhoun Zone	12/20/2007	Strong Wind	0	0	\$10,000	0	\$10,000	None
Calhoun Zone	8/23/2008	Tropical Depression	0	0	\$5,000	0	\$5,000	Fay
Calhoun Zone	4/10/2009	Strong Wind	0	0	\$3,000	0	\$3,000	None
Calhoun Zone	4/13/2009	Strong Wind	0	0	\$61,000	0	\$61,000	None
Calhoun Zone	11/9/2009	Tropical Depression	0	0	\$2,000	0	\$2,000	Ida
Calhoun Zone	12/09/2009	Strong Wind	0	0	\$25,000	0	\$25,000	None
Totals			0	0	\$503,000	0	\$503,000	

1 Sinkhole Events – 01/01/2003 thru 12/31/2013 (4018 days)*(Source: The Anniston Star, October 13, 2015)*

Location	St.	Date	Time	Type	Depth	Mag	Dth	Inj	PrD	CrD
Calhoun County	AL	August 2013		Sinkhole			0	0	9.4M	0.00K
TOTAL									9.4 M	0.00K

No/unknown sinkhole events occurred or were reported to NOAA NCDC Storm Events Database/U.S. Geological Survey during 01/01/2003 thru 12/31/2013.

0 Landslide Events – 01/01/2003 thru 12/31/2013 (4018 days)*(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)*

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

2 Earthquake Events – 01/01/2003 thru 12/31/2013 (4018 days)*(Source: www.homefacts.com/earthquakes/Alabama.html and local input)*

Location	St.	Date	Time	Type	Depth	Mag/Intensity	Dth	Inj	PrD	CrD
Calhoun County	AL	4/29/2003	8:59 a.m.	Earthquake	12.2 miles	4.9/ IV-V	0	0	0.00K	0.00K

Calhoun County	3.29 miles from Hobson City	AL	10/15/2012		Earthquake		2.3	0	0	0.00K	0.00K
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No/unknown earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013 by the NOAA NCDC Storm Events Database/U.S. Geological Survey/Alabama Geological Survey.

137 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
Calhoun	137	46	3,517.25	1,196	26

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

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

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

Table 6.11-2 – Hazard Probability Assessment, City of Piedmont

Sources: 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, 2014

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 summary. Zero or unknown denotes no data available to determine the probability, extent, or affected area.

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	12	>100%	>10%	City Wide
Lightning	Unknown	Unknown	<5%	City Wide
Hail	13	>100%	<5%	City Wide
Tornado	1	10%	>10%	City Wide
Flood/Flash Flood	6	60%	5-10%	City Wide
Drought/Extreme Heat	28	>100%	>10%	City Wide
Winter Storm/Frost Freeze/Heavy Snow/ Ice Storm/Winter Weather/ Extreme Cold	11	>100%	>10%	City Wide

Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	11	>100%	>10%	City Wide
Sinkhole/Expansive Soil	1	10%	<5%	City Wide
Landslide	Unknown	Unknown	<5%	N/A
Earthquake	2	20%	<5%	City Wide
Wildfire (2010-2013 – 3 year study period – 1095 days)	137	>100%	>10%	City Wide
Dam/Levee Failure	Unknown	Unknown	5-10%	City Wide

Table 6.11-3 – Critical Facilities, City of Piedmont

Source: Local Jurisdiction; HAZUS-MH 2.1 (Values depicted for software modeling)

Facility	Location	Use	Value
Governmental/Fire/Law Enforcement/Emergency Medical Services			
Piedmont City Hall	711 Highland Ave.	Government	\$1,260,000
Piedmont Fire Department	312 N Center AVE	Fire	\$1,260,000
White Plains VFD	12900 AL Hwy 9	Fire	\$1,260,000
Piedmont Police Department	116 W Ladiga St	Police	\$1,260,000
Piedmont Rescue Squad	121 W. Ladiga St.	EMS	
Piedmont Healthcare	30 Roundtree Rd.	Healthcare	
Education			
Piedmont Elementary School	504 Hood St West	Education	\$6,316,030
Piedmont Middle School	401 N Main St	Education	\$1,123,000
Piedmont High School	750 AL Highway 200	Education	\$3,851,490
The Learning Tree, Inc.	6344 Roy Webb Rd.	Education	\$602,610
Communication			
WPID 1280		AM Radio	\$90,000
WJCK CH 202			\$90,000
Waste Water Treatment Plants			
Piedmont WWTP	Stienburg Rd.	Waste Water Treatment	\$599,400
TOTAL			\$17,712,530

Table 6.11-4 – Estimated Loss Projections from Specified Hazards, City of Piedmont

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, 2014

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 causing damage during the ten-year period with the exception of wildfire. 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.

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	1.2	0	0	Unknown	\$22,556	\$24,586
Lightning	Unknown	0	0	Unknown	Unknown	Unknown
Hail	1.3	0	0	Unknown	\$89,250	\$97,283
Tornado	0.1	0	0	Unknown	\$115,000	\$125,350
Flood/Flash Flood	0.6	0	0	Unknown	\$129,833	\$141,518
Drought/Extreme Heat	2.8	0	0	Unknown	Unknown	Unknown
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	1.1	0	0	Unknown	\$20,000	\$21,800
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	1.1	0	0	Unknown	\$51,400	\$56,026
Sinkhole/Expansive Soils	0.1	0	0	Unknown	\$9,400,000	\$10,246,000
Landslide	Unknown	0	0	Unknown	Unknown	Unknown
Earthquake	0.2	0	0	Unknown	Unknown	Unknown
Wildfire (3 year study period)	46	0	0	Unknown	\$49,400	\$53,846
Dam/Levee Failure	Unknown	0	0	Unknown	Unknown	Unknown

6.11.2 **City of Piedmont Mitigation Action Plan:** The City recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

6.11.3 **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 6.11-5** shows the updated mitigation actions. During the plan update process new actions were identified and added to the plan. In the 2009 plan revision, priorities were expressed by numbering 1 as the highest priority – the higher the number, the lower the priority. For this plan revision, the committee decided to assign a new prioritization labeling as one project may be equally as important as another project. As a result, projects will be labeled high, medium, and low in priority.

Table 6.11-5 Mitigation Strategy, City of Piedmont

Mitigation Action	
Mitigation Action	Drainage improvements from Southern Avenue through Housing Authority under Highway 278 by- pass to rear of Piedmont Plaza shopping center.
Type	Prevention
Goal	Reduce Piedmont's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Public Works Director
Estimated Time Frame for Completion	2018
Estimated Cost	Unknown at this time

Funding Sources	HMGP, City Funds, CDBG
Priority	High
Benchmark	The City has reviewed this project and still has interest in it. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action	Drainage improvement for primary ditch from front Street to Alabama Street parallel to Fifth Avenue.
Type	Prevention
Goal	Reduce Piedmont's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Public Works Director
Estimated Time Frame for Completion	2018
Estimated Cost	Unknown at this time
Funding Sources	Reduce Piedmont's risk from natural hazards
Priority	High
Benchmark	The City has reviewed this project and still has interest in it. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action	Drainage improvements along Church Street from Alabama Street to Bethune Drive.
Type	Prevention
Goal	Reduce Piedmont's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Public Works Director
Estimated Time Frame for Completion	2018
Estimated Cost	Unknown at this time
Funding Sources	HMGP, City Funds, CDBG
Priority	High
Benchmark	The City has reviewed this project and still has interest in it. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action	Drainage improvements along Cherry Street from Woodland Avenue to Spence Street.
Type	Prevention
Goal	Reduce Piedmont's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Public Works Director
Estimated Time Frame for Completion	2019
Estimated Cost	Unknown at this time
Funding Sources	HMGP, City Funds, CDBG, DOT
Priority	High
Benchmark	The City has reviewed this project and still has interest in it. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action	Drainage improvements along Dailey Street from Montview Street to, and through Meadowbrook Estates.
Type	Prevention

Goal	Reduce Piedmont's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Public Works Director
Estimated Time Frame for Completion	2019
Estimated Cost	Unknown at this time
Funding Sources	HMGP, City Funds, CDBG, DOT
Priority	High
Benchmark	The City has reviewed this project and still has interest in it. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action	Drainage improvements for primary ditch from Fifth Avenue to Anniston Avenue and along Piedmont Avenue.
Type	Prevention
Goal	Reduce Piedmont's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Public Works Director
Estimated Time Frame for Completion	2019
Estimated Cost	Unknown at this time
Funding Sources	HMGP, City Funds, CDBG, DOT
Priority	High
Benchmark	The City has reviewed this project and still has interest in it. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action - NEW	Back-Up Generator for Public Works Department. 500 Brock St Piedmont, AL.
Type	Emergency Services Protection
Goal	Reduce Piedmont's vulnerability to natural hazards
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Public Works Director
Estimated Time Frame for Completion	2020
Estimated Cost	\$35,000
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Back-Up Generators for sewer lift stations. Locations Piedmont Healthcare, 5 th Ave., Cook St, and Little subdivision.
Type	Emergency Services Protection
Goal	Reduce Piedmont's vulnerability to natural hazards
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Piedmont Water Works Director
Estimated Time Frame for Completion	2020
Estimated Cost	\$35,000
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION

Mitigation Action - NEW	Back-Up Generator for water lift station.
Type	Emergency Services Protection
Goal	Reduce Piedmont's vulnerability to natural hazards
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Piedmont Water Works Director
Estimated Time Frame for Completion	2020
Estimated Cost	\$35,000
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Back-Up Generator for Piedmont City Hall.
Type	Emergency Services Protection
Goal	Reduce Piedmont's vulnerability to natural hazards
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	City Clerk
Estimated Time Frame for Completion	5 years
Estimated Cost	\$35,000
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Back-Up Generator for Piedmont Civic Center
Type	Emergency Services Protection
Goal	Reduce Piedmont's vulnerability to natural hazards
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	PARC Director
Estimated Time Frame for Completion	2020
Estimated Cost	\$35,000
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Community Safe Room at Piedmont Civic Center
Type	Structural Project
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Thunderstorms, Hail, Tornados, High Wind, Strong Wind
Applies to new/existing asset(s)	New
Local Planning Mechanism	PARC Director
Estimated Time Frame for Completion	2020
Estimated Cost	\$125,000
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Community Safe Room at Piedmont Sports Complex
Type	Structural Project
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Thunderstorms, Hail, Tornados, High Wind, Strong Wind

Applies to new/existing asset(s)	New
Local Planning Mechanism	PARD Director
Estimated Time Frame for Completion	2020
Estimated Cost	\$125,000
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Purchase/install four mini-split heat pumps for unit – 1 patient care areas.
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Director of Plant Operations
Estimated Time Frame for Completion	2020
Estimated Cost	\$14,000 (\$3,500 each)
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Purchase/install a 22KW single phase natural gas generator for unit – 1 to provide power to emergency heating and cooling units in patient areas
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Director of Plant Operations
Estimated Time Frame for Completion	2020
Estimated Cost	\$6,500
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action – NEW	Purchase/install four mini-split heat pumps for unit – 2 patient care area's
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Director of Plant Operations
Estimated Time Frame for Completion	2020
Estimated Cost	\$14,000 (\$3,500 each)
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Purchase / install a 22KW single phase natural gas generator for unit – 2 to provide power to emergency heating and

	cooling units in patient area's
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Director of Plant Operations
Estimated Time Frame for Completion	2020
Estimated Cost	\$6,500
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Purchase/install 480V 3 phase Y natural gas generator to power the waste water lift station
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Director of Plant Operations
Estimated Time Frame for Completion	2020
Estimated Cost	\$15,500
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Purchase/install a 22KW single phase natural gas generator for plant operations building
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Director of Plant Operations
Estimated Time Frame for Completion	2020
Estimated Cost	\$5,000
Funding Sources	HMGP
Priority	Medium
Benchmark	NEW ACTION
Mitigation Action - NEW	Emergency Power Supply (Generator) for EMS station.
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	EMS Board of Directors, Available Assets
Estimated Time Frame for Completion	2019
Estimated Cost	\$19,639
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION

Mitigation Action - NEW	Construction of safe room/storm shelter for EMS personnel. 10'x20'x8' with a max capacity of 65 persons and a certified capacity of 40 persons.
Type	Structural Project
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Thunderstorms, Hail, Tornados, High Wind, Strong Wind
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	EMS Board of Directors, Available Assets
Estimated Time Frame for Completion	2019
Estimated Cost	\$46,000
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Reserve Fuel Storage for Emergency Response Vehicles. 2450 gallon diesel storage tank. (Western Global, Transcube Model 100TCG)
Type	Structural Project
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	EMS Board of Directors, State Dept. of Agriculture
Estimated Time Frame for Completion	2020
Estimated Cost	\$17,554.32
Funding Sources	HMPG
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	High Capacity Morgue for victim placement/storage in event of mass casualty incident with high volume fatalities
Type	Structural Project
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Tornados, Manmade Disasters
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	EMS Board of Directors, Available Assets
Estimated Time Frame for Completion	2020
Estimated Cost	\$26,459.77
Funding Sources	HMPG
Priority	Medium
Benchmark	NEW ACTION

6.12 City of Weaver Jurisdictional Assessment & Mitigation Strategy

- 6.12.1 An overview of risk and vulnerability for this jurisdiction is presented in **Table 6.12-1**. Historical events utilized in developing the mitigation strategy are presented in **Table 6.12-2**. Critical facilities are presented in **Table 6.12-3**. Estimated losses are presented in **Table 6.12-4**.

Table 6.12-1 – Risk and Vulnerability Overview, City of Weaver

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

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. These prioritized threats may or may not be the same as the mitigation actions prioritization.

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

6 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	CALHOUN CO.	AL	05/01/2003	18:25	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/05/2003	18:41	CST	Thunderstorm Wind	55 kts. EG	0	0	20.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	07/21/2003	16:45	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	06/22/2004	17:50	CST	Thunderstorm Wind	60 kts. EG	0	0	18.00K	0.00K

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COUNTYWIDE	CALHOUN CO.	AL	07/14/2004	16:22	CST	Thunderstorm Wind	52 kts. EG	0	0	34.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	04/30/2005	03:43	CST	Thunderstorm Wind	52 kts. EG	0	0	7.00K	0.00K
Totals:								0	0	99.00K	0.00K

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

(Source: NOAA NCDC Storm Events Database)

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

4 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
COUNTYWIDE	CALHOUN CO.	AL	05/02/2003	17:07	CST	Hail	1.75 in.	0	0	250.00K	0.00K
WEAVER	CALHOUN CO.	AL	04/04/2008	15:50	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
WEAVER	CALHOUN CO.	AL	05/26/2011	14:08	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
WEAVER	CALHOUN CO.	AL	06/26/2011	15:10	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
Totals:								0	0	250.00K	0.00K

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

(Source: NOAA NCDC Storm Events Database)

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

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	CALHOUN CO.	AL	05/05/2003	22:30	CST	Flash Flood		0	0	45.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/07/2003	16:00	CST	Flash Flood		0	0	700.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	05/18/2003	10:17	CST	Flash Flood		0	0	10.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	09/16/2004	10:45	CST	Flash Flood		0	0	3.00K	0.00K
COUNTYWIDE	CALHOUN CO.	AL	11/24/2004	07:13	CST	Flash Flood		0	0	18.00K	0.00K
Totals:								0	0	776.00K	0.00K

28 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
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	03/27/2007	06:00	CST-6	Drought		0	0	0.00K	0.00K

CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/19/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	06/26/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	10/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/20/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

11 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
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/24/2003	00:00	CST	Extreme Cold/wind Chill		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/25/2004	18:30	CST	Winter Storm		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/28/2005	20:45	CST	Ice Storm		0	0	20.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/07/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	02/12/2010	13:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/15/2010	11:00	CST-6	Winter Weather		0	0	0.00K	0.00K

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CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/25/2010	07:30	CST-6	Heavy Snow		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/26/2010	03:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/09/2011	16:40	CST-6	Winter Storm		0	0	0.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	01/17/2013	14:00	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	20.00K	0.00K

11 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
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	09/16/2004	09:00	CST	High Wind	50 kts. EG	0	0	350.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/02/2005	08:00	CST	Strong Wind	35 kts. MG	0	0	1.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/12/2005	03:00	CST	Strong Wind	40 kts. EG	0	0	1.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	07/10/2005	18:00	CST	Tropical Storm		0	0	16.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/29/2005	23:30	CST	Tropical Storm		0	0	40.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/20/2007	17:45	CST-6	Strong Wind	30 kts. EG	0	0	10.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	08/23/2008	12:00	CST-6	Tropical Depression		0	0	5.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/10/2009	13:45	CST-6	Strong Wind	39 kts. EG	0	0	3.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	04/13/2009	03:00	CST-6	Strong Wind	44 kts. MG	0	0	61.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	11/09/2009	14:00	CST-6	Tropical Depression		0	0	2.00K	0.00K
CALHOUN (ZONE)	CALHOUN (ZONE)	AL	12/09/2009	01:00	CST-6	Strong Wind	45 kts. EG	0	0	25.00K	0.00K
Totals:								0	0	514.00K	0.00K

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

(Source: The Anniston Star, October 13, 2015)

Location	St.	Date	Time	Type	Depth	Mag	Dth	Inj	PrD	CrD
Calhoun County	AL	August 2013		Sinkhole			0	0	9.4M	0.00K
TOTAL									9.4 M	0.00K

No/unknown sinkhole events occurred or were reported to NOAA NCDC Storm Events Database/U.S. Geological Survey during 01/01/2003 thru 12/31/2013.

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

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

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

2 Earthquake Events – 01/01/2003 thru 12/31/2013 (4018 days)(Source: www.homefacts.com/earthquakes/Alabama.html and local input)

Source: www.ncemolacks.com/earthquakes/Alabama.htm, and local input

Location		St.	Date	Time	Type	Depth	Mag/ Intensity	Dth	Inj	PrD	CrD
Calhoun County	53.1 miles from county's center	AL	4/29/2003	8:59 a.m.	Earthquake	12.2 miles	4.9/ IV-V	0	0	0.00K	0.00K
Calhoun County	3.29 miles from Hobson City	AL	10/15/2012		Earthquake		2.3	0	0	0.00K	0.00K

No/unknown earthquake events occurred or were reported during 01/01/2003 thru 12/31/2013 by the NOAA NCDC Storm Events Database/U.S. Geological Survey/Alabama Geological Survey.

137 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
Calhoun	137	46	3,517.25	1,196	26

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

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

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

Table 6.12-2 – Hazard Probability Assessment, City of Weaver

Sources: 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, 2014

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 summary. Zero denotes no data available to determine the probability, extent, or affected area.

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	6	60%	>10%	City Wide
Lightning	Unknown	Unknown	<5%	City Wide
Hail	4	40%	<5%	City Wide
Tornado	Unknown	Unknown	>10%	City Wide
Flood/Flash Flood	5	50%	5-10%	City Wide
Drought/Extreme Heat	28	>100%	>10%	City Wide

Winter Storm/Frost Freeze/Heavy Snow/ Ice Storm/Winter Weather/Extreme Cold	11	>100%	>10%	City Wide
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	11	>100%	>10%	City Wide
Sinkhole/Expansive Soil	1	10%	<5%	City Wide
Landslide	Unknown	Unknown	<5%	City Wide
Earthquake	2	20%	<5%	City Wide
Wildfire (2010-2013 – 3 year study period – 1095 days)	137	>100%	>10%	City Wide
Dam/Levee Failure	Unknown	Unknown	5-10%	City Wide

Table 6.12-3 – Critical Facilities, City of Weaver

Source: Local Jurisdiction; HAZUS-MH 2.1 (Values depicted for software modeling)

Facility	Location	Use	Value
Governmental Services			
Weaver City Hall	500 Anniston St	Government	\$1,260,000
Law Enforcement			
Weaver Police Department	500 Anniston St	Police	\$1,260,000
Education			
Weaver Elementary School	444 School Dr	School	\$1,123,000
Weaver High School	917 Clairmont Dr	School	\$1,123,000
Fire			
Weaver Volunteer Fire Department	105 Church St	Fire	\$1,260,000
<i>(Source: Local Jurisdiction, 2014)</i>			TOTAL
			\$6,026,000

Table 6.12-4 – Estimated Loss Projections from Specified Hazards, City of Weaver

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, 2014

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 causing damage during the ten-year period with the exception of wildfire. 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 or unknown denotes no data available to determine the average occurrences, average loss or projected loss per event.

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	0.6	0	0	Unknown	\$16,500	\$17,985
Lightning	Unknown	0	0	Unknown	Unknown	Unknown
Hail	0.4	0	0	Unknown	\$250,000	\$272,500
Tornado	Unknown	0	0	Unknown	Unknown	Unknown
Flood/Flash Flood	0.5	0	0	Unknown	\$155,200	\$169,168
Drought/Extreme Heat	2.8	0	0	Unknown	Unknown	Unknown
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/ Winter Weather/Extreme Cold	1.1	0	0	Unknown	\$20,000	\$21,800
Hurricane/Tropical Storm/ Tropical Depression/High Wind/Strong Wind	1.1	0	0	Unknown	\$46,727	\$50,933
Sinkhole/Expansive Soils	0.1	0	0	Unknown	\$9,400,000	\$10,246,000
Landslide	Unknown	0	0	Unknown	Unknown	Unknown
Earthquake	0.2	0	0	Unknown	Unknown	Unknown
Wildfire (3 year study period)	46	0	0	Unknown	\$49,400	\$53,846
Dam/Levee Failure	Unknown	0	0	Unknown	Unknown	Unknown

6.12.2 City of Weaver Mitigation Action Plan: The City recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

6.12.3 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 6.12-5** shows the updated mitigation actions. During the plan update process new actions were identified and added to the plan. In the 2009 plan revision, priorities were placed on actions according to hazard frequency and project costs. For this plan revision, the committee decided to assign a new prioritization labeling as one project may be equally as important as another project. As a result, projects will be labeled high, medium, and low in priority. All actions will be addressed as soon as possible depending on available funding and resources; however, actions labeled high in priority will be addressed first, medium in priority will be addressed secondly, and low in priority will be addressed last.

Table 6.12-5 Mitigation Strategy, City of Weaver

Mitigation Action - DELETE	
Mitigation Action - DELETE	Drainage improvements for primary ditch from Fifth Avenue to Anniston Avenue and along Piedmont Ave.
Type	Property Protection
Goal	Reduce Weaver's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Flooding
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Public Works
Estimated Time Frame for Completion	5 years
Estimated Cost	\$150,000
Funding Sources	HMGP, City Funds, CDBG, DOT
Priority	Low
Benchmark	DELETED - The City has decided not to implement this project.

Mitigation Action	Compose and maintain contingency plan for the city.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	New/Existing
Local Planning Mechanism	Mayor
Estimated Time Frame for Completion	2018
Estimated Cost	\$6,500/\$1,000 biannually for updates
Funding Sources	CDBG, HMGP, City Funds
Priority	Medium
Benchmark	The project is underway.
Mitigation Action	Install permanent back-up generators in City Hall for Emergency Operations
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	New
Local Planning Mechanism	Public Works
Estimated Time Frame for Completion	2017
Estimated Cost	\$25,000
Funding Sources	CDBG, HMGP, City Funds
Priority	High
Benchmark	This project is underway and scheduled to be completed within 2 years
Mitigation Action	Construction of a Community Safe Room at the new City Hall location.
Type	Structural Project
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Thunderstorms, Hail, Tornados, High Winds, Strong Winds
Applies to new/existing asset(s)	New
Local Planning Mechanism	Mayor
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP
Priority	Low
Benchmark	The City has reviewed this project and still has interest in it. Budgetary restraints have prevented this from being implemented thus far.
Mitigation Action	Purchase of Emergency Back-Up Generator for the Fire Department
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Public Works
Estimated Time Frame for Completion	2020

Estimated Cost	\$25,000
Funding Sources	HMGP
Priority	Medium
Benchmark	The City has reviewed this project and still has interest in it. Budgetary restraints have prevented this from being implemented thus far.

6.13 Volunteer Fire Departments

Calhoun County VFDs:	Alexandria VFD	Angel Station VFD
Big Oak VFD	Eastaboga VFD	Knightens Crossroads VFD
Ohatchee VFD	Quad Cities VFD	Weaver VFD
Webster's Chapel VFD	White Plains VFD	Mt. Olive VFD

6.13.1 **Volunteer Fire Departments' Action Plan:** Volunteer Fire Departments in Calhoun County are independent non-profit entities performing services governmental in nature (tax-funded fire protection). All VFDs adopting this plan serve as their own applicant. The representative for the City of Weaver also serves as the representative for the Weaver VFD.

6.13.2 **Mitigation Strategy:** The analysis for the fire districts can be found under the jurisdiction in which the facility is located. **Table 6.13-1** shows mitigation actions.

- This project will exclude stations which currently have a back-up generator. The following fire stations have back-generators: Alexandria VFD

Table 6.13-1 Mitigation Strategy, Volunteer Fire Departments

Mitigation Action - NEW	Purchase and install back-up generator for fire stations
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All hazards
Applies to new/existing asset(s)	Existing and new
Local Planning Mechanism	Fire Chief
Estimated Time Frame for Completion	2020
Estimated Cost	\$35,000
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION

6.13.3 This project excludes fire districts which already have a safe room. The following fire districts have safe rooms:

- Big Oak
- Ohatchee
- White Plains
- Webster's Chapel

Mitigation Action - NEW	Construct/install a community safe room in each fire district.
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Thunderstorms, Hail, Tornados, High Winds, Strong Winds
Applies to new/existing asset(s)	Existing and New
Local Planning Mechanism	Fire Chief
Estimated Time Frame for Completion	2020
Estimated Cost	\$125,000
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION

6.14 Anniston Regional Medical Center

6.14.1 **Anniston Regional Medical Center Action Plan:** The Anniston Regional Medical Center recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

6.14.2 **Mitigation Status:** The Anniston Regional Medical Center is new to the mitigation planning process. The analysis for the Anniston Regional Medical Center can be found under the jurisdiction in which the facility is located. **Table 6.14-1** shows the mitigation actions.

Table 6.14-1 Mitigation Strategy, Anniston Regional Medical Center

Mitigation Action - NEW	Purchase and install generators for medical buildings
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All hazards
Applies to new/existing asset(s)	Existing and new
Local Planning Mechanism	EP Coordinator
Estimated Time Frame for Completion	2020
Estimated Cost	\$35,000 each
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Construct storm retrofits to medical buildings
Type	Structural Project
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Thunderstorms, Hail, Tornadoes, High Winds, Strong Winds
Applies to new/existing asset(s)	Existing and New
Local Planning Mechanism	EP Coordinator
Estimated Time Frame for Completion	2020
Estimated Cost	TBD, approx. \$400,000 each
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Install security measures
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Manmade Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	EP Coordinator
Estimated Time Frame for Completion	2020
Estimated Cost	TBD, approx. \$500,000 each
Funding Sources	HMGP
Priority	Medium
Benchmark	NEW ACTION

6.15 Piedmont Rescue Squad

- 6.15.1 **Piedmont Rescue Squad Action Plan:** Piedmont Rescue Squad recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.
- 6.15.2 **Mitigation Status:** Piedmont Rescue Squad is new to the mitigation planning process. The analysis for the Piedmont Rescue Squad can be found under the jurisdiction in which the facility is located. **Table 6.15-1** shows the mitigation actions.

Table 6.15-1 Mitigation Strategy, Piedmont Rescue Squad

Mitigation Action - NEW	Construction of safe room/storm shelter for EMS personnel. 10'x20'x8' with a max capacity of 65 persons and a certified capacity of 40 persons.
Type	Structural Project
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Thunderstorms, Hail, Tornados, High Wind, Strong Wind
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	EMS Board of Directors, Available Assets
Estimated Time Frame for Completion	2019
Estimated Cost	\$46,000
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Reserve Fuel Storage for Emergency Response Vehicles. 2450 gallon diesel storage tank. (Western Global, Transcube Model 100TCG)
Type	Structural Project
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	EMS Board of Directors, State Dept. of Agriculture
Estimated Time Frame for Completion	2020
Estimated Cost	\$17,554.32
Funding Sources	HMPG
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	High Capacity Morgue for victim placement/storage in event of mass casualty incident with high volume fatalities
Type	Structural Project
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Tornados, Manmade Disasters
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	EMS Board of Directors, Available Assets
Estimated Time Frame for Completion	2020
Estimated Cost	\$26,459.77
Funding Sources	HMPG
Priority	Medium

Benchmark	NEW ACTION
Mitigation Action - NEW	Emergency Power Supply (Generator) for EMS station.
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	EMS Board of Directors, Available Assets
Estimated Time Frame for Completion	2019
Estimated Cost	\$19,639
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION

6.16 Piedmont Healthcare

- 6.16.1 **Piedmont Healthcare Action Plan:** Piedmont Healthcare recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.
- 6.16.2 **Mitigation Status:** Piedmont Healthcare is new to the mitigation planning process. The analysis for the Piedmont Healthcare can be found under the jurisdiction in which the facility is located. **Table 6.16-1** shows the mitigation actions.

Table 6.16-1 Mitigation Strategy, Piedmont Healthcare

Mitigation Action – NEW	Purchase/install four mini-split heat pumps for Units 1 and 2 patient care areas
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Director of Plant Operations
Estimated Time Frame for Completion	2020
Estimated Cost	\$14,000 (\$3,500 each)
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Purchase/install a 22KW single phase natural gas generator for Units 1 and 2 to provide power to emergency heating and cooling units in patient areas
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Director of Plant Operations
Estimated Time Frame for Completion	2020
Estimated Cost	\$6,500
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Purchase/install 480V 3 phase Y natural gas generator to power the waste water lift station
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Director of Plant Operations
Estimated Time Frame for Completion	2020
Estimated Cost	\$15,500
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION

Mitigation Action - NEW	Purchase/install a 22KW single phase natural gas generator for plant operations building
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All-Hazards
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Director of Plant Operations
Estimated Time Frame for Completion	2020
Estimated Cost	\$5,000
Funding Sources	HMGP
Priority	Medium
Benchmark	NEW ACTION

6.17 Calhoun County BOE

- 6.17.1 **Calhoun County BOE Action Plan:** The Calhoun County Board of Education (BOE) recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated. The Calhoun County BOE participated through emails and telephone conversations.
- 6.17.2 **Mitigation Status:** The Calhoun County BOE is new to the mitigation planning process. The analysis for the Calhoun County BOE can be found under the jurisdiction in which the facility is located. The Calhoun County BOE (Calhoun County Schools) is an independent governmental entity operating many schools and other educational facilities in Calhoun County. **Table 6.17-1** shows the mitigation actions.

Table 6.17-1 Mitigation Strategy, Calhoun County BOE

Mitigation Action - NEW	Retrofit or construct security doors for all entrances at every school to prohibit non-authorized persons from entering the school, to ensure staff and student safety.
Type	Structural
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Terrorists/Mass Shootings
Applies to new/existing asset(s)	New/Existing
Local Planning Mechanism	Superintendent/Principal
Estimated Time Frame for Completion	2019
Estimated Cost	\$50,000 per school
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Construct/install safe rooms to include generators at educational buildings.
Type	Structural
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Thunderstorms, Tornados, High Winds, Strong Winds
Applies to new/existing asset(s)	New/Existing
Local Planning Mechanism	Superintendent/Principal
Estimated Time Frame for Completion	2020
Estimated Cost	\$125,000 to \$1,500,000 per safe room
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Purchase and install emergency back-up generators for educational buildings.
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	New/Existing
Local Planning Mechanism	Superintendent/Principal
Estimated Time Frame for Completion	2020
Estimated Cost	\$35,000 per generator

Funding Sources	HMGP
Priority	Low
Benchmark	NEW ACTION
Mitigation Action - NEW	Purchase and install a contemporary 800MHz radio system for all schools, school buses and administrators for communications during an emergency.
Type	Structural
Goal	Emergency Services Protection
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	New
Local Planning Mechanism	Superintendent
Estimated Time Frame for Completion	2017
Estimated Cost	\$300,000
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION

6.18 Anniston Waste Water and Sewer Board

- 6.18.1 **Anniston Waste Water and Sewer Board Action Plan:** The Anniston Waste Water and Sewer Board (AWWSB) recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated.
- 6.18.2 **Mitigation Status:** The AWWSB is new to the mitigation planning process. The analysis for the AWWSB can be found under the jurisdiction in which the facility is located. AWWSB is an independent entity. **Table 6.18-1** shows the mitigation actions.

Table 6.18-1 Mitigation Strategy, Anniston Waste Water and Sewer Board

Mitigation Action - NEW	Purchase and install a back-up generator at the Krebs Water Treatment Plant
Type	Structural
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	New/Existing
Local Planning Mechanism	AWWSB Director
Estimated Time Frame for Completion	2020
Estimated Cost	\$85,000 per school
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION
Mitigation Action - NEW	Purchase portable back-up generators for lift stations
Type	Emergency Services Protection
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	All Hazards
Applies to new/existing asset(s)	New/Existing
Local Planning Mechanism	AWWSB Director
Estimated Time Frame for Completion	2020
Estimated Cost	\$35,000
Funding Sources	HMGP
Priority	High
Benchmark	NEW ACTION

7. MITIGATION PLAN MAINTENANCE

7.1 Plan Maintenance Procedures

- 7.1.1 The Plan Maintenance Procedures were reviewed by the Hazard Mitigation Planning Committee and through discussion and reflection of past disaster declarations, it was determined that changes should be made regarding the verbiage of incorporation of action items into the planning document between plan updates. Specifically, this change involves replacing the meeting requirement for immediate need project inclusion with a consultation requirement.
- 7.1.2 Jurisdictional representatives that serve on the Hazard Mitigation Planning Committee will be responsible for monitoring the status of their own mitigation measures. The jurisdictions will report on an annual basis to the EMA mitigation planner with an update of the status of the implementation items, specifically which items have been completed, are in progress or are no longer considered a viable action. Regular plan maintenance and monitoring will be the responsibility of each individual municipality.
- 7.1.3 The following are the positions with this responsibility:
- Calhoun County – EMA Planner and County Engineer
 - Anniston – Public Works Director
 - Jacksonville – City Planner
 - Hobson City – Mayor
 - Ohatchee – Public Works Director
 - Oxford – City Planner/Engineer
 - Piedmont – City Clerk
 - Weaver – Public Works Director
 - Volunteer Fire Departments – Fire Chief
 - Anniston Regional Medical Center – EP Coordinator
 - Calhoun County Board of Education – Safety Director
 - Piedmont Healthcare – Director
 - Piedmont Rescue Squad - Chief
 - Anniston Waste Water Sewer Board – General Manager
- 7.1.4 The plan will undergo a comprehensive review every five years by the Calhoun County EMA, Hazard Mitigation Committee, jurisdictions involved and the public. This will allow for evaluation of the effectiveness of the plan and allow for any review and revision of the hazard vulnerability, risk factors, and mitigation strategies. It will be the responsibility of the Calhoun County EMA Mitigation Planner to notify Mitigation Planning Committee members, municipalities and the public of the plan review. Following each disaster declaration the plan will be reviewed to add any necessary changes or updates. At the first LEPC meeting during

the year, municipalities will have the ability to add any additional mitigation strategies by proposing the strategies to the committee. It is realized that some amendments or revisions may occur during emergencies or disasters and therefore, timeliness will be essential. It is for this reason that the committee has deemed it not necessary to hold a meeting but rather, have consultation with other committee members for plan updates and revisions. These consultations, especially during times of emergency or disaster declarations, can take place via telephone, e-mail or in writing, or in person.

7.1.5 The entire Committee need not be consulted for this amendment however; at a minimum those consulted will consist of:

- The Chief Elected Official of the Municipality wishing to amend the Plan;
- The Chief Executive Officer of the Jurisdiction wishing to amend the Plan;
- A member of the Calhoun County Commission, or the County Administrator.

7.1.6 In determining whether to recommend approval or denial of a Plan amendment request, the following factors will be considered:

1. Errors or omissions made in the identification of issues or needs during the preparation of the Plan;
2. New issues or needs identified later that were not adequately addressed in the Plan;
3. A change in information, data or assumptions from those on which the Plan was based.

7.2 Incorporation into Existing Planning Mechanisms

7.2.1 The Calhoun County Hazard Mitigation Plan is a stand-alone plan; however, will be placed alongside the current Calhoun County Emergency Operations Plan that is administered by the Calhoun County Emergency Management Agency.

7.2.2 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.

7.2.3 Many jurisdictions have no zoning or existing plans of any type other than this mitigation plan (see **Table 2.16-1**) 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.

7.2.4 The jurisdictions are funded through their local budgets and utilize grants that allow them to expand on and improve existing policies and programs. The EMA distributes educational material and reaches out to the citizens and businesses in the county. **Table 2.16-1** provides a list of plans, policies, and ordinances available to each jurisdiction. These plans, policies, and ordinances, along with an engineer, planners, GIS staff, a building inspector, emergency managers, and grant writers help to expand on and improve the jurisdictions' capabilities.

8. ADOPTION RESOLUTIONS

8.1 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 Calhoun County Commission or Director of the Calhoun County Emergency Management Agency.

The Calhoun 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 Calhoun County, and was developed in a joint and cooperative venture by members of the Calhoun County Hazard Mitigation Planning Committee.

Calhoun 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. Calhoun 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 Calhoun County EMA will review and if necessary, update the plan every five years from the date of approval in accordance with 44 CFR, 301.6 (5) (d) (3) in order to continue program eligibility.

As the Director of the Calhoun 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 Calhoun County, Alabama.

Date

Jonathan W. Gaddy, Director Calhoun
County Emergency Management Agency

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RESOLUTION OF THE
CALHOUN COUNTY COMMISSION

WHEREAS, the Disaster Mitigation Act of 2000 requires jurisdictions (states, counties, towns and special districts) to have a Hazard Mitigation Plan; and

WHEREAS, the Hazard Mitigation Plan is required to be updated every five (5) years to maintain eligibility for certain hazard mitigation funds administered by FEMA; and

WHEREAS, the Calhoun County Commission recognizes the vulnerability of its resources, property, and operations to the impacts of disasters and emergencies; and

WHEREAS, by adopting the Hazard Mitigation Plan, the Calhoun County Commission will help ensure the long-term viability of the jurisdiction and lessen the effects to its residents from recurring damage due to natural hazards, and

WHEREAS, FEMA has reviewed the updated Plan and determined the document meets all planning requirements.

NOW THEREFORE BE IT RESOLVED by the Calhoun County Commission that the 2015 Calhoun County Multi-Jurisdictional Hazard Mitigation Plan be adopted to serve as the Local Hazard Mitigation Plan for Calhoun County, Alabama.

ADOPTED AND APPROVED this the 14th day of January, 2016.

Attest:


County Administrator

(SEAL)

Calhoun County, Alabama


Chairman


Commissioner


Commissioner


Commissioner


Commissioner

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RESOLUTION NUMBER 16-R- 18

A RESOLUTION ADOPTING THE 2015 CALHOUN COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN TO SERVE AS THE LOCAL HAZARD MITIGATION PLAN FOR THE CITY OF ANNISTON

WHEREAS, the Disaster Mitigation Act of 2000 requires jurisdictions (states, counties, towns and special districts) to have a Hazard Mitigation Plan; and

WHEREAS, the Hazard Mitigation Plan is required to be updated every five (5) years to maintain eligibility for certain hazard mitigation funds administered by FEMA; and

WHEREAS, the City of Anniston recognizes the vulnerability of its resources, property, and operations to the impacts of disasters and emergencies; and

WHEREAS, by adopting the Hazard Mitigation Plan, the City of Anniston will help ensure the long-term viability of the jurisdiction and lessen the effects to its residents from recurring damage due to natural hazards, and

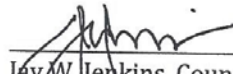
WHEREAS, FEMA has reviewed the updated Plan and determined the document meets all planning requirements.

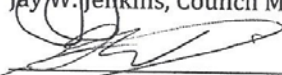
NOW THEREFORE BE IT RESOLVED, by the City Council of the City of Anniston that the 2015 Calhoun County Multi-Jurisdictional Hazard Mitigation Plan be adopted to serve as the Local Hazard Mitigation Plan for the City of Anniston, Alabama.

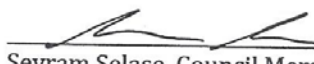
PASSED AND ADOPTED this the 15th day of February, 2016.

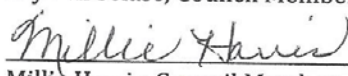
CITY COUNCIL OF THE CITY OF
ANNISTON, ALABAMA


Vaughn M. Stewart II, Mayor

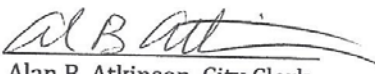

Jay W. Jenkins, Council Member


David E. Reddick, Council Member


Seyram Selase, Council Member


Millie Harris, Council Member

ATTEST:


Alan B. Atkinson, City Clerk

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Resolution Number 2016-001

WHEREAS, the Disaster Mitigation Act of 2000 requires jurisdictions (states, counties, towns and special districts) to have a Hazard Mitigation Plan; and

WHEREAS, the Hazard Mitigation Plan is required to be updated every five (5) years to maintain eligibility for certain hazard mitigation funds administered by FEMA; and

WHEREAS, the Town of Hobson City recognizes the vulnerability of its resources, property, and operations to the impacts of disasters and emergencies; and

WHEREAS, by adopting the Hazard Mitigation Plan, the Town of Hobson City will help ensure the long-term viability of the jurisdiction and lessen the effects to its residents from recurring damage due to natural hazards, and

WHEREAS, FEMA has reviewed the updated Plan and determined the document meets all planning requirements.

NOW THEREFORE BE IT RESOLVED by the Town of Hobson City that the 2015 Calhoun County Multi-Jurisdictional Hazard Mitigation Plan be adopted to serve as the Local Hazard Mitigation Plan for the Town of Hobson City, Alabama.

ADOPTED AND APPROVED this the 11th day of January, 2016.

Attest:

Michelle Malone
Clerk

Town of Hobson City, Alabama

Doreen J. Barner
Councilperson

Jesse Jones
Councilperson

(SEAL)



Councilperson

[Signature]
Councilperson

Councilperson

Alberto McCreary
Mayor

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City of Jacksonville
2015 Calhoun County Hazard Mitigation Plan Update
Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the City of Jacksonville participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the City of Jacksonville 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 Jacksonville 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 Jacksonville adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the City Council.

Mayor, City of Jacksonville

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Town of Ohatchee

2015 Calhoun County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Town of Ohatchee participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the Town of Ohatchee 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 Ohatchee 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 Ohatchee adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the Town Council.

Mayor, Town of Ohatchee

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City of Oxford

2015 Calhoun County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the City of Oxford participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the City of Oxford 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 Oxford 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 Oxford adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the City Council.

Mayor, City of Oxford

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City of Piedmont

2015 Calhoun County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the City of Piedmont participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the City of Piedmont 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 Piedmont 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 Piedmont adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the City Council.

President, Piedmont City Council

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City of Weaver

2015 Calhoun County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the City of Weaver participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the City of Weaver 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 Weaver 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 Weaver adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the Town Council.

Mayor, City of Weaver

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Alexandria VFD

2015 Calhoun County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Alexandria VFD participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the Alexandria 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 Alexandria 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 VFD that the Alexandria VFD adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the VFD.

Chief, Alexandria VFD

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Angel VFD

2015 Calhoun County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Angel VFD participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the Angel 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 Angel 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 VFD that the Angel VFD adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the VFD.

President, Angel VFD

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Big Oak VFD

2015 Calhoun County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Big Oak VFD participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the Big Oak 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 Big Oak 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 Department that the Big Oak VFD adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the VFD.

Chief, Big Oak VFD

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Eastaboga VFD

2015 Calhoun County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Eastaboga VFD participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the Eastaboga 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 Eastaboga 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 Department that the Eastaboga VFD adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the VFD.

Chief, Eastaboga VFD

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Knightens Crossroads VFD
2015 Calhoun County Hazard Mitigation Plan Update
Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Knightens Crossroads VFD participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the Knightens Crossroads 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 Knightens Crossroads 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 Department that the Knightens VFD adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the VFD.

Chief, Knightens Crossroads VFD

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Quad Cities VFD

2015 Calhoun County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Quad Cities VFD participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the Quad Cities 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 Quad Cities 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 Department that the Quad Cities VFD adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the VFD.

Chief, Quad Cities VFD

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Resolution Number R-16-02-01

WHEREAS, the Disaster Mitigation Act of 2000 requires jurisdictions (states, counties, towns and special districts) to have a Hazard Mitigation Plan; and

WHEREAS, the Hazard Mitigation Plan is required to be updated every five (5) years to maintain eligibility for certain hazard mitigation funds administered by FEMA; and

WHEREAS, the Town of Ohatchee recognizes the vulnerability of its resources, property, and operations to the impacts of disasters and emergencies; and

WHEREAS, by adopting the Hazard Mitigation Plan, the Town of Ohatchee will help ensure the long-term viability of the jurisdiction and lessen the effects to its residents from recurring damage due to natural hazards, and

WHEREAS, FEMA has reviewed the updated Plan and determined the document meets all planning requirements.

NOW THEREFORE BE IT RESOLVED by the Town of Ohatchee that the 2015 Calhoun County Multi-Jurisdictional Hazard Mitigation Plan be adopted to serve as the Local Hazard Mitigation Plan for the Town of Ohatchee, Alabama.

ADOPTED AND APPROVED this the 16th day of February, 2018.

Attest:

Stephen L. Frederick
Clerk

(SEAL)

Town of Ohatchee, Alabama

Steve Bland
Mayor

Debbie Jennings
Councilperson

Don R. Howard
Councilperson

Diana Lett
Councilperson

Anthony Brown
Councilperson

Councilperson

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Mt. Olive VFD

2015 Calhoun County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Mt. Olive VFD participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the Mt. Olive 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 Mt. Olive 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 Department that the Mt. Olive VFD adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the VFD.

Chief, Mt. Olive VFD

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Weaver VFD

2015 Calhoun County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Weaver VFD participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the Weaver 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 Weaver 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 Department that the Weaver VFD adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the VFD.

Chief, Weaver VFD

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Webster's Chapel VFD
2015 Calhoun County Hazard Mitigation Plan Update
Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Webster's Chapel VFD participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the Webster's Chapel 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 Webster's Chapel 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 Department that the Webster's Chapel VFD adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the VFD.

Chief, Webster's Chapel VFD

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White Plains VFD

2015 Calhoun County Hazard Mitigation Plan Update

Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the White Plains VFD participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the White Plains 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 White Plains 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 Department that the White Plains VFD adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the VFD.

Chief, White Plains VFD

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Anniston Regional Medical Center
2015 Calhoun County Hazard Mitigation Plan Update
Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Anniston Regional Medical Center participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the Anniston Regional Medical Center is a private non-profit organization and provided input for the plan; and

WHEREAS, the Anniston Regional Medical Center 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 Anniston Regional Medical Center that the Anniston Regional Medical Center adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the Board Meeting of the Anniston Regional Medical Center.

EP Coordinator, Anniston Regional Medical Center

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Calhoun County Board of Education
2015 Calhoun County Hazard Mitigation Plan Update
Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Calhoun County BOE participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the Calhoun County BOE 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 Calhoun County BOE 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 Calhoun County BOE that the Calhoun County BOE adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the Calhoun County BOE.

Safety Director, Calhoun County BOE

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Piedmont Healthcare
2015 Calhoun County Hazard Mitigation Plan Update
Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Piedmont Healthcare participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the Piedmont Healthcare is a private non-profit participant that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the Piedmont Healthcare 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 Piedmont Healthcare that the Piedmont Healthcare adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the Piedmont Healthcare.

Director, Piedmont Healthcare

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Piedmont Rescue Squad
2015 Calhoun County Hazard Mitigation Plan Update
Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Piedmont Rescue Squad participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the Piedmont Rescue Squad 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 Piedmont Rescue Squad 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 Piedmont Rescue Squad that the Piedmont Rescue Squad adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the Piedmont Rescue Squad.

Chief, Piedmont Rescue Squad

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Anniston Waste Water Sewer Board
2015 Calhoun County Hazard Mitigation Plan Update
Resolution of Adoption

WHEREAS, the Calhoun County Hazard Mitigation Plan has been updated in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Anniston Waste Water Sewer Board participated in the updating of a multi-jurisdictional plan, Calhoun County Hazard Mitigation Plan; and

WHEREAS, the Anniston Waste Water Sewer 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 Anniston Waste Water 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 Anniston Waste Water Sewer Board that the Piedmont Rescue Squad adopts the 2015 Calhoun County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _____ day of _____, 2015 at the meeting of the Anniston Waste Water Sewer Board.

General Manager, Anniston Waste Water Sewer Board