Talladega County Hazard Mitigation Plan

2015 Plan Update

LEE HELMS ASSOCIATES

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

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Talladega County Hazard Mitigation Plan

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Introduction

Talladega County Hazard Mitigation Plan

The Talladega 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.

This plan covers the entire county including all unincorporated areas, City of Sylacauga, City of Lincoln, Town of Oak Grove, City of Talladega, City of Childersburg, and Town of Munford.

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.

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

Authority

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

Funding

Funding for this plan update was made available through the Hazard Mitigation Grant Program (HMGP). The grant's Period of Performance is November 18, 2013 through November 18, 2015. Talladega County entered into an agreement with Lee Helms Associates L.L.C. (LHA) to update the 2010 plan that was revised by the East Alabama Regional Planning and Development Commission (EARPDC) and expires on November 18, 2015.

Scope

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

Purpose

"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 Talladega County Hazard Mitigation Plan is an effort to identify mitigation strategies that address the hazards to which Talladega County is the most vulnerable. This plan is only one of many means Talladega County will take to achieve a safer, more hazard-resistant environment for its residents.

Section One: Planning Process

Plan Update Process

The hazard mitigation planning update process began in February 10, 2014 after the Talladega County Emergency Management Agency (TCEMA) was awarded a planning grant from the Alabama Emergency Management Agency (AEMA). The TCEMA 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.

The Talladega 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 Commission Chairman.

Continued Public Participation

The plan will be available for the public to view at the Talladega County Emergency

Operations Center, all City and Town Halls and the Talladega County Courthouse.

After the initial plan was completed in 2010, it was made available for ongoing public view and comment at the Talladega County Emergency Operations Center, all City and Town Halls, and the Talladega County Courthouse. 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 Talladega County EMA. No meeting notes or sign-in sheets were created and saved for these past meetings; however, they will be a future requirement and placed in the next plan revision.

In the future, the County EMA will strive to gain more public participation in the maintenance and updates of the county's hazard mitigation plan by encouraging Parent Teacher Organizations, Senior Citizens Clubs, Chamber of Commerce, Kiwanis Club, etc. by mail, telephone, and personal contacts. In addition, the County EMA will encourage the county and municipalities with websites and/or Facebook pages to place the 2015 plan on their site and offer the public a place to comment on the plan.

Hazard Mitigation Planning Committee

Before beginning the plan update process, LHA staff coordinated with Mr. Travis McGrady, Talladega County EMA Director, to review the hazard mitigation planning committee. All but four existing members were confirmed to continue service. Replacements were made and new members were added to represent local governments participating in the plan for the first time. Mr. McGrady, the Talladega 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. The Hazard Mitigation Planning Committee (HMPC) consisted of the following members:

Talladega County

Travis McGrady, Director, EMA,

Phillip Jones, OHS Specialist/Planner, EMA

LeighAnn Butler, Specialist I, EMA

Lee Helms, Lee Helms Associates, L. L. C./Contractor, Owner

Stephen Blair, District Manager, ALDOT

Gloria Neilsen, District Ranger, USDA Forrest Service

Brenda M. Brooks, Supervisor, DHR

Shawn McComb, Operation Engineer, Talladega Road Dept.

Tim Markert, Engineer, Talladega Road Dept.

Joe Brock, Security Director, Honda

Gary Arrington, Representative, Central Alabama Community College

Gary Stanley, Disaster Management Team, Mid-Alabama Red Cross

Sharon Wagner, DAT Coordinator, Red Cross

Tony Hayes, Lt., Sherriff's Department

George Webb, AARES

Chuck Freeman, EHS Director, Legacy Cabinets Inc.

Tommy Hardyol, Board Member, 911

William McGarity, AARES

Tom Strickland, Operator, Talladega Water Dept.

City of Sylacauga

Mark Ledbetter, Emergency Management Board Coordinator

Eddie Bentley, Director of Code Enforcement3

Joe Hassell, Representative, Sylacauga Fire Department

Doug Murphee, Mayor

Matt Missildine, Chief, Sylacauga Fire Department

City of Lincoln

Tonja Ramey

Joshua Vincent

Calude "Bud" Kitchin, Mayor

Town of Oak Grove

Tony White

City of Talladega

Danny B. Warwick, Fire Chief, City of Talladega Fire Dept.

Jerry Cooper, Mayor

City of Childersburg

Doug Wesson, Chief, Childersburg Police Department

Jimmy Payne, Mayor

Town of Munford

David Dabbs, Mayor

Participation Guidelines

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

1. 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.
2. Each local government should submit requested information to Talladega 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.
3. Committee members should fully cooperate with LHA and the Talladega County EMA during the update and finalization of the Talladega County Hazard Mitigation Plan by providing the best available information necessary to complete the plan.
4. Each participating jurisdiction must review mitigation strategies from the 2010 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.

Committee and Public Meeting Schedule and Participation

Each jurisdiction, public and private nonprofits, general public, and neighboring communities of Calhoun (Jonathan Gaddy, EMA Director, 256-435-0540), Clay (Theresa Daugherty, EMA Director, 256-396-5886), Shelby (Hub Harvey, EMA Director, 205-669-3999), Coosa (Terri Hale, EMA Director), Cleburne (Steve Swafford, EMA Director, 256-463-3822) and St. Clair (Ellen Tanner, EMA Director, 205-884-6800) in Alabama 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 Talladega 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 Talladega 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. None of these communities attended any of the meetings; however during contacts made, all expressed their willingness to help in the event of a disaster. Public meeting notices were published in the Anniston Star at least seven days prior to the meeting date and included contact information for assistance. 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. A "Citizen Input on Hazard Mitigation Plan" form (sample found in this section) 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. 30 forms were completed during the planning process and are included in this section.

MID-TERM MEETING AGENDA
2015 TALLADEGA COUNTY HAZARD MITIGATION PLAN UPDATE

Wednesday, February 11, 2015 @ 10 a.m.

Talladega County 911 Facility, 26715 AL Highway 21, Talladega, AL 35161

1. Introductions

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

2. Project Schedule Reminder

   - 2010 plan update expires October 17, 2015
   - Period of Performance for the grant is November 18, 2013 – November 18, 2015
   - Goal date for draft plan to be submitted in order to be approved before current plan expires: Thursday, June 4, 2015
     - AEMA/Local Review = 30 days; Local response to a request for information (RFI) = 30 days; AEMA review of local response to RFI = 30 days; FEMA Review = 45 days (allowing 135 days at the least for plan approval)
   - There will be an initial, mid-term, and final meeting. Committee members will be made aware of the meetings via email unless other means is requested. Information may be sent to LHA by fax 205-280-0543 or email renee@leehelmsllc.com. If you have any questions or need assistance, call LHA at 205-280-3027.

3. Project Tasks for this Meeting

   - All general public attendees are to complete the form titled: "Citizen Input on Hazard Mitigation Planning" and leave completed form with LHA representative
   - Local EMA Director is to provide LHA with a copy of the media release for this meeting
   - Submit updates for the 2015 plan to LHA
   - If needed, discuss in-kind contributions for local match to this planning grant

TALLADEGA COUNTY

Tuesday, May 27, 2014 at 10 a.m. – EMA Office, 26715 Hwy. 21, Talladega, AL 35161

INITIAL HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/FAX	E-MAIL
Lee Helms	Agency: LHA Job Title: Owner	Phone: 205-280-3027 Fax: 205-280-0543	lee@leehelmsllc.com
Eddie Bentley	Agency: City of Sylacauga Job Title: Director of Code Enforcement	Phone: (256) 401-2428 Fax: (256) 401-2440	ebentley@sylacaugaal.gov
LeighAnn Butler	Agency: TCEMA Job Title: Planner	Phone: 256-761-2125 Fax:	lbutler@tcema.co.talladega.al.us
Tonya Taylor	Agency: City of Lincoln Job Title: Public Relations Officer	Phone: 256-499-7361 Fax:	tonja.taylor@cityoflincolnalabama.com
Tony A. White	Agency: Oak Grove Job Title: Mayor	Phone: 205-366-7423 Fax:	Mayor@townofoakgrove.org
Matt Mirabella	Agency: Sylacauga Fire Job Title: Fire Chief	Phone: 256 267-2694 Fax:	mmirabella@sylacaugaal.gov

LEE HELMS ASSOCIATES

TALLADEGA COUNTY

Tuesday, May 27, 2014 at 10 a.m. – EMA Office, 26715 Hwy. 21, Talladega, AL 35161

INITIAL HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/FAX	E-MAIL
Tom Strickland	Agency: Talladega County Water Job Title: Operator	Phone: 256-362-6897 Fax:	tcwd@talladegacountyal.org
Deborah Gaither	Agency: TCEMA Job Title: Director	Phone: 256-761-2125 Fax:	dgaither@tcema.co.talladega.al.us
	Agency: Job Title:	Phone: Fax:	
	Agency: Job Title:	Phone: Fax:	
	Agency: Job Title:	Phone: Fax:	
	Agency: Job Title:	Phone: Fax:	

LEE HELMS ASSOCIATES

Tuesday, May, 27, 2014 at 10 a.m.

Talladega EMA Office

Talladega County Hazard Mitigation Planning Meeting 1

The Chairman of the Hazard Mitigation Planning Committee, Deborah Gaither, opened the meeting. Lee Helms Associates, L. L. C. reviewed the original plan with committee members and attendees and explained the update process. Attendees were given worksheets and other materials related to the agenda topics in order to review and provide data for the update. A total of 7 committee members or designees attended the meeting, along with 1 LHA representatives. No members of the general public were in attendance.

- Lee Helms, Lee Helms Associates, L.L.C. (Owner)
- Deborah Gaither, TCEMA (Director)
- Eddie Bentley, City of Sylacauga (Director of Code Enforcement)
- LeighAnn Butler, TCEMA (Planner)
- Tonja Taylor, City of Lincoln (Public Relations Officer)
- Tonya White, Oak Grove (Mayor)
- Matt Missildine, Sylacauga Fire (Chief)
- Tom Strickland, Talladega County Water (Operator)

CITIZEN INPUT ON HAZARD MITIGATION PLANNING

(At total of 30 forms submitted with the below responses)

Where in the County do you live (Which city or township?)	Sylacauga, Talladega, Childersburg, Munford, Eastaboga, Waldo, Winterboro, Alpine,
What is your zip code at home?	35150, 35044, 36268, 36268, 35160, 35014
Do you work with Law Enforcement, Fire Service, Emergency Medical Services, Public Health, or Emergency Management? (Yes or No)	YES-10 NO-16

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

	EVENT	YES	NO
A	Brush or grass fire?	7	21
B	Building fire?	6	21
C	Severe thunderstorm?	27	3
D	Tornado?	16	10
E	Winter Weather?	25	1
F	Terrorism?	5	19
G	Drought?	12	12
H	Hazardous material spill or release from pipelines, trucks, trains, or aircraft?	4	23
1	Hazardous material spill or release from a facility?	3	19
J	Power failure for more than two or three hours?	23	5
K	Earthquake	2	23

Did you have to leave your home because of any of these events?
If so, which ones? List by letter designation: E, D, C

Did you lose time from work or school because of any of these events?
If so, which ones? List by letter designation: E

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

	EVENT	YES	NO
A	Brush or grass fire?	6	18
B	Building fire?	3	19
C	Severe thunderstorm?	26	1
D	Tornado?	25	0
E	Winter Weather?	23	1
F	Terrorism?	4	16
G	Drought?	6	15

H	Hazardous material spill or release from pipelines, trucks, trains, or aircraft?	6	15
I	Hazardous material spill or release from a facility?	6	17
J	Power failure for more than two or three hours?	15	9
K	Earthquake	4	6

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

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

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

Do you own a NOAA weather radio? YES 18 NO 10

If yes, is it on right now? YES 18 NO 13

Are you familiar with the Emergency Alert System YES 26 NO 0

Do you have a device that can sound an alarm to alert you to emergencies? YES 23 NO 3

Can you receive emergency warning information on your pager, cell phone, or wireless messaging devices? YES 17 NO 3 If no, would you like to? Y 4 N 2

Do you have a family emergency plan for events such as a home fire? Y16 N 8

Do you have a safe place for shelter in or around your home? YES 20 NO 8

Are there emergency plans at your place of employment? YES 23 NO 3

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

Name	
Mailing Address	

Contact Number	
E-Mail	

Questions?

Talladega County EMA plans strategic planning session

FROM STAFF REPORTS | Posted: Wednesday, January 21, 2015 8:26 pm

The Talladega County Emergency Management Agency will play host to a public information and strategic planning session Feb. 11 at 10 a.m. at the Talladega County 911 facility at 26715 Alabama Highway 21 in Talladega.

Through a grant funded by the Federal Emergency Management Agency (FEMA), the county has formed an alliance with Lee Helms Associates to identify natural hazards and produce an update to the current Multi-Hazard Mitigation Plan (MHMP).

A planning group, comprised of the county, municipalities, other agencies and utilities has selected a list of potential hazards that could occur within the county and is in the process of developing a list of mitigation measures intended to eliminate or reduce the negative impact of those hazards.

The list of hazards include flooding, severe thunderstorms, tornadoes, hazardous materials releases, winter storms, extreme heat and drought, dam failure and earthquakes.

Examples of mitigation projects include construction of storm shelters or the purchase of properties that lie in flood-prone areas.

Funds for mitigation projects are only available to jurisdictions that have a FEMA-approved MHMP, so completion of the update by FEMA's deadline is critical for those communities currently planning or implementing mitigation projects.

The public is invited to attend this meeting to learn about the MHMP update and to provide the planning group with input regarding the planning process.

For more information, please refer to the Talladega County EMA website at www.talladegaema.org or contact LeighAnn Butler at the Talladega County Emergency Management Agency at 256-761-2125.

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     - AEMA/Local Review = 30 days; Local response to a request for information (RFI) = 30 days; AEMA review of local response to RFI = 30 days; FEMA Review = 45 days (allowing 135 days at the least for plan approval)
   - There will be an initial, mid-term, and final meeting. Committee members will be made aware of the meetings via email unless other means is requested. Information may be sent to LHA by fax 205-280-0543 or email renee@leehelmsllc.com. If you have any questions or need assistance, call LHA at 205-280-3027.

3. Project Tasks for this Meeting
   - All general public attendees are to complete the form titled: "Citizen Input on Hazard Mitigation Planning" and leave completed form with LHA representative
   - Local EMA Director is to provide LHA with a copy of the media release for this meeting
   - Submit updates for the 2015 plan to LHA
   - If needed, discuss in-kind contributions for local match to this planning grant

TALLADEGA COUNTY

Wednesday, February 11, 2015 at 10 a.m. – Talladega County 911 Facility, 26715 AL Hwy. 21, Talladega, AL 35161
MID-TERM HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
Mark Ledbetter	Agency: City of Talladega Job Title: Emergency Management Risk Coordinator	Phone: 256 626 9621 Fax:	chaplain930@gmail.com
Stephen Blair	Agency: ALDOT Job Title: District Manager	Phone: 256-362-1240 Fax:	blairse@dot.state.al.us
Gloria Nielsen	Agency: USDA Forest Service Job Title: District Ranger	Phone: 256-362-2909 x121 Fax: 256-362-0823	gloria.nielsen@fs.fed.us
Willie Glover	Agency: Job Title:	Phone: Fax:	
Barbara Glover	Agency: Job Title:	Phone: 256-362-8947 Fax:	blgglover479@Aol.com
	Agency: Job Title:	Phone: 256-362-8947 Fax: same	

LEE HELMS ASSOCIATES

TALLADEGA COUNTY

Wednesday, February 11, 2015 at 10 a.m. – Talladega County 911 Facility, 26715 AL Hwy. 21, Talladega, AL 35161
MID-TERM HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
Brenda M. Brooks	Agency: DHR Job Title: Supervisor	Phone: 256-761-6732 Fax:	Brenda.Brooks@dhr.alabama.gov
Joe Brock	Agency: Honda Job Title: Security Director	Phone: 256-310-0700 Fax:	joe_brock@hma.honda.com
Gary Arrington	Agency: Central Ala Comm College Job Title:	Phone: 256 307 5368 Fax:	garrington@cccc.edu
Joshua Vincent	Agency: City of Lincoln Job Title: Safety Director	Phone: 205.758.5387. Fax:	Josh.Vincent@lincolnalabama.com
Shawn McComb	Agency: Talladega Co. Road Dept Job Title: Operation Engineer	Phone: 256-761-2130 Fax:	Shawn.McComb@talladega.al
Tonja Ramey	Agency: City of Lincoln Job Title: Public Relations	Phone: 2057634007 Fax:	tonja.ramey@lincolnalabama.com

LEE HELMS ASSOCIATES

TALLADEGA COUNTY

Wednesday, February 11, 2015 at 10 a.m. – Talladega County 911 Facility, 26715 AL Hwy. 21, Talladega, AL 35161
MID-TERM HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
Gary Stanley	Agency: N.E. Alabama Red Cross Chapter Job Title: Disaster Management Team	Phone: 256-236-0391 Fax: 256-237-0391	Gary.Stanley@redcross.org dpm: 9999@gmail.com
Doug Jessup	Agency: CPD Job Title: Chief	Phone: 256-378-7860 Fax: 256-378-7593	dJessup@ Ch.Idesburg.org
Leigh Ann Butler	Agency: TCEMA Job Title: Planner	Phone: 256-761-2135 Fax:	lbutler@talladega countyal.org
Travis McGrady	Agency: TCEMA Job Title: Director	Phone: 256-761-2135 Fax:	tmcgrady@talladega countyal.org
Shawn McComb	Agency: T Job Title:	Phone: Fax:	
Griffin McGarity	Agency: ARCOS Job Title:	Phone: 256-4938475 Fax:	kittec@att.net

LEE HELMS ASSOCIATES

TALLADEGA COUNTY

Wednesday, February 11, 2015 at 10 a.m. – Talladega County 911 Facility, 26715 AL Hwy. 21, Talladega, AL 35161
MID-TERM HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
SHARON WAGNER	Agency: RED CROSS Job Title: DAT COORDINATOR	Phone: 256622-0887 Fax: 256 362-2061	Sharon.Wagner2@redcross.org swagner5277@gmail.com
Tony Haynes	Agency: TCSO Job Title: LT.	Phone: 256-223-2431 Fax: 256-761-2146	haynes.tcso@gmail.com
Tony A. White	Agency: Town of OAK Grove Job Title: Mayor	Phone: 249-4971 Fax:	mayor@townofoakgrove.org
George Webb	Agency: AREAS Job Title: amature radio/ass EC	Phone: 256-579-2173 cell 256-268-9982 H Fax:	radiogeorge@gmail.com
ChuckFreeman	Agency: Legacy Cabinets INC Job Title: EHS Director	Phone: 256-831-4888 Fax: 256-241-1152	cfreeman@legacycabinets.com
Phillip Jones	Agency: Job Title: Vol	Phone: 256-223 6780 Fax:	

LEE HELMS ASSOCIATES

TALLADEGA COUNTY

Wednesday, February 11, 2015 at 10 a.m. – Talladega County 911 Facility, 26715 AL Hwy. 21, Talladega, AL 35161

MID-TERM HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
~~Tommy Hardy~~			
Tommy Hardy	Agency: 911 Board member Job Title:	Phone: 256-362-9576 Fax:	Thardy01@bellsouth.net
Danny B Warwick	Agency: City of Talladega Job Title: Fire Chief	Phone: 256-362-3149 Fax: 256 315 0177	Chiefwarwick@talladega.com
Joe Hassell	Agency: SFD Job Title:	Phone: Fax:	
Lee Helms	Agency: Lee Helms Associates Job Title: Owner/Contractor	Phone: 205-280-3027 Fax: 205-280-0543	lee@leehelmsllc.com
	Agency: Job Title:	Phone: Fax:	
	Agency: Job Title:	Phone: Fax:	

LEE HELMS ASSOCIATES

Wednsday, February 11, 2015 at 10a.m.

Talladega County 911 Faciliity

Talladega County Hazard Mitigation Planning Meeting 2

The Chairman of the Hazard Mitigation Planning Committee, Travis McGrady, opened the meeting. Lee Helms Associates, L. L. C. reviewed the original plan with committee members and attendees and explained the update process. Attendees were reminded of the deadlines and future meeting dates to be scheduled. Forms were provided and they discussed remaining information needed for the draft plan to be completed. A total of 26 committee members or designees attended the meeting, along with 1 LHA representatives. Two members of the general public were in attendance.

- Lee Helms, Lee Helms Associates, L.L.C. (Owner)
- Travis McGrady, TCEMA (Director)
- Mark Ledbetter, City of Sylacauga (Emergency Management Board Coordinator)
- Gloria Nelson, USDA Forrest Service (District Ranger)
- Willie Glover, Citizen
- Barbara Glover, Citizen
- Brenda Brooks, DHR (Supervisor)
- Joe Brock, Honda (Security Director)
- Gary Arrington, Central Alabama Community College (Representative)
- Joshua Vincent, City of Lincoln (Safety Director)
- Shawn McComb, Talladega Co. Road Dept. (Operation Engineer)
- Tonja Ramey, City of Lincoln (Public Relations)
- Gary Stanley, Mid-Alabama Red Cross Calhoun Co. (District Management Team)
- Doug Wesson, Childersburg Police Department (Chief)
- LeighAnn Butler, TCEMA (Planner)
- Tony Haynes, TCSO (Lt.)
- Tony A. White, Town of Oak Grove (Mayor)
- George Webb, AARES (Ass. Ec.)
- Philip Jones (Volunteer)

- Tommy Hardyol, Talladega County 911 (Board Member)
- Danny Warwick, City of Talladega (Fire Chief)
- Joe Hassell, SFD (Fireman)
- Sharon Wagner, Red Cross (DAT Coordinator)

Interagency and Intergovernmental Coordination

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.

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

State Agencies

- Alabama Emergency Management Agency provided hazard information throughout the plan
- Geological Survey of Alabama provided information on general geology, earthquakes, sinkholes, and landslides
- Alabama Department of Economic and Community Affairs provided the Alabama Drought Management Plan, National Flood Insurance Program information and FEMA flood map update information
- Forestry Commission provided information regarding wildfires

Regional Agencies

- East Alabama Regional Planning and Development Commission provided area planning and development and transportation planning information, as well as maps pertaining to plan information

Local Agencies

- Talladega County Emergency Management Agency provided assistance in gathering data

Academia

- University of Alabama - Department of Geology

Integration with Existing Plans

Careful attention was taken when updating the plan so that it would not contradict or conflict with any existing local subdivision regulations, zoning ordinances, comprehensive plans, or standard building codes. **Table 1-1** provides a list of the existing plans by jurisdiction. Wherever appropriate, the East Alabama Regional Planning and Development Commission economic development planning efforts have been integrated into this plan revision.

Local planning mechanisms by jurisdictions are listed in **Table 1-1.** 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.

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.

Plan Adoption

Five jurisdictions in Talladega County actively participated in the planning process.

Representatives from each local government attended each of the meetings and provided information vital to the update of this plan. Upon completion of the plan each of the five municipalities (City of Talladega, City of Childersburg, City of Sylacauga, City of Lincoln and the Town of Oak Grove) along with the Talladega County Commission passed a formal resolution adopting the plan. By adopting this multi-jurisdictional hazard mitigation plan the listed participants will be eligible applicants for mitigation grant funds through the Pre-Disaster Mitigation Program, Hazard Mitigation Grant Program, and Flood Mitigation Assistance Program. Adopting Resolutions can be found in **Appendix I**.

Table 1-1: Talladega County Existing Plans by Jurisdiction							
PLAN/ POLICY	City of Talladega	City of Childersburg	City of Sylacauga	City of Lincoln	Town of Oak Grove	Town of Munford	Talladega County
Comprehensive Plan	N	Y	Y	Y	Y	N	N
Strategic Plan	N	N	Y	Y	Y	N	N
Growth Management Plan	N	N	N	Y	N	N	N
Capital Improvement Plan	Y	N	X	N	N	N	N
Zoning Ordinance	Y	Y	Y	Y	Y	Y	N
Building Code	Y	Y	Y	Y	Y	N	N
Floodplain Management Plan	Y	Y	Y	N	N	N	Y
Elevation Certificates	Y	Y	Y	Y	N	N	Y
Drainage Ordinance	Y	N	Y	N	N	N	N
Emergency Operations Plan	Y	Y	Y	Y	Y	Y	Y
Critical Facilities Map	N	N	N	Y	Y	N	N
Existing Land Use Map	Y	Y	Y	Y	Y	N	N
State Plan	N	N	N	N	N	N	N
Hazard Mitigation	Y	Y	Y	Y	Y	Y	Y
Other	N	N	N	N	N	N	N

Source: Participating Jurisdictions, 2015

Section Two: General Characteristics

Talladega County is located in East Alabama along the state's eastern border. In Alabama, St. Clair, Calhoun, Shelby, Clay, Cleburne and Coosa counties border Talladega County. According to the 2010 Census, Talladega County has 736 square miles of land area and approximately 24 square miles of water area. The county contains six participating municipalities: City of Talladega, City of Childersburg, City of Sylacauga, City of Lincoln, Town of Oak Grove and Town of Munford. See **Map 2-1**: Talladega County General Location and Population Density Map. Talladega County is governed by County Commissioners who are elected by citizens in their commission districts. An elected mayor and council serve each municipality. The City of Talladega serves as the Talladega County seat and is the predominant center for local business and trade.

Talladega County has a municipal airport. The major highways in Talladega County are Interstate 20, U.S. Highway 78, U.S. Highway 231, U.S. Highway 280, State Route 21, State Route 34, State Route 76, State Route 77, State Route 148, State Route 202, State Route 235 and State Route 275.

The county is served by two rail lines, CSX Transportation, Norfolk Southern Railway, Amtrak and Eastern Alabama Railway. Utilities in Talladega County include electricity, gas, water, sewer, and solid waste. Electrical service is provided by Alabama Power and Coosa Valley Electric Cooperative Inc. and gas is supplied by Alabama Gas Company, Childersburg Gas Board and Sylacauga Utilities Board. Bellsouth, Verizon, DeltaCom and Charter Communications provide telecommunication services. Water and sewer service is provided by municipal or rural systems. Most unincorporated areas are serviced only by septic tanks. Talladega County operates a solid waste collection program and inert landfill.

Adjacent to Talladega County, Calhoun County Alabama is to the northwest; Clay County, Alabama to the southwest; Shelby County, Alabama to the west; St. Clair County, Alabama to the northeast; Coosa County, Alabama to the south; and Clay County, Alabama to the southwest.

Growth Trends

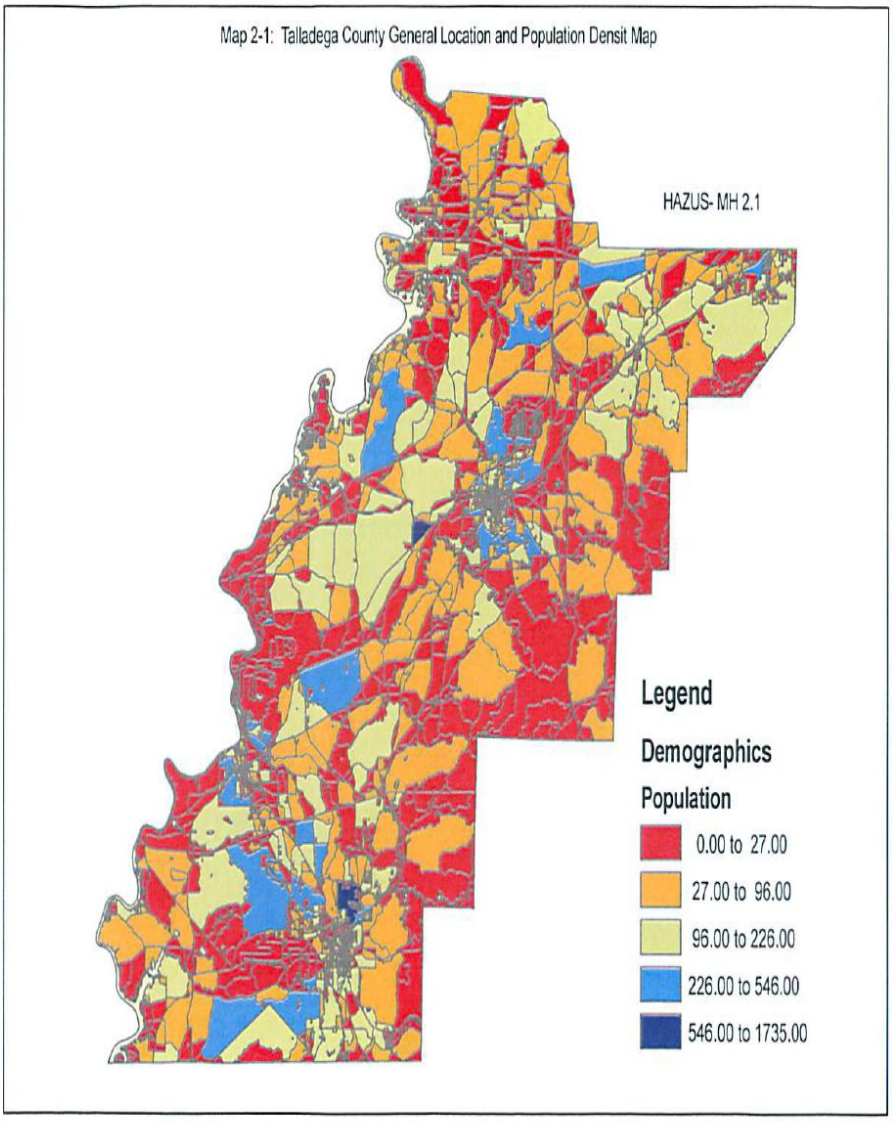
Talladega County's population increased during the years 1990-2019. All municipalities experienced growth in population, with the exception of the Town of. **Map 2-1**: Talladega County General Location and Population Density Map depict the newest 2010 Census Tracts and population concentrations in Talladega County. **Table 2-1** below shows the growth trends for the county and its municipalities compared to the State of Alabama.

Table 2-1: Growth Trends 2000-2019

					Change 2000-2019	
	2000	**2010**	**2014**	**2019**	**Number**	**Percent**
City of Talladega	15,130	15,676	16,012	16,348	1,218	8%
City of Childersburg	5,172	5,175	5,068	5,016	156	3%
City of Sylacauga	12,700	12,749	12,703	12,678	22	.01%
City of Lincoln	4,610	6,266	6,438	6,610	2,000	43%
Town of Oak Grove	457	528	573	618	161	35%
Town of Munford	885	1,292	1,358	1,424	539	61%
Talladega County	80,321	82,291	83,262	84,011	3,690	4%
Alabama	4,447,032	4,779,736	4,852,988	4,960,057	513,025	12%

Source: 2010 U.S. Bureau of Census; Calculations by LHA, 2015

Map 2-1: Talladega County General Location and Population Densit Map



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

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 Talladega County, Alabama include the following:

Lay Dam Formation (Talladega Group) - interbedded dark-green phyllite, medium-gray to light-brown and black metasiltstone, dark-green feldspathic metagraywacke, and light-gray and dark-gray medium to coarse-grained arkosic quartzite and metaconglomerate; graphitic phyllite common in upper part. In Cleburne and Calhoun Counties, rocks mapped as the Lay Dam include the Abel Gap Formation of Bearce (1973) and consist of interbedded greenish-gray metasiltstone and quartzite, black phyllitic metasiltstone, medium-gray to greenish-gray arkosic quartzite, and dark-gray pyritic quartzite. In Clay County the upper part of the Lay Dam includes black graphitic sericite phyllite and slate reportedly containing plant fossils (Erin Slate Member).

Butting Ram Sandstone - white to light-bluish-gray medium to coarse-grained, locally conglomeratic thick-bedded quartzose sandstone. Possible Devonian fossils.

Shelvin Rock Church Formation - moderate-pink to light-gray calcite and locally dolomite marble.

Jumbo Dolomite - light to medium-gray thin to thick-bedded dolomite marble; contains intraclast-bearing dolomite, locally sandy in middle part.

Gantts Quarry Formation - white and pale-blue to light-gray calcite marble locally

containing interlayered dolomite marble and thin phyllite layers.

Gooch Branch Chert - light-gray to light-brown dolomite marble associated with abundant light-gray to white massive to moderately foliated metachert.

Fayetteville Phyllite - dusky-red and medium-gray phyllite and slate interlayered with light-brown to light-gray feldspathic metasiltstone, fine-grained metasandstone and dolomite marble.

Poe Bridge Mountain Group; Garnet quartzite (garnetite) and garnitiferous altered mafic rock. Rocks in the area of Turkey Heaven Mountain in Cleburne and Randolph Counties that are here assigned to the Poe Bridge Mountain Group also have been interpreted as part of the Wedowee Group.

Parkwood Formation and Floyd Shale undifferentiated - Parkwood Formation -- 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.

Athens Shale - black graptolitic shale, locally contains interbedded dark-gray limestone.

Newala Limestone - light to dark-gray thick-bedded micritic and peloidal limestone and minor dolomite.

Knox Group undifferentiated - Light-gray to light-brown locally sandy dolomite, dolomitic limestone, and limestone; characterized by abundant light-colored chert.

Metaclastic rocks of unknown affinity - in the area south of Talladega, Talladega County, the unit includes greenish-gray chlorite-sericite phyllite; in small area south of Childersburg the unit consists of greenish-gray chlorite-sericite phyllite and slate locally containing interbeds of metagraywacke; and in the area east of Columbiana, Shelby County, the unit includes dark-greenish-gray slate and metasiltstone containing interbedded coarse-grained to conglomerate quartzite.

Tuscumbia Limestone and Fort Payne Chert undivided - Tuscumbia Limestone -- 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 ligh-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.

Kalona Quartzite Member of Wash Creek Slate - light-brown to light-gray coarse-grained, feldspathic quartzite and metaconglomerate in lower part of Wash Creek Slate.

Wash Creek Slate - grayish-green to black micaceous, partly carbonaceous to graphitic slate and metasiltstone containing interbedded light-gray to light-brown fine to coarse-grained metasandstone.

Ketchepedrakee Amphibolite - dark-green to black fine to coarse-grained, layered to massive amphibolite mixed with zones of chlorite actinolite schist, includes all amphibolite associated with the Poe Bridge Mountain Group.

Hillabee Greenstone, unnamed dacite unit - unnamed unit comprised of masses of well-foliated quartz dacite.

Hillabee Greenstone - pale-green to light-olive-brown massive, fine-grained greenstone interbedded locally with well-foliated mafic phyllite.

No name on map - fossiliferous chert facies in vicinity of Jemison, Chilton County, contains marine invertabrate fossils of early to Middle Devonian age.

Jemison Chert and Chulafinnee Schist undifferentiated - grayish-white to yellowish-orange massive, thick-bedded, fine-grained, locally argillaceous, locally fossiliferous metachert and light to dark-greenish-gray fine to medium-grained fissile quartz-sericite-chlorite phyllite and schist which locally includes thin chlorite phyllite and quartzose phyllite beds.

Weisner and Wilson Ridge Formations undifferentiated -- interbedded quartzose to slightly feldspathic sandstone and laterally continous conglomerate in ledge-forming units separated by greenish-gray silty mudstone.

Shady Dolomite - bluish-gray or pale-yellowish-gray thick-bedded siliceous dolomite; characterized by coarsely crystalline porous chert.

Rome Formation - variegated thinly interbedded mudstone, shale, siltstone, and sandstone; limestone and dolomite occur locally. Quartzose sandstone commonly present near top of formation.

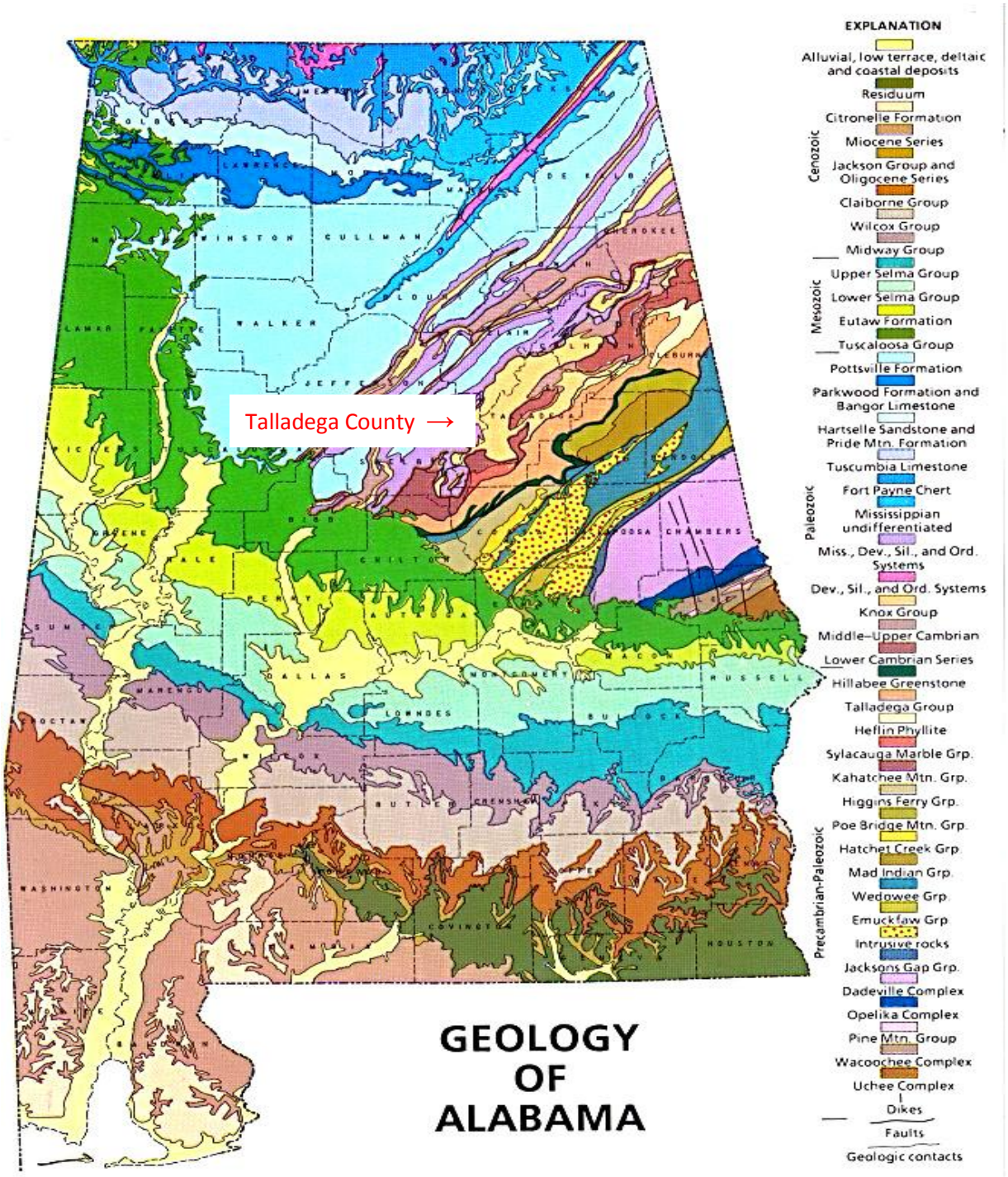
Conasauga Formation, lower unnamed shale facies - lower unnamed shale facies in eastern Valley and Ridge consists of dark-green to pale-olive

Chilhowee Group undifferentiated - light to medium-gray arkose, arkosic conglomerate, and discontinous mudstone overlain by greenish-gray mudstone with minor siltstone and sandstone; dominantly light-gray pebbly quartzose sandstone in upper part.

Conasauga Formation - Medium-bluish-gray fine-grained, thin-bedded argillaceous limestone and interbedded dark-gray shale in varying proportions.

Figure 2-1: Geology of Alabama

(Source: University of AL – Geology Department)



2015

Section Three: Risk Assessment

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

The county's Hazard Probability Assessment Summary is shown in **Table 3-1**. 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.

Table 3-2 shows the hazards that pose a threat to each jurisdiction. Each jurisdiction was responsible for identifying the hazards that pose a threat to their community.

Table 3-3 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 as high, medium, or low threat designating the hazard with the most threat of occurrence as high.

Table 3-4 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.

Tables 3-5 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, 2004 – December 31, 2014. The table shows events for all hazard types and provides the location, date, type, magnitude, deaths and injuries, dollar amounts for property and crop damages, and total damages.

As FEMA guidelines request that detailed event data be provided, the Hazard Mitigation Committee agreed upon the new ten-year study period as a means of establishing a corrected historical reference that utilized verifiable sources.

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.

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

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

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

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

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

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

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

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

Example: $172,000 total reported hail damage from 2004-2014 with 21 of those being reported as damage causing; $172,000/21=$8,190

Table 3-1: Talladega County Hazard Probability of Future Occurrence			
Natural Hazards	**Number of Occurrences Between 2004-2014**	**Probability of Future Occurrence**	**Area Affected**
Thunderstorm	117	>100%	Countywide
Lightning	3	30%	Countywide
Hail	56	>100%	Countywide
Tornado	10	100%	Countywide
Flood/Flash Flood	16	>100%	Countywide
Droughts/Extreme Heat	63	>100%	Countywide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	5	50%	Countywide
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	2	20%	Countywide
Sinkhole/Expansive Soil	33	>100%	Countywide
Landslide	Unknown	Unknown	NA
Earthquake	1	10%	Countywide
Dam/Levee Failure	Unknown	Unknown	NA
Wildfires: 2010 - 2013 (15-year study period – 5,475 days)	322	>100%	Countywide
Source: Participating Jurisdictions, 2015			
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 15-year study period. Zero denotes no data available to determine the probability of future occurrence or areas affected.			

Table 3-2: Talladega County Hazard Identification by Jurisdiction							
Natural Hazards	City of Talladega	City of Childersburg	City of Sylacauga	City of Lincoln	Town of Oak Grove	Town of Munford	Talladega County
Thunderstorm	X	X	X	X	X	X	X
Lightning	X	X	X	X	X	X	X
Hail	X	X	X	X	X	X	X
Tornado	X	X	X	X	X	X	X
Flood/Flash Flood	X	X	X	X	X	X	X
Drought/Extreme Heat	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
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	X	X	X	X	X	X	X
Sinkhole/Expansive Soil	X	X	X	X	X	X	X
Landslide	X	X	X	X	X	X	X
Earthquake	X	X	X	X	X	X	X
Wildfire	X	X	X	X	X	X	X
Dam/Levee Failure	X	X	X	X	X	X	X
Source: Participating Jurisdictions 2015							

Table 3-3: Talladega County
Prioritized Occurrence Threat by Jurisdiction Based on Past Events

Natural Hazards	City Talladega	City of Childersburg	City of Sylacauga	City of Lincoln	Town of Oak Grove	Town of Munford	Talladega County
Thunderstorm	1	1	1	1	1	1	2
Lightning	5	4	3	4	1	3	9
Hail	2	2	1	2	1	2	3
Tornado	4	3	3	3	1	3	7
Flood/Flash Flood	3	3	2	3	1	3	6
Drought/Extreme Heat	5	4	3	4	1	3	5
Winter Weather/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	5	4	3	4	1	3	8
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	5	4	3	4	1	3	10
Sinkhole/Expansive Soil	5	4	3	4	1	3	4
Landslide	5	4	3	4	1	3	12
Earthquake	5	4	3	4	1	3	11
Wildfire – 2010-2013 (15-year study period – 5,475 days)	5	4	3	4	1	3	1
Dam/Levee Failure	5	4	3	4	1	3	12

NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey, 2015

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 fifteen 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 3-4: Talladega County Mitigation Actions Prioritization							
Natural Hazards	City of Talladega	City of Childersburg	City of Sylacauga	City of Lincoln	Town of Oak Grove	Town of Munford	Talladega County
Thunderstorm	2	2	2	1	1	1	2
Lightning	4	3	3	2	2	2	3
Hail	4	3	3	2	2	2	3
Tornado	2	2	2	1	1	1	2
Flood/Flash Flood	1	1	1	1	2	2	1
Drought/Extreme Heat	4	3	3	2	2	2	3
Winter Storm/Frost Freeze/Heavy Snow/ Ice Storm/Winter Weather/Extreme Cold	4	3	3	2	2	2	3
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	2	2	2	1	1	1	2
Sinkhole/Expansive Soil	4	3	3	2	2	2	2
Landslide	4	3	3	2	2	2	3
Earthquake	4	3	3	2	2	2	3
Wildfire	3	3	3	2	2	2	3
Dam/Levee Failure	4	3	3	2	2	2	3
Source: Participating Jurisdictions, 2014							
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.							

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TABLE 3-5: TALLADEGA COUNTY HAZARD EVENTS

117 Thunderstorm Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
TALLADEGA	TALLADEGA CO.	AL	05/31/2004	04:20	CST	Thunderstorm Wind	50 kts. EG	0	0	14.00K	0.00K
COUNTYWIDE	TALLADEGA CO.	AL	06/22/2004	17:17	CST	Thunderstorm Wind	55 kts. EG	0	0	16.00K	0.00K
MUNFORD	TALLADEGA CO.	AL	07/06/2004	12:03	CST	Thunderstorm Wind	61 kts. EG	0	0	15.00K	0.00K
COUNTYWIDE	TALLADEGA CO.	AL	07/06/2004	19:35	CST	Thunderstorm Wind	55 kts. EG	0	0	8.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	07/14/2004	00:45	CST	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	04/22/2005	10:39	CST	Thunderstorm Wind	52 kts. EG	0	0	6.00K	0.00K
COUNTYWIDE	TALLADEGA CO.	AL	04/30/2005	03:54	CST	Thunderstorm Wind	52 kts. EG	0	0	20.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	07/01/2005	14:00	CST	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	07/27/2005	14:40	CST	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CHILDERSBU	TALLADEGA	AL	04/08/2006	01:03	CST	Thunderstorm	52 kts.	0	0	0.00K	0.00K

RG	CO.					Wind	EG				
SYLACAUGA	TALLADEGA CO.	AL	04/08/2006	01:11	CST	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	04/19/2006	17:30	CST	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/19/2006	17:50	CST	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	04/19/2006	18:50	CST	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	05/29/2006	12:35	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
MUNFORD	TALLADEGA CO.	AL	06/22/2006	16:05	CST	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	07/19/2006	15:00	CST	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	07/22/2006	11:30	CST	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
MUNFORD	TALLADEGA CO.	AL	07/22/2006	13:25	CST	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	07/22/2006	13:30	CST	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
SYLACAUGA	TALLADEGA	AL	10/19/2006	16:27	CST-	Thunderstorm	50 kts.	0	0	2.00K	0.00K

	CO.				6	Wind	EG				
TALLADEGA	TALLADEGA CO.	AL	03/01/2007	19:03	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
STEMLEY	TALLADEGA CO.	AL	06/30/2007	15:36	CST-6	Thunderstorm Wind	39 kts. EG	0	0	1.00K	0.00K
KAHATCHEE	TALLADEGA CO.	AL	07/01/2007	12:16	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	07/01/2007	12:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
RAHATCHIE	TALLADEGA CO.	AL	07/01/2007	12:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
MIGNON	TALLADEGA CO.	AL	07/01/2007	12:34	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
GANTTS QUARRY	TALLADEGA CO.	AL	07/01/2007	12:46	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
OLDFIELD	TALLADEGA CO.	AL	07/02/2007	16:56	CST-6	Thunderstorm Wind	40 kts. EG	0	0	1.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	08/24/2007	12:55	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
WINTERBORO	TALLADEGA CO.	AL	10/23/2007	01:07	CST-6	Thunderstorm Wind	70 kts. EG	0	0	35.00K	0.00K
SYLACAUGA	TALLADEGA	AL	10/23/2007	01:10	CST-	Thunderstorm	50 kts.	0	0	5.00K	0.00K

	CO.				6	Wind	EG				
LINCOLN	TALLADEGA CO.	AL	02/26/2008	04:20	CST-6	Thunderstorm Wind	70 kts. EG	0	0	100.00K	0.00K
KYMULGA	TALLADEGA CO.	AL	03/04/2008	03:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
SHOCCO SPGS	TALLADEGA CO.	AL	05/11/2008	01:38	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
KAHATCHEE	TALLADEGA CO.	AL	06/01/2008	16:30	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
OLDFIELD	TALLADEGA CO.	AL	06/01/2008	16:57	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
MIGNON	TALLADEGA CO.	AL	06/29/2008	16:35	CST-6	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
SYLACAUGA MERKLE ARP	TALLADEGA CO.	AL	07/22/2008	15:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
SYCAMORE	TALLADEGA CO.	AL	07/25/2008	15:30	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	08/02/2008	18:29	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	08/02/2008	18:29	CST-6	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
STEMLEY	TALLADEGA	AL	08/02/2008	18:31	CST-	Thunderstorm	50 kts.	0	0	2.00K	0.00K

	CO.				6	Wind	EG				
BON AIR	TALLADEGA CO.	AL	08/02/2008	19:16	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
RAHATCHIE	TALLADEGA CO.	AL	09/08/2008	14:37	CST-6	Thunderstorm Wind	35 kts. EG	0	0	1.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	04/02/2009	21:25	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/02/2009	21:40	CST-6	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	04/02/2009	21:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
OLDFIELD	TALLADEGA CO.	AL	04/02/2009	21:48	CST-6	Thunderstorm Wind	40 kts. EG	0	0	1.00K	0.00K
MUNFORD	TALLADEGA CO.	AL	04/02/2009	21:53	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
SHOCCO SPGS	TALLADEGA CO.	AL	04/10/2009	15:10	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.50K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/19/2009	21:00	CST-6	Thunderstorm Wind	50 kts. EG	0	0	15.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	05/03/2009	14:04	CST-6	Thunderstorm Wind	50 kts. EG	0	0	30.00K	0.00K
MIGNON	TALLADEGA	AL	05/03/2009	14:04	CST-	Thunderstorm	50 kts.	0	0	2.00K	0.00K

	CO.				6	Wind	EG				
LINCOLN	TALLADEGA CO.	AL	05/03/2009	14:34	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
SHOCCO	TALLADEGA CO.	AL	05/09/2009	20:55	CST-6	Thunderstorm Wind	50 kts. EG	0	0	7.00K	0.00K
MUNFORD	TALLADEGA CO.	AL	06/11/2009	12:40	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
GANTT JCT	TALLADEGA CO.	AL	06/12/2009	19:50	CST-6	Thunderstorm Wind	50 kts. EG	0	0	12.00K	0.00K
BON AIR	TALLADEGA CO.	AL	06/12/2009	19:50	CST-6	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
STEMLEY	TALLADEGA CO.	AL	06/12/2009	19:50	CST-6	Thunderstorm Wind	45 kts. EG	0	0	1.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	06/12/2009	19:55	CST-6	Thunderstorm Wind	50 kts. EG	0	1	3.00K	0.00K
BON AIR	TALLADEGA CO.	AL	06/14/2009	11:22	CST-6	Thunderstorm Wind	45 kts. EG	0	0	1.00K	0.00K
EASTABOGA	TALLADEGA CO.	AL	06/14/2009	11:25	CST-6	Thunderstorm Wind	45 kts. EG	0	0	0.50K	0.00K
TALLADEGA	TALLADEGA CO.	AL	06/14/2009	11:36	CST-6	Thunderstorm Wind	45 kts. EG	0	0	0.50K	0.00K
STEMLEY	TALLADEGA	AL	06/15/2009	21:15	CST-	Thunderstorm	50 kts.	0	0	5.00K	0.00K

	CO.				6	Wind	EG				
TALLADEGA	TALLADEGA CO.	AL	06/15/2009	21:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	06/15/2009	21:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
SYCAMORE	TALLADEGA CO.	AL	06/15/2009	21:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
SYLACAUGA MERKLE ARP	TALLADEGA CO.	AL	06/15/2009	21:49	CST-6	Thunderstorm Wind	40 kts. EG	0	0	0.50K	0.00K
GANTT JCT	TALLADEGA CO.	AL	07/16/2009	12:23	CST-6	Thunderstorm Wind	45 kts. EG	0	0	1.00K	0.00K
ST IVES	TALLADEGA CO.	AL	05/20/2010	19:15	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
RAHATCHIE	TALLADEGA CO.	AL	06/05/2010	17:42	CST-6	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
TALLADEGA	TALLADEGA CO.	AL	06/21/2010	19:57	CST-6	Thunderstorm Wind	70 kts. EG	0	0	250.00K	0.00K
SICO	TALLADEGA CO.	AL	10/24/2010	21:15	CST-6	Thunderstorm Wind	55 kts. EG	0	0	4.00K	0.00K
BARCLAY	TALLADEGA CO.	AL	10/26/2010	15:20	CST-6	Thunderstorm Wind	55 kts. EG	0	0	3.00K	0.00K
TALLADEGA	TALLADEGA	AL	11/30/2010	09:28	CST-	Thunderstorm	50 kts.	0	0	1.00K	0.00K

MUNI ARPT	CO.				6	Wind	EG				
LINCOLN	TALLADEGA CO.	AL	04/04/2011	19:19	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
EASTABOGA	TALLADEGA CO.	AL	04/04/2011	19:44	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
FAYETTEVILLE	TALLADEGA CO.	AL	04/04/2011	19:57	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
OLDFIELD	TALLADEGA CO.	AL	04/04/2011	20:02	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
MIGNON	TALLADEGA CO.	AL	04/04/2011	20:02	CST-6	Thunderstorm Wind	53 kts. MG	0	0	0.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	04/11/2011	19:15	CST-6	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
TDGVOR TALLADEGA	TALLADEGA CO.	AL	04/11/2011	19:22	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
EASTABOGA	TALLADEGA CO.	AL	04/11/2011	19:24	CST-6	Thunderstorm Wind	50 kts. EG	0	0	7.00K	0.00K
MUNFORD	TALLADEGA CO.	AL	04/11/2011	19:25	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
COOSA PINES	TALLADEGA CO.	AL	04/15/2011	17:13	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
KYMULGA	TALLADEGA	AL	04/20/2011	05:50	CST-	Thunderstorm	50 kts.	0	0	0.50K	0.00K

	CO.				6	Wind	EG				
MIGNON	TALLADEGA CO.	AL	04/20/2011	09:57	CST-6	Thunderstorm Wind	40 kts. EG	0	0	0.50K	0.00K
SHOCCO SPGS	TALLADEGA CO.	AL	04/20/2011	23:06	CST-6	Thunderstorm Wind	45 kts. EG	0	0	0.50K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/20/2011	23:06	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
SHOCCO SPGS	TALLADEGA CO.	AL	04/20/2011	23:06	CST-6	Thunderstorm Wind	45 kts. EG	0	0	0.50K	0.00K
FAYETTEVILLE	TALLADEGA CO.	AL	04/27/2011	05:12	CST-6	Thunderstorm Wind	65 kts. EG	0	0	5.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	04/27/2011	05:26	CST-6	Thunderstorm Wind	70 kts. EG	0	0	4.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/27/2011	05:31	CST-6	Thunderstorm Wind	60 kts. EG	0	0	5.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	05/26/2011	14:08	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	06/17/2011	12:05	CST-6	Thunderstorm Wind	45 kts. EG	0	0	0.50K	0.00K
GANTT JCT	TALLADEGA CO.	AL	06/22/2011	15:55	CST-6	Thunderstorm Wind	50 kts. EG	0	0	17.00K	0.00K
SYLACAUGA	TALLADEGA	AL	06/24/2011	17:12	CST-	Thunderstorm	50 kts.	0	0	2.00K	0.00K

	CO.				6	Wind	EG				
RENFROE	TALLADEGA CO.	AL	07/14/2011	13:28	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
STOCKDALE	TALLADEGA CO.	AL	12/22/2011	14:23	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	03/31/2012	18:14	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/05/2012	18:48	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	05/06/2012	06:04	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
MIGNON	TALLADEGA CO.	AL	06/11/2012	20:14	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	06/14/2012	14:39	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	07/05/2012	18:35	CST-6	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
SYCAMORE	TALLADEGA CO.	AL	07/10/2012	16:30	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
BARCLAY	TALLADEGA CO.	AL	07/10/2012	16:55	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
LINCOLN	TALLADEGA	AL	07/10/2012	17:00	CST-	Thunderstorm	50 kts.	0	0	0.00K	0.00K

	CO.				6	Wind	EG				
LINCOLN	TALLADEGA CO.	AL	07/10/2012	17:10	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
WINTERBORO	TALLADEGA CO.	AL	12/25/2012	19:58	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
GANTT JCT	TALLADEGA CO.	AL	01/30/2013	08:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	03/18/2013	15:03	CST-6	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
MUNFORD	TALLADEGA CO.	AL	03/18/2013	15:05	CST-6	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
IRONATON	TALLADEGA CO.	AL	03/18/2013	15:09	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
SHOCCO SPGS	TALLADEGA CO.	AL	04/11/2013	14:54	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
MIGNON	TALLADEGA CO.	AL	06/07/2014	22:33	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
Totals:								0	1	738.00K	0.00K

3 Lightning Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	80.00K	0.00K
BERNEYS	TALLADEGA CO.	AL	07/12/2008	10:45	CST-6	Lightning		0	0	10.00K	0.00K
RAHATCHIE	TALLADEGA CO.	AL	07/22/2008	15:45	CST-6	Lightning		0	0	50.00K	0.00K
SHOCCO	TALLADEGA CO.	AL	06/15/2009	21:15	CST-6	Lightning		0	0	20.00K	0.00K
Totals:								0	0	80.00K	0.00K

56 Hail Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	39.00K	0.00K
STEMLEY	TALLADEGA CO.	AL	07/07/2004	16:48	CST	Hail	0.75 in.	0	0	0.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	10/19/2004	09:03	CST	Hail	0.88 in.	0	0	0.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	03/22/2005	09:17	CST	Hail	1.00 in.	0	0	0.00K	0.00K
EASTABOGA	TALLADEGA CO.	AL	03/22/2005	09:48	CST	Hail	0.75 in.	0	0	0.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	04/22/2005	10:25	CST	Hail	1.00 in.	0	0	1.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	04/22/2005	13:02	CST	Hail	1.00 in.	0	0	1.00K	0.00K

SYLACAUGA	TALLADEGA CO.	AL	04/22/2005	13:19	CST	Hail	1.00 in.	0	0	1.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/22/2005	16:25	CST	Hail	1.75 in.	0	0	9.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	06/02/2005	15:30	CST	Hail	0.88 in.	0	0	0.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	12/04/2005	12:51	CST	Hail	1.75 in.	0	0	4.00K	0.00K
SYCAMORE	TALLADEGA CO.	AL	12/04/2005	13:00	CST	Hail	1.00 in.	0	0	0.00K	0.00K
WINTERBORO	TALLADEGA CO.	AL	12/04/2005	13:04	CST	Hail	1.00 in.	0	0	0.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	12/04/2005	14:50	CST	Hail	0.75 in.	0	0	0.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	12/28/2005	12:34	CST	Hail	0.75 in.	0	0	0.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	12/28/2005	12:58	CST	Hail	1.75 in.	0	0	3.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	04/03/2006	05:46	CST	Hail	1.00 in.	0	0	0.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	04/03/2006	05:46	CST	Hail	0.88 in.	0	0	0.00K	0.00K
MUNFORD	TALLADEGA CO.	AL	04/18/2006	15:52	CST	Hail	1.00 in.	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/19/2006	17:00	CST	Hail	1.75 in.	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA	AL	04/19/2006	17:16	CST	Hail	0.88	0	0	0.00K	0.00K

	CO.						in.				
TALLADEGA	TALLADEGA CO.	AL	04/19/2006	17:20	CST	Hail	1.00 in.	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/19/2006	17:28	CST	Hail	2.75 in.	0	0	0.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	04/19/2006	17:30	CST	Hail	0.88 in.	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/19/2006	17:31	CST	Hail	1.75 in.	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/19/2006	17:55	CST	Hail	2.75 in.	0	0	0.00K	0.00K
WINTERBORO	TALLADEGA CO.	AL	04/19/2006	18:05	CST	Hail	0.88 in.	0	0	0.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	04/19/2006	18:20	CST	Hail	1.00 in.	0	0	0.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	04/19/2006	18:35	CST	Hail	2.75 in.	0	0	0.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	05/13/2006	18:35	CST	Hail	1.00 in.	0	0	0.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	05/13/2006	18:40	CST	Hail	1.00 in.	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	05/29/2006	12:35	CST	Hail	1.00 in.	0	0	20.00K	0.00K
STEMLEY	TALLADEGA CO.	AL	04/03/2007	13:27	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	06/12/2007	23:37	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K

SYLACAUGA	TALLADEGA CO.	AL	06/14/2007	14:36	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	08/24/2007	12:55	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
FAYETTEVILLE	TALLADEGA CO.	AL	04/04/2008	13:59	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
MIGNON	TALLADEGA CO.	AL	04/12/2008	01:02	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
MUNFORD	TALLADEGA CO.	AL	05/20/2008	18:16	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
MUNFORD	TALLADEGA CO.	AL	06/01/2008	12:29	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	06/01/2008	16:23	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
SYCAMORE	TALLADEGA CO.	AL	07/25/2008	15:29	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	08/02/2008	18:39	CST-6	Hail	1.25 in.	0	0	0.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	02/18/2009	15:26	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
BERNEYS	TALLADEGA CO.	AL	04/10/2009	15:35	CST-6	Hail	1.25 in.	0	0	0.00K	0.00K
FAYETTEVILLE	TALLADEGA CO.	AL	04/10/2009	16:49	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
GANTTS QUARRY	TALLADEGA CO.	AL	04/10/2009	17:08	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
MUNFORD	TALLADEGA	AL	06/11/2009	12:40	CST-	Hail	1.00	0	0	0.00K	0.00K

	CO.				6		in.				
BON AIR	TALLADEGA CO.	AL	07/16/2009	12:15	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
IRONATON	TALLADEGA CO.	AL	10/26/2010	15:15	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
WALCO	TALLADEGA CO.	AL	10/26/2010	15:30	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
IRONATON	TALLADEGA CO.	AL	10/26/2010	15:40	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
BON AIR	TALLADEGA CO.	AL	06/24/2011	17:16	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
MIGNON	TALLADEGA CO.	AL	04/17/2012	13:52	CST-6	Hail	2.00 in.	0	0	0.00K	0.00K
IRONATON	TALLADEGA CO.	AL	04/17/2012	15:03	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	03/18/2013	14:50	CST-6	Hail	2.00 in.	0	0	0.00K	0.00K
SHOCCO SPGS	TALLADEGA CO.	AL	01/11/2014	05:40	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
Totals:								0	0	39.00K	0.00K

10 Tornado Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	1.408M	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	11/24/2004	06:36	CST	Tornado	F1	0	0	80.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	11/24/2004	06:41	CST	Tornado	F0	0	0	50.00K	0.00K
WINTERBORO	TALLADEGA CO.	AL	11/24/2004	06:48	CST	Tornado	F0	0	0	50.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	11/24/2004	06:48	CST	Tornado	F0	0	0	60.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	11/24/2004	06:59	CST	Tornado	F2	0	0	125.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	04/08/2006	02:03	CST	Tornado	F0	0	0	30.00K	0.00K
GANTTS QUARRY	TALLADEGA CO.	AL	02/06/2008	06:40	CST-6	Tornado	EF0	0	0	5.00K	0.00K
NOTTINGHAM	TALLADEGA CO.	AL	02/28/2011	15:53	CST-6	Tornado	EF0	0	0	8.00K	0.00K
COOSA PINES	TALLADEGA CO.	AL	04/27/2011	19:18	CST-6	Tornado	EF1	0	0	1.000M	0.00K
KYMULGA	TALLADEGA CO.	AL	01/23/2012	05:35	CST-6	Tornado	EF0	0	0	0.00K	0.00K
Totals:								0	0	1.408M	0.00K

21 Flood/Flash Flood Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	530.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	11/10/2009	20:00	CST-6	Flood		0	0	0.00K	0.00K
MIGNON	TALLADEGA CO.	AL	12/18/2009	09:00	CST-6	Flood		0	0	5.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	03/10/2010	09:30	CST-6	Flood		0	0	500.00K	0.00K
KYMULGA	TALLADEGA CO.	AL	03/09/2011	11:45	CST-6	Flood		0	0	25.00K	0.00K
STOCKDALE	TALLADEGA CO.	AL	01/30/2013	13:00	CST-6	Flood		0	0	0.00K	0.00K
Totals:								0	0	530.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	50.00K	0.00K
COUNTYWIDE	TALLADEGA CO.	AL	09/16/2004	10:45	CST	Flash Flood		0	0	2.00K	0.00K
COUNTYWIDE	TALLADEGA CO.	AL	11/24/2004	07:13	CST	Flash Flood		0	0	16.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	06/02/2005	15:30	CST	Flash Flood		0	0	10.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	08/09/2005	14:01	CST	Flash Flood		0	0	5.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	02/06/2006	15:50	CST	Flash Flood		0	0	2.00K	0.00K

KAHATCHEE	TALLADEGA CO.	AL	03/10/2010	07:45	CST-6	Flash Flood		0	0	5.00K	0.00K
COOSA PINES	TALLADEGA CO.	AL	03/09/2011	07:15	CST-6	Flash Flood		0	0	0.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	03/09/2011	07:15	CST-6	Flash Flood		0	0	10.00K	0.00K
EASTABOGA	TALLADEGA CO.	AL	03/09/2011	07:20	CST-6	Flash Flood		0	0	0.00K	0.00K
SYCAMORE	TALLADEGA CO.	AL	03/09/2011	07:31	CST-6	Flash Flood		0	0	0.00K	0.00K
OLDFIELD	TALLADEGA CO.	AL	01/30/2013	11:00	CST-6	Flash Flood		0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	01/30/2013	11:00	CST-6	Flash Flood		0	0	0.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	01/30/2013	11:02	CST-6	Flash Flood		0	0	0.00K	0.00K
MC ELDERRY	TALLADEGA CO.	AL	05/18/2013	02:30	CST-6	Flash Flood		0	0	0.00K	0.00K
CURRY	TALLADEGA CO.	AL	05/18/2013	05:40	CST-6	Flash Flood		0	0	0.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	04/07/2014	03:30	CST-6	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	50.00K	0.00K

36 Drought/Extreme Heat Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD

Totals:								0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	07/18/2006	07:00	CST	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	08/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	09/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	03/27/2007	06:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA	TALLADEGA	AL	12/01/2007	00:00	CST-	Drought		0	0	0.00K	0.00K

(ZONE)	(ZONE)				6						
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	09/21/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	10/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	08/02/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	09/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA	TALLADEGA	AL	10/01/2011	00:00	CST-	Drought		0	0	0.00K	0.00K

(ZONE)	(ZONE)				6						
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	11/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	12/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	06/26/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	07/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	08/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	09/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	10/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	11/20/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	12/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	01/01/2013	00:00	CST-6	Drought		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

5 Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD

Totals:								0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	01/19/2008	06:00	CST-6	Winter Weather		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	02/12/2010	12:00	CST-6	Winter Weather		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	12/15/2010	09:00	CST-6	Winter Weather		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	12/26/2010	03:00	CST-6	Winter Weather		0	0	0.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	01/17/2013	13:45	CST-6	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

2 Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	175.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	07/10/2005	16:00	CST	Tropical Storm		0	0	75.00K	0.00K
TALLADEGA (ZONE)	TALLADEGA (ZONE)	AL	08/29/2005	18:00	CST	Tropical Storm		0	0	100.00K	0.00K
Totals:								0	0	175.00K	0.00K

33 Sinkhole Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: U.S. Geological Survey)

33 sinkhole events occurred or were reported during 01/01/2004 thru 12/31/2014.

Landslide Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: U.S. Geological Survey)

Unknown landslide events occurred or were reported during 01/01/2004 thru 12/31/2014.

1 Earthquake Event – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: www.city-data.com)

1 earthquake event occurred or were reported during 01/01/2004 thru 12/31/2014.

On 11/7/2004 at 11:20:21, a magnitude 4.4 (4.4 MB, 4.3 MW, 4.0 LG, Depth: 3.1 mi) earthquake occurred 113.3 miles away from Talladega County center
Read more: http://www.city-data.com/county/Talladega_County-AL.html#ixzz3r1n7bqcB

322 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
Talladega	322	107	4578.20	1526	5

Dam/Levee Failure Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database/Local Input)

Unknown dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

Hazard Profiles

I. Thunderstorms

A thunderstorm is a convective cloud that often produces heavy rain, wind gusts, thunder, lightning, and hail. Talladega 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.

Primary effects from thunderstorms in Talladega County would include:

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

Hazardous results from significant thunderstorms in Talladega 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.

Table 3-5 shows the historical occurrences of thunderstorms during the study period. Each jurisdiction is at risk for thunderstorm events. Of the 117 thunderstorms reported, 22 affected the entire county, 59 occurred in an unincorporated county area, and the remaining 36 affected only specific municipalities.

On June 21, 2010 afternoon heating lead to isolated strong to severe thunderstorms. Some storms produced damaging winds, and one produced a downburst that caused an enhanced area of damage. An apparent downburst caused a swath of intense damage across the southern portion of the city of Talladega. Around 100 trees were blown down, with some of them falling onto homes causing varying degrees of damage. In addition, hundreds of limbs were broken off, many of them also large enough to cause damage to homes as they fell. Structural damage not the result of falling trees or limbs was confined to outbuildings containing lumber at a hardware store. The total damage swath was more than 2.5 miles long, and up to 100 yards wide, with peak wind gusts estimated around 80 mph.

Talladega County experienced 117 thunderstorm events in a 10 year period resulting in a greater than 100% probability that a thunderstorm event will occur on an annual basis. The total amount of damages for the 117 thunderstorm events was $738,000 with 96 thunderstorm events

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causing damage resulting in an estimated $7,688 average property loss per event. 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 Talladega County due to a thunderstorm event; the ranking is minor to major. The highest extent of thunderstorms for this study period was 70kts and the lowest was 39kts.

II. Lightning

Lightning is a natural phenomenon associated with all thunderstorms but can occur in the absence of a storm. Lightning typically occurs as a by-product of a thunderstorm. 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. 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 three lightning events during the ten-year study period of 2004-2014. **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

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experienced 11-20 deaths as a result of lightning strikes during 2004 – 2014, none of the deaths occurred in Talladega County.

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

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

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

According to the National Oceanic and Atmospheric Administration (NOAA), an average of 20 million cloud-to-ground flashes has been detected every year in the continental United States. About half of all flashes have more than one ground strike point, so at least 30 million points on the ground is struck on the average each year. In addition, there are roughly 5 to 10 times as many cloud-to-cloud flashes as there are to cloud-to-ground flashes (NOAA, July 7, 2003). During the years 2004-2014, Alabama experienced 11 deaths due to lightning (NOAA, December 18, 2014). 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: NOAA, December 18, 2014).*

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,

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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.

On July 12, 2008 afternoon heating caused several severe thunderstorms across central Alabama. A lightning strike caused a tree to fall onto a vehicle, briefly trapping its occupant. There were no injuries reported.

On July 22, 2008 warm and unstable air mass led to the development of numerous showers and thunderstorms, some of which produced damaging winds and large hail. A house and barn caught fire after being struck by lightning.

On June 15, 2009 a warm unstable air mass, and several upper level disturbances, helped spark a multi-day period of strong to severe thunderstorms. Several clusters of thunderstorms, including apparent derechos, caused widespread wind damage and isolated reports of large hail across central Alabama. A lightning strike at the Alabama Department of Transportation office in Talladega caused considerable damage, both to the outdoor grounds and to equipment on the inside. The lightning apparently struck a flag pole in front of the building, and then ran down the pole into the ground. The underground current created a small ditch and blew out a portion of a concrete sidewalk. From there it continued into the building, burning down an awning, blowing out a window, and ultimately frying several pieces of computer equipment. Damage to the grounds was estimated around $2000 to $3000 dollars, with the computer equipment between $10,000 and $20,000.

Talladega County experienced 3 lightning events in a 10 year period resulting in a 30% (0.30) probability that a lightning event will occur on an annual basis. The total amount of damages for the 3 lightning events was $80,000 with 3 lightning events causing damage resulting in an estimated $26,667 of expected annual damages from future events. The extent/range of magnitude or severity that could be experienced by Talladega County due to a lightning event is minimum to minor. The highest event of lightning caused a total of $50,000 in damages and the lowest extent only caused a total of $10,000 in damages. According to Vaisala's National Lightning Detection Network the extent of Talladega's lightning is 6 to 8 fl/sq km/yr.

Primary effects from lightning in Talladega County would include:

1. Power Outages

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2. Wild Fires
3. Electrocution
4. Disruption of Communication Waves

Hazardous results from significant lightning in Talladega 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.

III. Hail

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).

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 3-6**. Note that penny size (3/4 inches in diameter) or larger hail is considered severe.

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Table 3-6: Estimating Hail Size

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

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.

The NOAA NCDC reported 56 hail events during the ten-year study period of 2004-2014. An estimated $39,000 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, 20 occurred in an unincorporated county area, and the remaining 36 affected only specific municipalities.

On April 22, 2005 large hail up to the size of golf balls fell across northern Talladega County. Some locations that reported large hail include Stemley, Talladega, Lincoln and Munford. The resulted damage for this even was $9,000.

On May 29, 2006 several cars were damaged in the Wal-Mart parking lot due to hail during a thunderstorm. The damages caused by this event came to $20,000.

Talladega County experienced 56 hail events in a 10 year period resulting in a greater than 100% (5.6) probability that a hail event will occur on an annual basis. The total amount of damages for the 56 hail events was $39,000 with 7 hail events causing damage resulting in $5,571 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 Talladega County due to a hail event; the ranking is minor to major. The worst hail event caused about $20,000 worth of damage. During this study period hail sizes ranges from the largest of 2.75 inches to the smallest of .75 inches within the county. The extent of hail events in Talladega County would be 2.75 size hail, which occurred on April 19, 2006.

Primary Effects from Hail in Talladega County would include:

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

Hazardous results from significant Hail in Talladega 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.

IV. Tornados

Tornados 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

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experiences a secondary tornado season from November through December. **Figure 3-1** shows the general paths of tornados across the United States.

Figure 3-2 shows the FEMA designated wind zones in the United States. Talladega County is located in Zone IV which warrants profiling. Zone IV has witnessed a higher frequency of tornados than any other zone. Zone IV has also witnessed some of the deadliest tornados in history.

A total of 10 tornados occurred in Talladega County according to NOAA NCDC during 2004 - 2014. An estimated $1.408 million in property damage, no crop damage, and no injuries or deaths occurred as a result of the reported tornados.

On November 24, 2004 a tornado touched down in the vicinity of the Talladega Superspeedway. Two concession stands within the infield area of the race track had their roofs blown off. The Bush Garage area received building damage and the garage doors were bowed out. Debris was scattered between the garage area and Victory Lane. One digital leader board was completely destroyed and another one sustained major damage. The tornado continued on a northeast path across northern Talladega County. Numerous trees were blown down or snapped off along the path. Several out-building were destroyed and sheet metal was lofted into trees. The tornado moved into the Eastaboga area where it caused severe damage. Two homes suffered major roof damage, two porches were destroyed and many trees were blown down. The tornado continued northeastward into southwest Calhoun County. In Bynum, two mobile homes were heavily damaged by fallen trees. One of the trees smashed a mobile home killing a 75 year old woman around 7:12 a.m. In the Coldwater area, one home was significantly damaged and a shed was destroyed. Numerous trees were still being knocked down along the path. The tornado then moved into the southwestern part of Anniston. A cinder block building sustained major structural damage and an animal shelter received major roof damage. Several other businesses sustained damage near Anniston. The total tornado damage path length was 15.2 miles and was 500 yards wide at its widest point. A tornado briefly touched down in the vicinity of Childersburg. The heaviest damage occurred on Coleman Ridge Road. One mobile home was destroyed, one manufactured home was heavily damaged, one house sustained minor damage and several out-buildings and barns suffered moderate damage. The short tornado path was 0.9 miles long and was 50 yards wide at its widest point. Several eyewitnesses reported hearing the tornado before it

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hit.

On February 28, 2011 a brief tornado touched down along CR 46, about 2.5 miles northwest of Winterboro and moved eastward, dissipating just after it crossed Reynolds Mill Road. Several trees were snapped or uprooted along the short path. One home sustained damage to the front porch and metal roofs to several outbuildings were partially removed.

Talladega County experienced 10 tornado events in a 10 year period resulting in a greater than 100% (.10) probability that a tornado event will occur on an annual basis. The total amount of damages for the 10 tornado events was $1.408 million with 9 tornado events causing damage resulting in an estimated $456,444 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 Talladega County due to a tornado event; the ranking is major. The extent of tornados within the county ranges from EF0 causing no amount of damages to F2 causing $125,000 worth of damages.

Primary effects from Tornados in Talladega County would include:

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

Hazardous results from significant Tornados in Talladega County would include:

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

Figure 3-1: Generalized Tornado Paths

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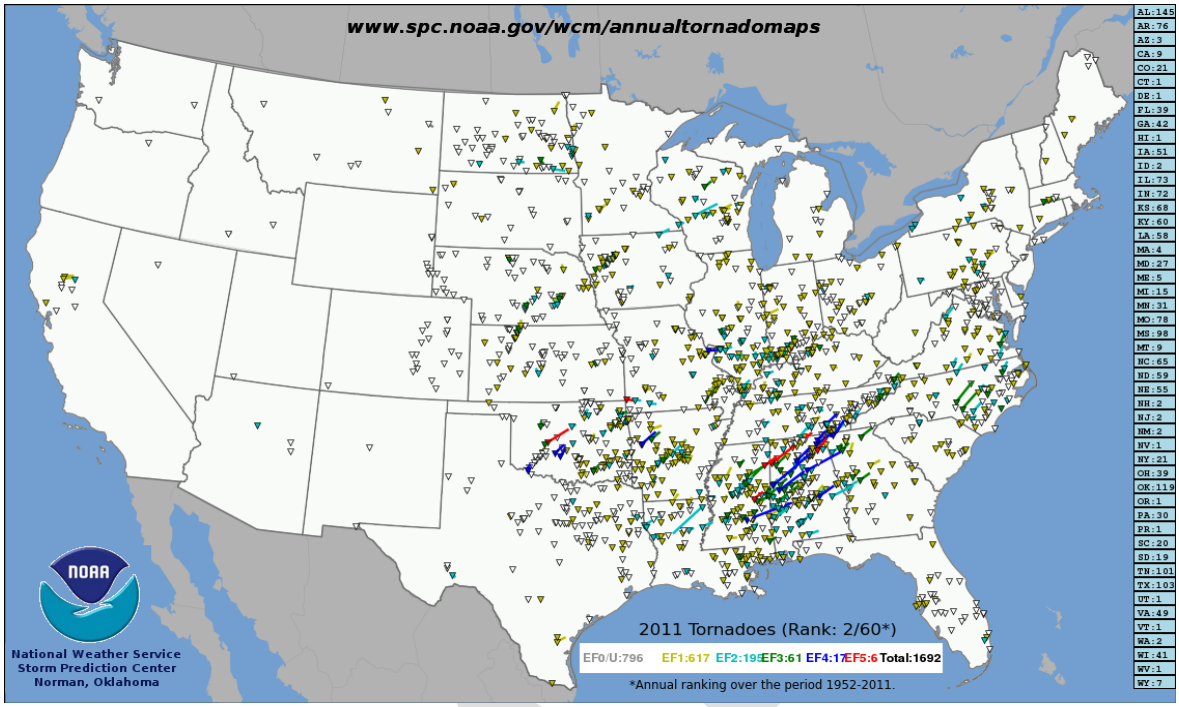

Figure 3-2: Wind Zones in the United States

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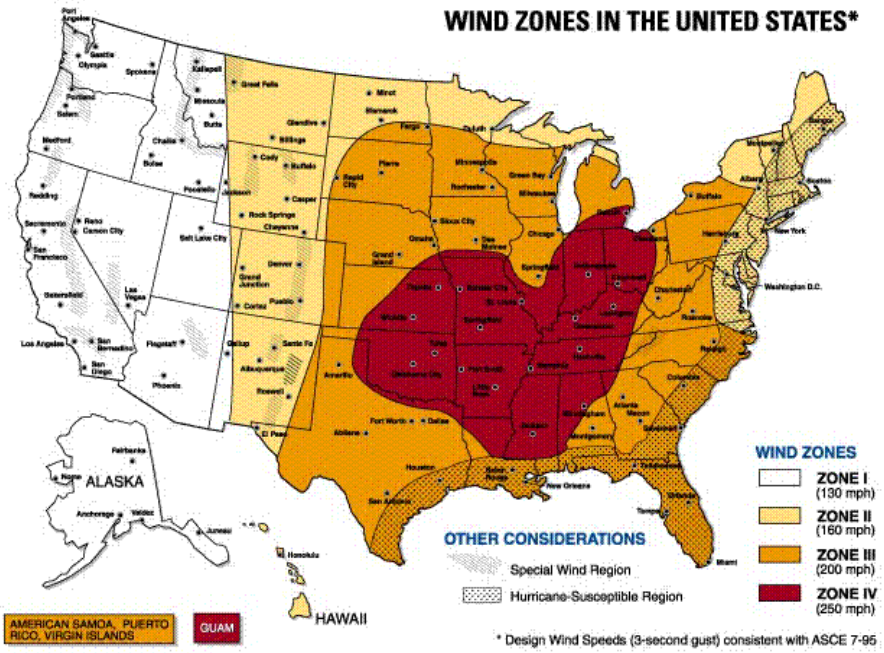

Figure I.2 Wind zones in the United States

Source: www.fema.gov, 2014

Tornados 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 2004-2014, events shown in **Table 3-5** express the magnitude of tornados 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 3-7: Fujita Tornado Scales

Fujita Tornado Scale

Category	Wind Speed	Description of Damage
F0	40-72 mph	Light damage. Some damage to chimneys; break branches off trees; push over shallow-rooted trees; damage to sign boards.

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

Enhanced Fujita Tornado Scale

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

Source: NOAA, NWS, Storm Prediction Center, 2007.

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V. Floods/Flash Floods

There are three types of flooding that affect Talladega 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 3-5** shows flash flooding events in Talladega County recorded by NOAA NCDC. Between 2004 and 2014 there were 21 occurrences of flash flooding and no floods in the county. Damages from these flash flood events totaled $580,000 in property damage, no crop damage, no deaths, and one injury.

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.

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.

According to *HAZUS MH 2.1*, Talladega County has 39 High Density Polyethylene (HPDE - Earth) Dams, 1 Concrete Gravity Dam (HPDG), and 1 miscellaneous dams (HPDZ) including 3 high hazard dams. No historical records are available of dam/levee failures in Talladega 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

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

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

Floods are described in terms of their extent (including the horizontal area affected and the vertical depth of floodwaters) and the related probability of occurrence. 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 3-8** shows a range of flood recurrence intervals and their probabilities of occurrence.

On September 16, 2004 countywide flooding caused hundreds of trees and power lines were blown down across the county. The most significant damage occurred throughout southern areas of the county. At least 12,000 customers were without power at the height of the storm. It took at least three days to restore all the power. Thirty to fifty homes and structures were damaged. In Talladega, one woman injured her shoulder when a tree fell through the roof of her home. In Sylacauga, a man was injured when a tree limb fell on his head. Maximum wind gusts

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were estimated around 70 miles an hour. Doppler radar and ground observations indicate up to 7 inches of rain fell during Ivan. A few roadways were covered with water and temporarily impassable.

Table 3-8: Flood Probability Terms	
Flood Recurrence Intervals	**Percent Chance of Annual Occurrence**
10-Year	10.0%
50-Year	2.0%
100-Year	1.0%
500-Year	0.2%
(Source: FEMA, 2014)	

Talladega County experienced 21 flood/flash flood events in a 10 year period resulting in a greater than 100% (2.1) probability that a flood/flash flood event will occur on an annual basis. The total amount of damages for the 21 flood/flash flood events was $580,000 with 10 flood/flash flood events causing damage resulting in an estimated $27,619 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 Talladega County due to a flood/flash flood event; the ranking is minor to major. The extent of a flood/flash flood event is three to five feet of water over roadways, with water rising over the tires on vehicles.

Primary Effects from Floods in Talladega County would include:

1. Loss of life
2. Property damage
3. Crop damage
4. Dam and levee failure

Hazardous results from significant flood in Talladega 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.

Dam failures may result from one or more the following:

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

Flood Assessment Tools

Programs

Talladega County does participate 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 Talladega County was completed in 2010. Currently all of the county and municipalities are participating in the NFIP. The Town of Munford and Oak Grove has had no flood areas identified. The National Flood Insurance Program (NFIP) requires local participation. **Table 3-9** 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

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severe repetitive loss properties; up to 90% federal costs share for repetitive loss properties; and 75% federal cost share for NFIP insured properties.

The Repetitive Flood Claims (RFC) and Severe Repetitive Loss (SRL) Grant Programs were eliminated by the Biggert-Waters Flood Insurance Reform Act of 2012. Elements of these flood grant programs have been incorporated into FMA.

Regulations

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

Additionally, Talladega 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 1-1**.

Table 3-9: Talladega County
National Flood Insurance Program Status by Jurisdiction

CID	Community Name	Initial FHBM Identified	Initial FIRM Identified	Current Eff. Map Date	Sanction Date	Tribal
010297#	Talladega County	12/13/74	7/2/80	9/28/07	7/2/80	No
010296#	Bon Air	3/4/77	9/28/07	9/28/07	7/18/08	No
010197#	Childersburg	6/14/74	12/17/87	9/28/07	12/17/87	
010198#	Lincoln	3/5/76	7/18/83	9/28/07	7/18/83	No
010297#	Munford	12/13/74	7/2/80	9/28/07	7/2/80	No
	Oak Grove Not Participating					No
010297#	Sylacauga	12/13/74	7/2/80	9/28/07	7/2/80	No
010200#	City of Talladega	6/7/74	4/15/80	9/28/07	4/15/80	No

010297#	Talladega Springs	12/13/74	7/2/80	9/28/07	7/2/80	No
010297#	Waldo	12/13/74	7/2/80	9/28/07	7/2/80	No
Source: FEMA Community Status Book Report as of May 6, 2015						

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.

There are some properties with flooding issues in the county. Below is a list of areas susceptible to flooding.

- Talladega County
    - County Road 139
    - Highway 78 from mile marker 148 east to Calhoun County
    - Woods Ferry Road
    - Quarry Road
    - Camp Brownie Road
    - Arco Dairy Road
    - Ledbetter Flats Road
    - Silver Run Road
    - Howells Cove and Concord Church Road
    - Henderson Lake Road (Sylacauga)
- Childersburg
    - 4th Street SE
    - 4th Street SW
    - 2nd Street NW
- Lincoln
    - Railroad Avenue

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- 1st Avenue

- Sylacauga
  - Douglas Avenue
  - Davis Avenue
  - Valleyview Road
  - 4th Street
  - Kingston Road
- City of Talladega
  - Creek Side Circle
  - Jackson Street across from Coosa Street to Isbel Circle
  - South Street
  - East Street
  - Coosa Street
  - Battle Street @ 5th Avenue

Talladega County experiences flash flooding on a small scale. Minimal damages have been reported from several municipalities with regard to flooding. Flooding events usually consist of roadways underwater for short periods of time, which also causes stress to the towns' financial and human resources. The Town of Munford and Oak Grove have reported no major flooding issues. The worst flooding event caused $16,000 in damages and occurred countywide. The extent of flood damages range from no damage costs to a total of $16,000 worth of damages.

VI. Drought/Extreme Heat

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.

Meteorological droughts are defined as the degree of dryness as compared to the normal precipitation for the area over the duration of the dry season. This type of drought is specific to a

given region since atmospheric conditions and precipitation vary from one region to the next.

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

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

Socioeconomic droughts occur when physical water shortage begins to affect people and their quality of life.

A drought's severity depends on numerous factors, including duration, intensity, and geographic extent as well as regional water supply demands by humans and vegetation. Due to its multidimensional nature, drought is difficult to define in exact terms and also poses difficulties in terms of comprehensive risk assessments.

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

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

Extreme summer heat is the combination of very high temperatures and exceptionally humid conditions. If such conditions persist for an extended period of time, it is called a heat

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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.

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

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

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

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

During the past ten years, Talladega County experienced D0 Abnormally Dry to D2 Severe in 2004, D2 Severe to D3 Extreme Drought in 2010 and D2 Severe to D4 Exceptional Drought in 2014. No deaths, injuries, property or crop damages were reported. The categories of drought are defined as follows *(Source http://droughtmonitor.unl.edu) Accessed 11/10/15*: **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.

Talladega County experienced 36 drought/extreme heat events in a 10 year period resulting in a greater than 100% (3.60) probability that a drought/extreme heat event will occur on an annual basis. The total amount of damages for the 36 drought/extreme heat events was $0 (unknown) with no drought/extreme heat events causing damage resulting in an estimated $0 or unknown amount 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 Talladega County due to a drought event; the ranking is minimum to minor. The worst level of drought the county experienced was D4 exceptional drought.

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

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

Hazardous results from significant Drought and Excessive Heat in Talladega 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

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

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

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

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

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Table 3-10: Heat Index/Heat Disorders

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

(Source: National Weather Service, 2014)

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.

Table 3-5 reflects that the NOAA NCDC reported 36 instances of drought for Talladega County from 2004-2014. No crop or property damages were reported. There were no reports of extreme heat events during this ten year period.

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

Talladega County is vulnerable to extreme winter weather conditions such as extreme cold temperatures, snow, and ice. **Table 3-5** shows the winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather events that have affected Talladega County from 2004 - 2014.

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 it 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.

On January 19, 2008 a winter storm brought a swath of heavy snow to parts of central Alabama during the morning hours of January 19. The main band of snow accumulation was roughly bounded on the north side by Interstate 20, and on the south side by Interstate 85. The heaviest snow, accumulating from 2 to 5 inches, fell in a band from Marengo and southern Sumter Counties, northeastward into Coosa County. Because ground temperatures were just above freezing, much of the snow outside of the highest snow band melted within an hour or two after the snow ended. Area streets saw only minor impacts from the snow, and most roads were free from snow before nightfall. Accumulation was generally less than one inch.

Talladega County experienced a low pressure system moving across the northern Gulf of Mexico brought a swath of snow to a large portion of Central Alabama on February 12, 2010. The highest snowfall amounts were in the eastern and southern sections of Central Alabama, with 3 to as much as 7 inches of snow reported in these areas. The snow caused numerous businesses and schools to close, and created hazardous travel across a large portion of the area. A period of

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snow accumulated to an average of 1 to 2 inches across the county causing hazardous travel conditions.

A cold front moved into Central Alabama during the evening hours on Sunday, January 13, and stalled across southeastern portions of the area. Rainfall along this front wet ground conditions and resulted in minor, isolated flooding in urban areas where rainfall was heavy at times. Low level southerly flow across the stalled frontal boundary resulted in repeated rounds of rainfall across much of the area on Monday and Tuesday, January 14-15. Instances of flash flooding led to long term flooding across portions of Central Alabama. Several roads were closed for many days due to high water. In addition, the temperature gradient across the front was quite strong, with more than a 40 degree difference from the far northwestern portions of Central Alabama to locations in the southeast. Light rain continued along the stalled front on Wednesday, January 16, before heavier rain spread back into the area during the evening hours. On Thursday, January 17, a deepening upper low approached the area from the west, resulting in surface low development in eastern Georgia along the stalled front. This allowed additional low level cold air to filter into Central Alabama from the north as the front pushed south of the area. With temperatures of approximately -25C aloft and robust forcing, rainfall transitioned to snow across much of north Central Alabama Thursday morning. As the system moved eastward, precipitation ended from west to east through the day. Isolated icy road conditions overnight on the 16th worsened as snowfall rates increased. Numerous wrecks were reported on minor and major roadways, including area interstates, and travel was disrupted across north Central Alabama as the heaviest snow band crossed the area during the day on the 17th. Up to an inch of snow fell across the county, creating hazardous road conditions and causing at least one traffic accident.

Talladega County experienced 5 winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather events in a 10 year period resulting in a 50% (.50) probability that a winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather event will occur on an annual basis. There were no damages for the 5 winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather events resulting in an unknown amount 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

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that could be experienced by Talladega County due to a winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather event; the ranking is minor to major. Talladega County's extent of snow during this plan's study period is approximately 2 feet which occurred on February 12, 2010.

Primary effects from winter storms in Talladega County would include:

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

Hazardous results from winter storms in Talladega 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 medical facilities, 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.

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

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

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

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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.

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. Here is how knots compare to MPH:

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

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

Saffir-Simpson Hurricane Wind Scale

Once a tropical storm reaches the level of a hurricane, it is then classified by the storm’s intensity. Intensity levels, or categories, are used to assign a number (e.g., Category 1) to a hurricane based on the storm’s intensity at the current time. The Saffir-Simpson Hurricane Wind Scale, **Table 3-11**, 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.

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Table 3-11: Saffir-Simpson Hurricane Wind Scale

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

(Source: National Hurricane Center – NOAA, 2014)

Threats Related to Hurricanes

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. Talladega County is not directly affected by storm surges; therefore, no additional analysis will be completed on the topic.

On July 10, 2005 high winds caused numerous trees and power lines to be blown down area wide. This resulted in approximately $75,000 damages.

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. Two men were injured in Tuscaloosa County when a tree fell in front of their vehicle and then the vehicle slid under it. One person was slightly injured when a tree fell on their home in Pickens County. One man was injured when a tree fell on his car in Marengo County. In Hale County, two people were injured when a tree fell on their mobile home. One man was injured when a tree fell onto his home. One man was injured when he left his vehicle as trees fell around him and he was subsequently hit by another vehicle.

Talladega County experienced 2 tropical storm and no hurricane/tropical depression/high wind/strong wind events in a 10 year period resulting in an 20% (.20) probability that a tropical storm event will occur on an annual basis. The total amount of damages for the 2 tropical storm and no hurricane/tropical depression/high wind/strong wind events was $175,000 with 2 tropical storm and no hurricane/tropical depression/high wind/strong wind events causing damage resulting in an estimated $87,500 of expected annual damages from future events. The referenced hurricane/tropical storm/tropical depression/high wind/strong wind events are the

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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 Talladega County due to a hurricane/tropical storm/tropical depression/high wind/strong wind event; the ranking is minor to major. The worst tropical storm event caused $100,000 in damages occurring countywide. Talladega County's extent from these storms is winds in excess of tropical storm winds, up to 60 mph.

Primary Effects of Hurricanes:

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

Secondary Effects of Hurricanes:

1. Tornados
    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

Talladega 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 Talladega County does not feel the effects of

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

IX. Sinkhole/Expansive Soil

Sinkholes

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

According to the Geological Survey of Alabama's sinkhole data as of 2010, Talladega County has experienced sinkholes. **Figure 3-3** shows sinkholes and sinkhole density in Talladega County.

Talladega County experienced 33 sinkholes in a 10 year period resulting in a 30% (.30) probability that a sinkhole event will occur on an annual basis. The total amount of damages for a sinkhole event is unknown, as well as the expected annual damages from future events. The ranking is minimum to minor. The largest sink hole is approximately 50+ feet deep and over 20 feet wide. The extent of sinkholes in the county during this study period within the county range from small one foot sink holes to larger sinkholes over 20 feet wide and 50 feet deep.

Expansive Soils

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 3-4** shows the general soil areas for the state. Talladega County has Limestone Valleys and Uplands and Piedmont Plateau soils. There were no expansive soils reported from NOAA or local sources during the time frame covered by the plan. Though these soils have shrink-swell potential, the committee does not feel a profile is necessary.

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Figure 3-3

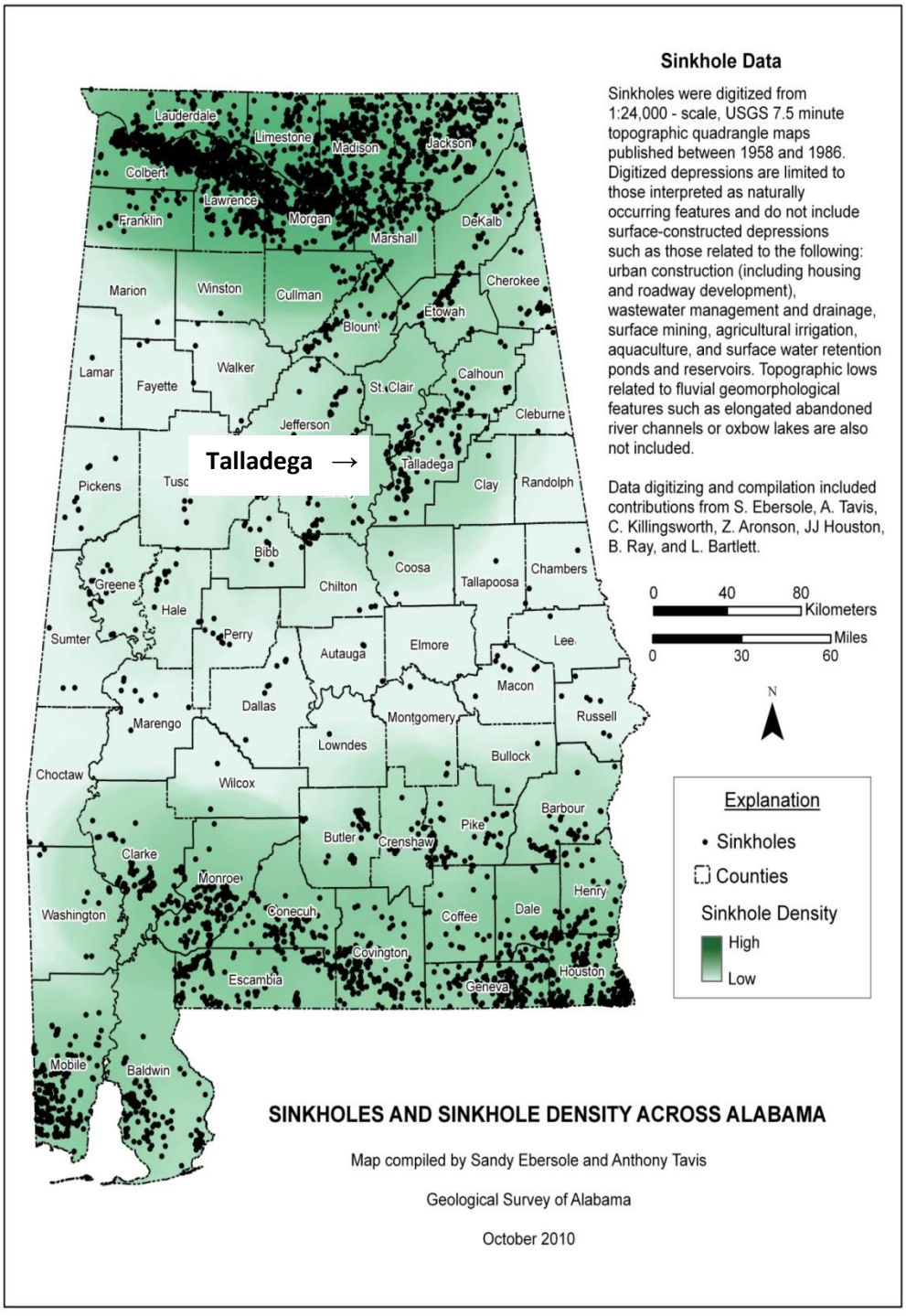
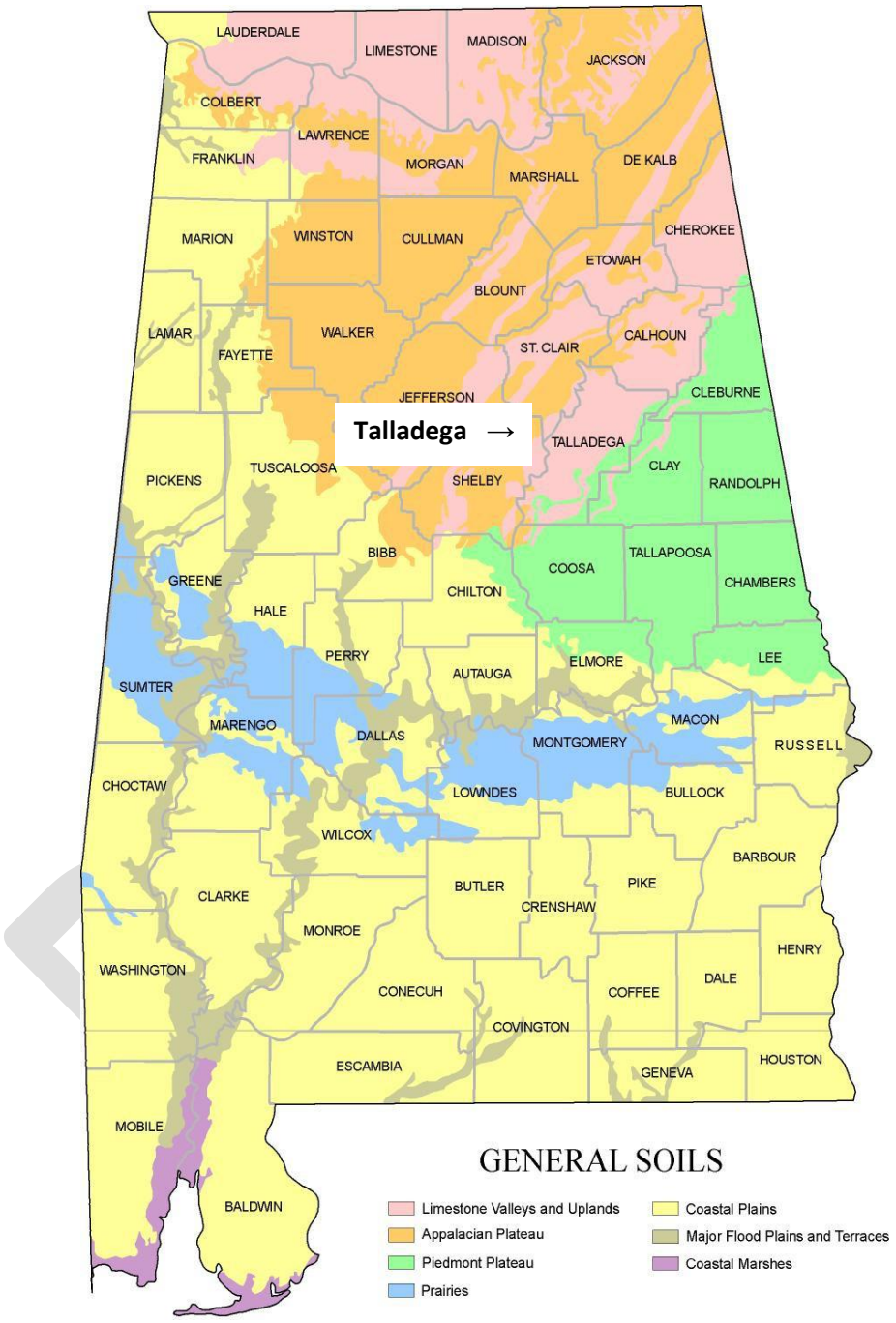

Sinkhole Data
Sinkholes were digitized from 1:24,000 - scale, USGS 7.5 minute topographic quadrangle maps published between 1958 and 1986. Digitized depressions are limited to those interpreted as naturally occurring features and do not include surface-constructed depressions such as those related to the following: urban construction (including housing and roadway development), wastewater management and drainage, surface mining, agricultural irrigation, aquaculture, and surface water retention ponds and reservoirs. Topographic lows related to fluvial geomorphological features such as elongated abandoned river channels or oxbow lakes are also not included.
Data digitizing and compilation included contributions from S. Ebersole, A. Tavis, C. Killingsworth, Z. Aronson, JJ Houston, B. Ray, and L. Bartlett.
0 40 80 Kilometers
0 30 60 Miles
N
Explanation
• Sinkholes
Counties
Sinkhole Density
High
Low
Talladega →
Lauderdale
Limestone
Madison
Jackson
Colbert
Lawrence
Franklin
Morgan
Marshall
DeKalb
Marion
Winston
Cullman
Cherokee
Etowah
Blount
Lamar
Fayette
Walker
St. Clair
Calhoun
Cleburne
Jefferson
Talladega
Pickens
Tusc
Clay
Randolph
Bibb
Coosa
Chambers
Greene
Chilton
Tallapoosa
Hale
Sumter
Perry
Autauga
Elmore
Lee
Macon
Dallas
Montgomery
Russell
Marengo
Lowndes
Bullock
Choctaw
Wilcox
Barbour
Pike
Butler
Crenshaw
Clarke
Monroe
Henry
Washington
Conecuh
Coffee
Dale
Covington
Escambia
Houston
Geneva
Mobile
Baldwin
SINKHOLES AND SINKHOLE DENSITY ACROSS ALABAMA
Map compiled by Sandy Ebersole and Anthony Tavis
Geological Survey of Alabama
October 2010

Figure 3-4: General Soils of Alabama

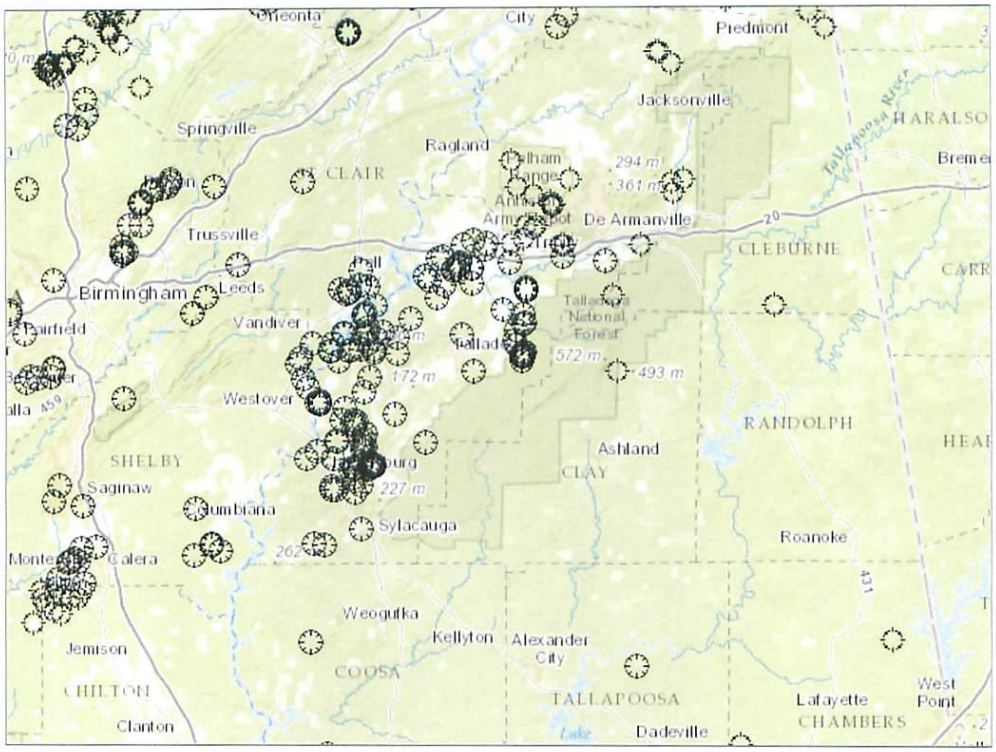


Source: Cartographic Research Lab, University of Alabama, 2014

We have included information from a concerned citizen in Talladega County relating to the sinkhole/soil problems within the county.

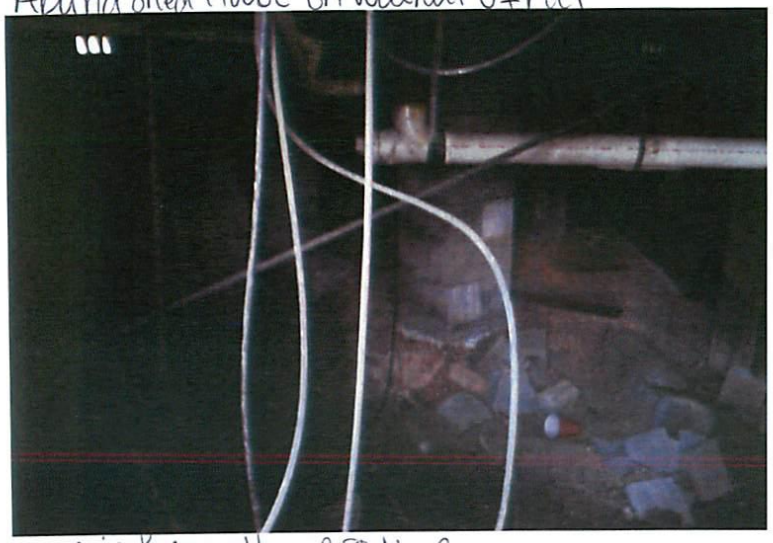
Alabama Sinkholes

Sinkholes in Alabama, digitized from 1:24,000 historical topographic maps by the Geological Survey of Alabama.



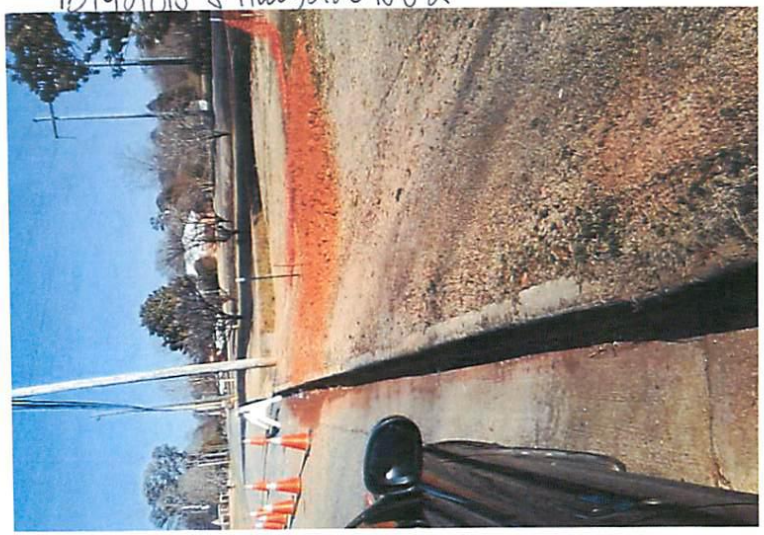
Esri, HERE, DeLorme, FAO, USGS, NGA, EPA, NPS

Abandoned House on Walnut Street



Behind the manhole on tractor Path

Big Lots & Hwy 280 No 2



Big Lots & Hwy 280

Big Momma

Bolton Ave.

Corner Lot of Spring St #1

Corner Lot of Spring St #2

Crooked Rock

Crooked Creek Rd. 2

Crooked Creek Rd. by Rail Road

Crooked Creek Rd.

East Walnut behind Baseball feilds

East Walnut Connected to Big Momma 1

East Walnut Street

Ground Deformalities

X. Landslide

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 the Talladega, Sylacuaga, Poe Bridge Mountain, Athens, Newala, Kahatchee and Chilhowee groups. These groups are classified as having low to moderate susceptibility to slope failure. **Figure 3-5** shows the landslide incidence and indicates that Talladega County is at a low to no risk of incidence. The 2010 plan update did not address landslides as there were no reports of landslides from any source. According to the Geological Survey of Alabama's sinkhole data as of 2010, Talladega County has not experienced landslides; therefore, the landslide probability in Talladega County is low. The extent of landslides in the county during the study period is zero because none were recorded.

Primary effects from landslide in Talladega County would include:

1. Property damage
2. Impassable roads
3. Sediment erosion
4. Underground infrastructure damage

Hazardous results from landslide in Talladega 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.

Talladega County experienced 0 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. The ranking is minimum to minor.

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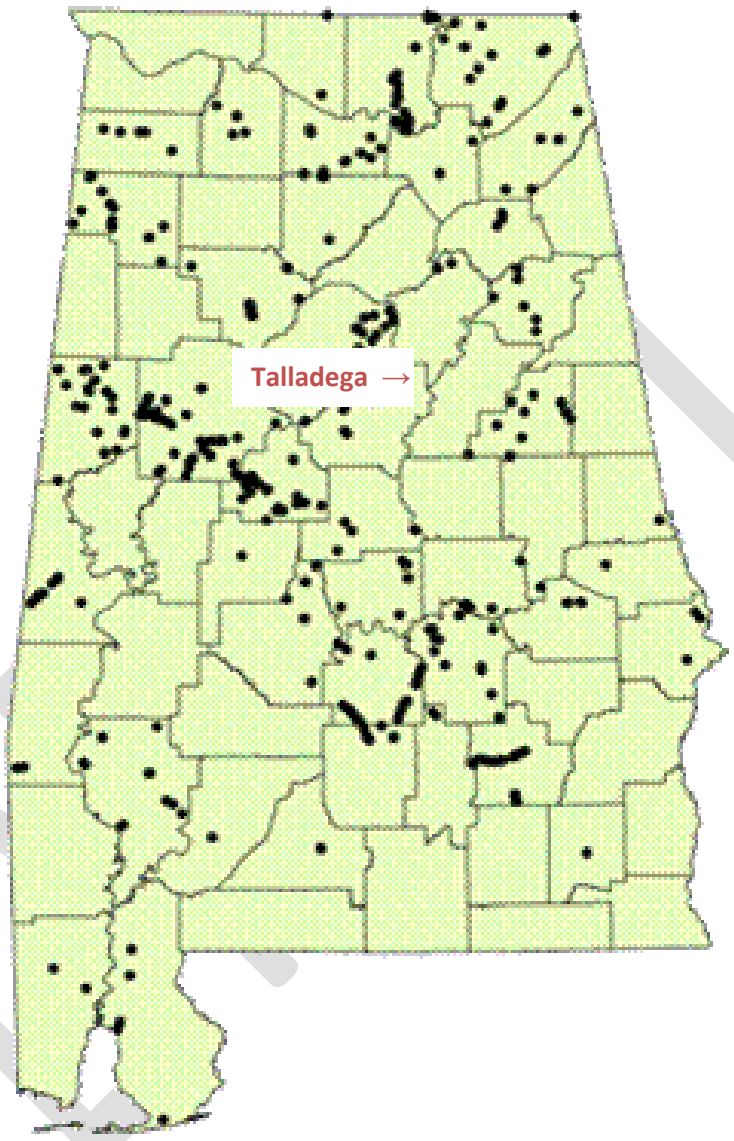
Figure 3-5: Landslide Incidence in Talladega County



Source: Geological Survey of Alabama, 2015

XI. Earthquakes

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

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

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

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

Seismic activity is commonly described in terms of magnitude and intensity. Magnitude

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(M) describes the total energy released and intensity (I) subjectively describes the effects at a particular location. Although an earthquake has only one magnitude, its intensity varies by location.

Magnitude is the measure of the amplitude of the seismic wave and is expressed by the Richter scale. The Richter scale is a logarithmic measurement, where an increase in the scale by one whole number represents a tenfold increase in measured amplitude of the earthquake. Intensity is a measure of the strength of the shock at a particular location and is expressed by the Modified Mercalli Intensity (MMI) scale.

Another way of expressing an earthquake's severity is to compare its acceleration to the normal acceleration due to gravity. If an object is dropped while standing on the surface of the earth (ignoring wind resistance), it will fall towards earth and accelerate faster and faster until reaching terminal velocity. The acceleration due to gravity is often called "g" and is equal to 9.8 meters per second squared (980 cm/sec/sec). This means that every second something falls towards earth, its velocity increases by 9.8 meters per second. Peak ground acceleration (PGA) measures the rate of change of motion relative to the rate of acceleration due to gravity. For example, acceleration of the ground surface of 244 cm/sec/sec equals a PGA of 25.0 percent. It is possible to approximate the relationship between PGA, the Richter scale, and the MMI, as shown in **Table 3-12**. 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.

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Table 3-12: Earthquake PGA, Magnitude and Intensity Comparison

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

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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.

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

Interestingly, an earthquake's magnitude can be a poor indicator of hazard impact because the duration of ground shaking, and resulting increased damages, is not factored into the magnitude concept. The majority of losses are due to collapsing houses and other structures, the most vulnerable being those of unreinforced masonry and adobe. Structures built with more flexible materials such as steel framing are preferred. Wood frame construction, which constitutes a high percentage of homes in the United States, also tends to flex rather that 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.

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

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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. Talladega County is at risk for earthquakes.

Earthquakes occurring in Talladega County are predominantly low magnitude events. However, there is growing concern that a high magnitude event is inevitable and earthquakes are becoming a much larger concern to the county. GSA is currently working to better define seismic hazards and impacts throughout the county. **Figure 3-6** 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 Talladega County. The risk of a significant, damage-causing earthquake in Talladega County is low to moderate. The northeastern portion of the county is at a slightly greater risk than other portions of the county.

Although many areas of the United States are better known for their susceptibility, earthquakes do occur in Alabama. **Figure 3-7** 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. Talladega County did experience one earthquake event during the past ten years (January 1, 2004 – December 31, 2014) as noted in **Table 3-5**.

One zone of frequent earthquake activity that could potentially impact Talladega County is the Southern Appalachian Seismic Zone. Damage could be significant in Talladega 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. On November 7, 2004 a 4.4 magnitude earthquake occurred approximately 113.3 miles away from the center of Talladega County.

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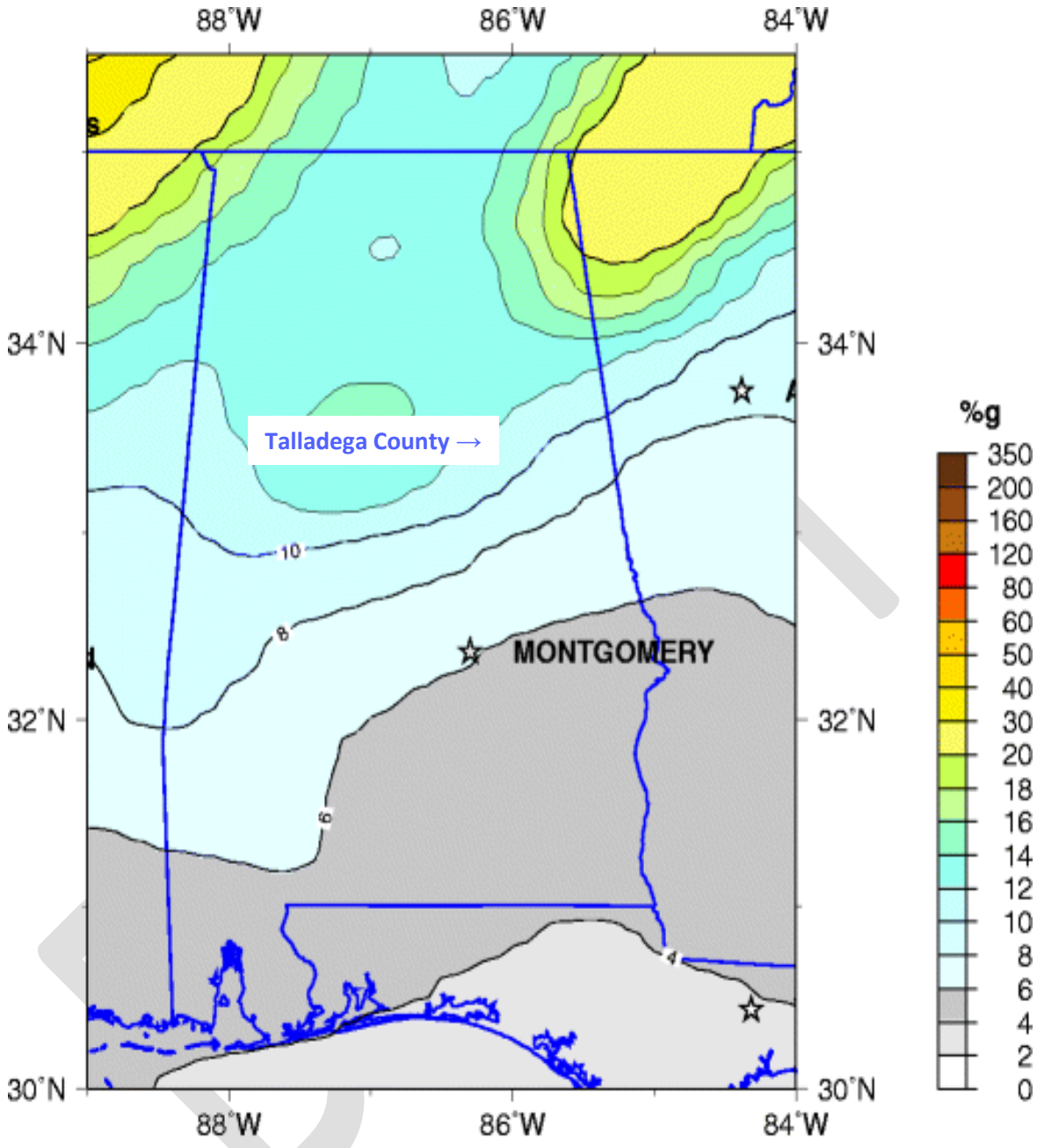
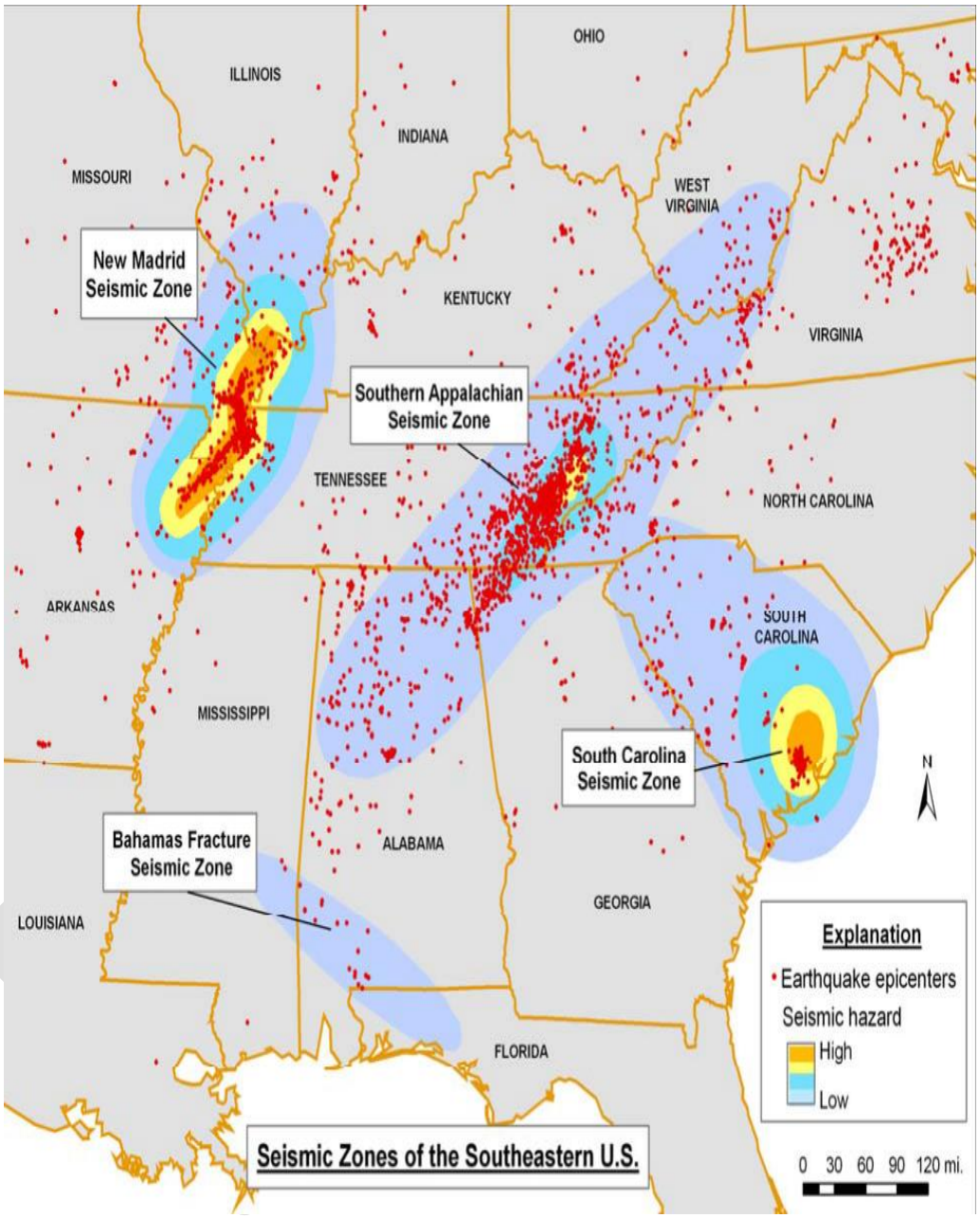


Peak Acceleration (%g) with 2% Probability of Exceedance in 50 Years
site: NEHRP B-C boundary
National Seismic Hazard Mapping Project (2008)

Figure 3-6

Figure 3-7: Seismic Zones of the Southeastern United States



Source: Geological Survey of Alabama, 2014

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.

Talladega County experienced one earthquake event in a 10 year period resulting in a 10% (0.10) 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 events. The ranking is minimum to minor. The extent of earthquakes within the county during the study period is 4.4 magnitude, being the only event recorded.

Primary effects from earthquake in Talladega County would include:

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

Hazardous results from earthquake in Talladega 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 Talladega County are not built to meet the rigors of earthquakes; collapsing structures could kill or injure occupants.
4. Earthquakes can create other disasters such as landslides, flooding, and sinkholes.
5. Shifting of underlying soil and breaching of dams are examples of possible results from an earthquake.

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XII. Wildfire

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.

The frequency and severity of wildfires is dependent on weather and on human activity. Nearly all wildfires in Talladega 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 3-13** shows the number of fires and acres burned during the period 2010 to 2013, as recorded by the Alabama Forestry Commission. Talladega County had a total of 155 fires during this 3 year period, affecting a total of 5,278 acres. Talladega County is located in an area where the current fire danger conditions are low to moderate, according to the U. S. Forestry Service.

The National Forest Service (NFS) maintains data nationwide and produces various maps and forecasts daily under the Wildland Fire Assessment System (WFAS). A review of this data showed Talladega 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. Talladega 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 3-13: Wildfires in Talladega County 2010-2013

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
Talladega	322	107	4,578	1,526	14

Source: Alabama Forestry Commission, 2014

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Talladega County experienced 322 wildfire events in a 3 year period resulting in a greater than 100% (107.3) probability that a wildfire event will occur on an annual basis. The total amount of acres burned for the 322 wildfire events was 4,578 resulting in an estimated 14 acres burned per wildfire event. The total amount of acres burned was 4,578 multiplied by $1,900 (the average market value for an acre of land in Talladega County) equals $8,698,200 damages for the 322 wildfire events with 322 wildfire events causing damage resulting in an estimated $27,013 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 $29,444 of expected annual damages from future events. No deaths or injuries were reported. The ranking, extent/range of magnitude or severity that could be experienced by Talladega County due to a wildfire event is minimum to minor.

Primary effects from wildfire in Talladega County would include:

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

Hazardous results from significant wildfire in Talladega 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.

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XIII. Dam Failures

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

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

Dam failures may result from one or more the following:

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

Dam failures are potentially the worst flood events. A dam failure is usually the result of neglect, poor design, or structural damage caused by a major event such as an earthquake. Historical records of dam/levee failures for Talladega 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 Talladega County during 2004 - 2014.

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 Talladega 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. According to *HAZUS-MH 2.1* and *NOAA*, Talladega County has 39 High Density Polyethylene (HPDE - Earth) Dams including eleven high hazard dam (failure or poor operation would likely result in the loss of human life), 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 twenty-three 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). **Table 3-14** shows risk categories of dams. **Table 3-15** provides an inventory listing of all the dams in Talladega County and includes additional data on each.

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 of dam failure events in the county is zero because there was none recorded during this study period.

Primary effects from Dam failure in Talladega County would include:

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

Hazardous results from dam failure in Talladega 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 3-14: Talladega County Dams Risk Categories

Risk Categories	Number of Dams
High - loss of one human life is likely if the dam fails	6
Significant - possible loss of human life and likely significant property or environmental destruction if the dam fails if the dam fails	11
Low	24
Total	**41**

(Source: HAZUS MH 2.1)

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Table 3-15: DAM INVENTORY LISTING FOR TALLADEGA COUNTY						
Dam ID	**Dam Name**	**River**	**Dam Type**	**Hazard**	**Latitude**	**Longitude**
AL01104	Harkins	TR Bryant Creek	HPDE	S	33.31333	-86.261669
AL00009	Lake Socapatoy	Chatham Branch	HPDE	L	33.38333	-86.03333
AL000006	Lake Robin	East Creek	HPDE	H	33.44	-85.95167
AL01090	Caudle	Cohabie Creek	HPDE	S	33.16833	-86.39833
AL01103	Jones	TR Byrant Branch	HPDE	L	33.325	-86.27333
AL01101	Edwards	TR Fourmile Creek	HPDE	L	33.253329	-86.28333
AL01100	Watkins	TR Blue Eye Creek	HPDE	L	33.594999	-86.114999
AL01099	Mump Creek Reservior	Talladega Creek	HPDE	H	33.38333	-86.01667
AL01097	Mac Lake Lower	Tater Creek	HPDE	S	33.483329	-85.921669
AL01096	Mac Creek Upper	Tater Creek	HPDE	S	33.481669	-85.91833
AL01095	Brooks		HPDE	S	33.65833	-86.09667
AL01091	Horne	TR Talladega Creek	HPDE	L	33.319999	-85.98667
AL01087	Mary Lake	Kelly Creek	HPDE	L	33.403329	-86.00833
AL01086	Elliott Lake	TR Kelly Creek	HPDE	L	33.45	-86.038329
AL01085	Talladega Lake	Talladega Creek	HPDG	L	33.379999	-86.071669
AL01084	Howard	Tallaseehatchee Creek	HPDE	H	33.206669	-86.194999
AL01093	Riser	TR Weewoka Creek	HPDE	L	33.28167	-86.25
AL01516	Goodner Dam	TR Cedar Creek	HPDE	L	33.18	-86.423329
AL01752	Joiner Dam	TR Cedar Creek	HPDE	L	33.16833	-86.375
AL01106	Brown	TR Shelton Creek	HPDE	S	33.114999	-86.206669
AL00561	A W Jones	TR Bryant Creek	HPDE	L	33.31667	-86.26667
AL01107	Lane	TR Shelton Creek	HPDE	L	33.106669	-86.26667

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Table 3-15: DAM INVENTORY LISTING FOR TALLADEGA COUNTY						
Dam ID	**Dam Name**	**River**	**Dam Type**	**Hazard**	**Latitude**	**Longitude**
AL01092	Killough	TR Talladega Creek	HPDE	L	33.33833	-86.25
AL01105	Donahoo	Talladega	HPDE	L	33.366669	-86.28333
AL01102	Linbaugh	TR Fourmile Creek	HPDE	L	33.26	-86.311669
AL01077	Cheaha Creek Watershed Dam #2	Kelly Creek	HPDE	L	33.433329	-86.01667
AL01078	Cheaha Creek Watershed Dam #3	Mud Creek	HPDE	L	33.401669	-86.024999
AL00008	Cheaha #5	Not Named	HPDE	S	33.466669	-86.033059
AL01515	Tallaseehatchee Creek Watershed Dam	Tallaseehatchee Creek	HPDE	H	33.2	-86.16667
AL01512	Tallaseehatchie Creek Watershed	Wills Creek	HPDE	H	33.186669	-86.173329
AL01514	Tallaseehatchee Creek Watershed Dam	Wewoka Creek	HPDE	S	33.34833	-86.116669
AL01083	Tallaseehatchee Creek Watershed Dam	TR Weewoka Creek	HPDE	S	33.323329	-86.136669
AL01075	Blue Eye Creek Watershed Dam #1	TR Blue Eye Creek	HPDE	S	33.64167	-86.061669
AL01076	Blue Eye Creek Watershed Dam #2	TR Blue Eye Creek	HPDE	L	33.63333	-86.061669
AL01080	Choccolocco Creek Watershed Dam	None	HPDE	L	33..54	-85.876669
AL01081	Choccolocco Creek Watershed Dam	None	HPDE	L	33.538329	-85.88333
AL01082	Choccolocco Creek Watershed Dam	None	HPDE	L	33.53	-85.905
AL02266	Tallaseehatchie Creek Watershed site 4	Emauhee Creek	HPDE	H	33.25	-86.166939
AL02351	Elbert Butler's	TR Hay Springs	HPDE	L	33.198329	-86.43
AL02447	Tallaseehatchie Creek	Chartee Creek	HPDE	S	33.16667	-86.233329

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Table 3-15: DAM INVENTORY LISTING FOR TALLADEGA COUNTY						
Dam ID	**Dam Name**	**River**	**Dam Type**	**Hazard**	**Latitude**	**Longitude**
	Watershed Site 9					
AL01513	Tallaseehatchi Creek Watershed Site 3	Tallaseehatchie Creek	HPDZ	L	33.19	-86.19167

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Section Four: Vulnerability Assessment

In Section Three, the primary effects and hazardous results were considered for all identified hazards. In this section each hazard was further reviewed to identify the impacts on the county and its jurisdictions. Impact in terms of dollar value for past hazard occurrences are shown for the county in **Table 3-5** and for each jurisdiction in their individual Hazard Event table in Section Five of this plan.

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.

Thunderstorms *(Source: NCDC NOAA)*

Damage from thunderstorms can have a wide range of severity. All jurisdictions are vulnerable to thunderstorm events. Two thunderstorm events resulting in the largest amount of damages occurred in Talladega County during 2004-2014. One event occurred in Lincoln on October 23, 2007 and resulted in property damages of $100,000. Numerous trees and power lines were blown down across the northern portion of the county. Widespread wind damage was reported across the northern portion of Talladega County, from near Lincoln eastward to Munford, and as far south as the city of Talladega. Damage consisted mostly of trees and power lines that were blown down, some of which fell onto structures. One mobile home had its roof peeled off. No injuries, deaths or crop damages occurred. Another event occurred across the southern portion of the city of Talladega on June 21, 2010. Around 100 trees were blown down, with some of them falling onto homes causing varying degrees of damage. In addition, hundreds of limbs were broken off, many of them also large enough to cause damage to homes as they fell. Structural damage not the result of falling trees or limbs was confined to outbuildings containing lumber at a hardware store. The total damage swath was more than 2.5 miles long, and up to 100 yards wide, with peak wind gusts estimated around 80 mph.

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Lightning *(Source: NCDC NOAA)*

Lightning can cause substantial property damage and loss of human lives. All jurisdictions are vulnerable to lightning events. The worst lightning event occurred on July 22nd of 2008 causing $50,000 in damage. Another event took place on June 15th 2009 causing about $20,000 in damages. The smallest lightning event costing $10,000 in damages occurred on July 12, 2008. The extent of lighting in the county at its worst caused $50,000 worth in damages.

Hail *(Source: NCDC NOAA)*

Severe thunderstorms have been known to produce hailstones 4.25 inch in diameter (softball size) in Talladega County. All jurisdictions are vulnerable to hail events. On April 19, 2006 a thunderstorm event, which had 2.75 inch hail caused damage reported on Millerville Highway and Trammell Road, however did not cause any damages. The largest hail measurement of hail in the county during this study period is 2.75 inches and the smallest was .75 inches.

Tornado *(Source: NCDC NOAA)*

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.

Areas with higher population densities pose the greatest potential for property damage, injury, and death. The City of Talladega is the most densely populated area 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. Talladega County has a total of 8,958 mobile homes countywide, 24.12% of the total housing stock. The greatest concentration of mobile homes in a municipality is in the Town of Oak

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Grove where 41.47% of the units are mobile homes. *(Sources: U.S. Census Bureau, 2010-2012 American Community Survey and Easidemographics.com)*

The most significant event took place on November 24th 2004. The F2 tornado touched down in the vicinity of the Talladega Superspeedway. Two concession stands within the infield area of the race track had their roofs blown off. The Bush Garage area received building damage and the garage doors were bowed out. Debris was scattered between the garage area and Victory Lane. One digital leader board was completely destroyed and another one sustained major damage. The tornado continued on a northeast path across northern Talladega County. Numerous trees were blown down or snapped off along the path. Several out-building were destroyed and sheet metal was lofted into trees. The tornado moved into the Eastaboga area where it caused severe damage. Two homes suffered major roof damage, two porches were destroyed and many trees were blown down. The tornado continued northeastward into southwest Calhoun County. In Bynum, two mobile homes were heavily damaged by fallen trees. One of the trees smashed a mobile home killing a 75 year old woman around 712 am. In the Coldwater area, one home was significantly damaged and a shed was destroyed. Numerous trees were still being knocked down along the path. The tornado then moved into the southwestern part of Anniston. A cinder block building sustained major structural damage and an animal shelter received major roof damage. Several other businesses sustained damage near Anniston. The total tornado damage path length was 15.2 miles and was 500 yards wide at its widest point.

Flood/Flash Flood *(Source: NCDC NOAA)*

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 Heflin include street flooding and water backing up into homes and buildings. In addition to damaging homes, flooding can adversely impact crops, water and sewer systems, and dams and levees. All jurisdictions are vulnerable to flood events.

On November 24th 2004 the most costly flash flooding event took place. Numerous roads

were reported covered with water and were temporarily impassable. Doppler radar estimated rain amounts of three to four inches with isolated totals approaching 7 inches. The heaviest rain fell across northern and western parts of the county. Several area streams and creeks rose above their bank. Runoff from these storms lasted for several hours after the heaviest rains ended. This event caused $16,000 in property damage.

A line of thunderstorms moved through the state of Alabama on the morning of March 9th. Along with heavy rainfall that caused flash flooding in areas, these storms produced strong winds causing tree and structure damage. A resident reported water in their home on 8th Avenue SW. (*Source: NOAA NCDC*)

Drought/Extreme Heat (*Source: NOAA NCDC*)

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.

During the past ten years, Talladega County experienced D0 Abnormally Dry to D2 Severe in 2004, D2 Severe to D3 Extreme Drought in 2010 and D2 Severe to D4 Exceptional Drought in 2014. No deaths, injuries, property or crop damages were reported. (*Source: NOAA NCDC*)

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.

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.

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

Talladega 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 Talladega County are vulnerable to severe winter storms.

On January 19, 2008 a winter storm brought a swath of heavy snow to parts of central Alabama during the morning hours of January 19. The main band of snow accumulation was roughly bounded on the north side by Interstate 20, and on the south side by Interstate 85. The heaviest snow, accumulating from 2 to 5 inches, fell in a band from Marengo and southern Sumter Counties, northeastward into Coosa County. Because ground temperatures were just above freezing, much of the snow outside of the highest snow band melted within an hour or two after the snow ended. Area streets saw only minor impacts from the snow, and most roads were free from snow before nightfall. Accumulation was generally less than one inch.

Talladega County experienced a low pressure system moving across the northern Gulf of Mexico brought a swath of snow to a large portion of Central Alabama on February 12, 2010. The highest snowfall amounts were in the eastern and southern sections of Central Alabama, with 3 to as much as 7 inches of snow reported in these areas. The snow caused numerous businesses and schools to close, and created hazardous travel across a large portion of the area. A period of snow accumulated to an average of 1 to 2 inches across the county causing hazardous travel

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conditions.

A cold front moved into Central Alabama during the evening hours on Sunday, January 13, and stalled across southeastern portions of the area. Rainfall along this front wet ground conditions and resulted in minor, isolated flooding in urban areas where rainfall was heavy at times. Low level southerly flow across the stalled frontal boundary resulted in repeated rounds of rainfall across much of the area on Monday and Tuesday, January 14-15. Instances of flash flooding led to long term flooding across portions of Central Alabama. Several roads were closed for many days due to high water. In addition, the temperature gradient across the front was quite strong, with more than a 40 degree difference from the far northwestern portions of Central Alabama to locations in the southeast. Light rain continued along the stalled front on Wednesday, January 16, before heavier rain spread back into the area during the evening hours. On Thursday, January 17, a deepening upper low approached the area from the west, resulting in surface low development in eastern Georgia along the stalled front. This allowed additional low level cold air to filter into Central Alabama from the north as the front pushed south of the area. With temperatures of approximately -25C aloft and robust forcing, rainfall transitioned to snow across much of north Central Alabama Thursday morning. As the system moved eastward, precipitation ended from west to east through the day. Isolated icy road conditions overnight on the 16th worsened as snowfall rates increased. Numerous wrecks were reported on minor and major roadways, including area interstates, and travel was disrupted across north Central Alabama as the heaviest snow band crossed the area during the day on the 17th. Up to an inch of snow fell across the county, creating hazardous road conditions and causing at least one traffic accident.

Talladega County experienced 5 winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather events in a 10 year period resulting in a 50% (.50) probability that a winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather event will occur on an annual basis. There were no damages for the 5 winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather events resulting in an unknown amount 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 Talladega County due to a winter storm/extreme cold/frost

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freeze/heavy snow/ice storm/winter weather event; the ranking is minor to major. During the most signification winter weather event around one inch of snow throughout the county.

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

Tropical Storms and Tropical Depressions such as Fay, Dennis, Ivan, Frances and Ida have affected Talladega 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 29.11% 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.

On July 10-11, 2005, numerous trees and power lines were knocked down as Tropical Storm Dennis moved across Talladega County. No injuries, deaths, or crop damages occurred. Property damages of $24,000 resulted from this event. *(Source: NOAA NCDC)*

On August 23-25, 2008, Tropical Depression Fay brought high winds, heavy rain, and numerous tornadoes to the Talladega County area. No injuries, deaths, or crop damages occurred. Property damages of $5,000 resulted. *(Source: NOAA NCDC)*

On November 9, 2009, Tropical Depression Ida brought heavy rains and sustained winds to Central Alabama. Winds maxed out between 20-30 mph, with peak wind gusts generally between 30 and 40 mph. These winds blew down a few trees, especially shallow rooted trees where the saturated soil likely played a significant role. No injuries, deaths, or crop damages occurred. Property damages of $2,000 resulted. *(Source: NOAA NCDC)*

On September 16, 2004, a high wind event (in association with Ivan) resulted in hundreds of trees and power lines being blown down across the county. At least 10 homes suffered moderate damage with much more reporting minor roof damage. The debris removal took two weeks in some locations. Power was restored to most of the county in 24 hours. Maximum wind gust were estimated between 55 and 65 miles an hour. Several roadways and

creeks were flooded due to the torrential rain. One creek bridge suffered damage. Doppler radar and ground observations indicate as much as 6 inches of rain fell. *(Source: NOAA NCDC)*

On September 7, 2004, a strong wind (38 mph) event occurred as remnants of Hurricane Frances moved northward mainly across the eastern counties of Central Alabama. Strong winds of 30 to 40 mph along with saturated ground conditions allowed several trees and power lines to be blown down. No injuries, deaths, or crop damages occurred. Property damages of $1,000 resulted. *(Source: NOAA NCDC)*

On March 9, 2006, a strong wind event resulted in 46 mph winds causing sporadic tree damages. No injuries, deaths, or crop damages occurred. Property damages of $2,000 resulted.

On December 20, 2007, a strong wind event resulted in 35 mph winds causing tree and power line damage. Numerous power outages were reported. No injuries, deaths, or crop damages occurred. Property damages of $10,000 resulted. *(Source: NOAA NCDC)*

Sinkholes/Expansive Soils

During the risk assessment, it was determined that Talladega County has experienced 33 sinkholes according to local research. The total amount of damages for a sinkhole event is unknown, as well as the expected annual damages from future events. The largest sink hole is approximately 50+ feet deep and over 20 feet wide.

No expansive soil issues were reported from NOAA NCDC or the U. S. Geological Survey.

Landslides *(Source: Local Input; Geological Survey of Alabama)*

No landslide occurrences have been reported in Talladega County.

Earthquakes (*Sources: Alabama Geological Survey; USGS Database; NOAA NCDC; www.homefacts.com/earthquakes/Alabama.html)*

Talladega County experienced three earthquake events in a 10 year period resulting in a 30% (0.30) 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 events. The ranking is minimum to minor.

A major earthquake in Talladega 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 NOAA NCDC Storm Events Database; however, three earthquakes were reported by city-data.com – a 4.9 magnitude earthquake occurred on April 29, 2003, 58.9 miles from the county's center; a 3.3 magnitude earthquake occurred on May 9, 2004, 80.5 miles from the county's center; and a 3.6 magnitude earthquake occurred on August 19, 2004, 88.4 miles from the county's center. Damages are unknown.

Wildfires *(Source: Alabama Forestry Commission)*

Talladega 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. Talladega County experienced 322 wildfires from 2010-2013 resulting in 4,578 acres burned.

Dam/Levee Failures *(Sources: HAZUS MH 2.1; Local Input)*

Talladega County has 35 High Density Polyethylene (HPDE - Earth) Dams, one Rock Filled Dam (HPDR), and four miscellaneous dams (HPDZ) including six high hazard dams. 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 Talladega County during 2004 - 2014.

Socially Vulnerable Populations

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

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obtained from 2010 Census using breakouts for entire municipalities and census tracts. According to the 2010 Census, Talladega County has 760 square miles of land area and 112 persons per square mile.

Table 4-1 shows the county's population characteristics by jurisdiction and by census tract. The City of Talladega is the most populated jurisdiction, followed by the City of Sylacauga, Lincoln, and Childersburg. The county has twenty census tracts. In terms of vulnerability, the larger the population of an area the more people and structures that could possibly be damaged or destroyed. Tract 101 is the most populated tract and includes parts of Munford and Oxford. Tract 103 is the second most populated tract and includes the City of Talladega. Tract 102 is the third most populated tract and includes portions of Eastaboga and Munford. Tract 120 is the least populated tract and includes a portion of Sylacauga.

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Table 4-1: Talladega County Population Characteristics

Geographic Area	Population	Race-White	Race-Black	Race-Other*	Under 19 years	Age 20-64 years	Age 65 and Over
Talladega County	81,322	53,322	26,055	1,532	21,532	49,168	11,591
City of Talladega	15,676	7,477	7,639	560	4,197	9,207	2,272
City of Childersburg	5,175	3,108	1,911	156	1,538	2,858	779
City of Sylacauga	12,749	8,487	3,846	416	3,421	7,148	2,180
City of Lincoln	6,266	4,595	1,468	203	1,603	3,878	785
Town of Oak Grove	534	482	37	15	106	325	97
Town of Munford	1,292	1,065	202	38	384	748	160
Census Tracts							
101	10,201	7,995	1,865	341	2,970	6,362	869
102	7,771	5,916	1,595	260	2,009	4,933	829
103	7,928	4,868	2,865	195	1,866	5,145	917
104	2,783	2,386	342	55	679	1,757	347
105	2,898	971	1,798	129	805	1,778	315
106	3,086	599	2,428	59	1,051	1,794	241
107	2,496	646	1,671	179	394	1,927	175
109	3,375	2,268	1,029	78	982	1,711	682
110	2,922	2,518	341	63	667	1,747	508
111	4,742	2,831	1,828	83	1,203	2,968	571
112	2,902	989	1,882	31	551	2,047	304
113	6,191	4,035	1,961	195	1,809	5,189	807

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114	2,873	1,678	1,126	69	752	1,867	254
115	5,591	4,943	526	122	1,459	3,458	674
116	4,857	3,305	1,442	110	1,341	3,009	507
117	4,308	3,145	987	176	1,127	2,663	518
118	2,216	1,362	730	160	528	1,347	341
119	2,948	2,162	355	131	742	1,642	564
120	2,203	1,176	984	43	597	1,289	317
(Source: 2010 Census)							

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

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

In addition to the racial and age composition within the county, income levels are important when identifying vulnerable populations. Lower income individuals may not have the resources to prepare for or recover from disasters. **Table 4-2** shows the median household income, per capita income, and poverty level data for the jurisdictions and census tracts in Talladega County.

The median household income for the State of Alabama is $43,160. The median household income for the United States is $53,046. Sylacauga and Lincoln exceed the state average and only Sylacauga exceeds the national average. All municipalities have a median household income that is less than the state and national averages. *(Source: 2010 Census)*

Per capita income is the average obtained by dividing aggregate income by the total population of an area. The per capita income for the State of Alabama is $23,587. The per capita income for the United States is $28,051. No tracts exceed the state and national averages.

(Source: 2010 Census)

The percent of persons below the poverty level in the State of Alabama is 18.1%. The corresponding rate for the United States is 14.9%. Talladega County, City of Talladega, Sylacauga, Oak Grove, and Childersburg are higher than the state and national rates. Only the City of Lincoln has a rate that is below the state and national rates. All other municipalities have rates higher than the state and national rates. The City of Sylacauga has the highest poverty rate in the county at 27.11%. *(Source: 2010 Census)*

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Table 4-2: Talladega County Income Data

Geographic Area	Median Household Income	Per Capita Income	Persons Below Poverty Level	Percent Below Poverty Level
Talladega County	35,209	18,744	18,030	22.89%
City of Talladega	29,121	15,855	4,058	30.15%
City of Childersburg	27,846	17,329	1,609	31.04%
City of Sylacauga	118,600	20,521	3,383	27.11%
City of Lincoln	45,655	22,552	882	14.19%
Town of Oak Grove	30,350	17,234	144	25.25%
Town of Munford	38,650	17,923	276	18.19%
(Sources: 2010 Census; www.usa.com,2015)				

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Vulnerable Structures

Housing is an important consideration of mitigation planning. The concentration and the type of housing are two primary factors. In Talladega County there are a total of 37,042 housing units. **Table 4-3** shows the housing characteristics of the county by jurisdiction.

The City of Talladega has the greatest concentration of housing units, followed by the City of Sylacauga and City of Lincoln. The City of Lincoln has the highest number of mobile home units within a municipality; while, the Town of Oak Grove has the highest percent of mobile homes within a municipality. Mobile home units are historically very vulnerable to a variety of hazards and prone to high amounts of damage and complete destruction.

Table 4-3: Talladega County Housing Characteristics

Geographic Area	Total Housing Units	Mobile Home Units	Mobile Home %
Talladega County	37,042	9,207	24.9%
City of Talladega	6,542	559	8.5%
City of Childersburg	2,523	227	9.0%
City of Sylacauga	5,855	284	4.9%
City of Lincoln	3,319	1,234	37.2%
Town of Oak Grove	305	108	35.41%
Town of Munford	529	184	34.78%

(Source: 2010 Census)

Table 4-4 shows the building stock in Talladega 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 101 has the highest number of structures in the county. Complementing this information is **Table 4-5** that provides the value totals for these

building types and **Table 4-6** that provides the content value for these building types, each table is shown by Census Tract. Tract 109 has the highest total value for structures in the county.

Table 4-4: Talladega County Building Stock by General Occupancy

Census Tract	Residential	Commercial	Industrial	Agriculture	Religious	Government	Education	Building Count
101	3780	107	60	9	15	3	3	**3977**
102	3224	143	104	15	20	1	4	**3511**
103	3503	111	45	10	23	8	4	**2744**
104	1326	50	22	11	7	1	0	**1417**
105	1270	31	12	0	7	0	0	**1320**
106	1209	43	4	0	7	0	0	**1263**
107	614	24	3	1	8	1	3	**654**
109	1762	186	31	3	22	11	16	**2031**
110	1310	27	33	1	4	0	0	**1375**
111	2144	43	18	7	19	3	3	**2237**
112	1084	27	11	6	9	3	0	**1140**
113	2849	134	33	8	21	3	5	**3053**
114	1097	40	9	1	6	0	1	**1154**
115	2528	107	34	10	13	1	2	**2695**
116	2139	90	23	4	13	1	5	**2275**
117	1963	68	24	2	3	3	2	**2065**
118	1071	186	18	4	17	8	4	**1308**
119	1265	56	24	4	6	1	1	**1357**
120	1148	30	7	2	6	0	0	**1193**
TOTAL	**35286**	**1503**	**515**	**98**	**226**	**48**	**53**	**37729**

(Source: HAZUS-MH 2.1, 2015)

Table 4-5: Talladega County Building Exposure
(Numbers shown in thousands of dollars)

Census Tract	Residential	Commercial	Industrial	Agriculture	Religious	Government	Education	Building Exposure
101	376727	29726	29771	1342	10614	1727	10487	**460394**
102	261562	45400	139083	7701	11690	311	1696	**467443**
103	357851	28133	19079	1362	13532	5707	7129	**432793**
104	101825	14751	11935	3077	4092	1340	0	**137020**
105	126864	9983	9011	0	4104	0	0	**149962**
106	85173	17063	474	0	3517	0	0	**106227**

107	71509	4086	454	229	4535	887	2163	**83863**
109	222022	155052	25139	307	15336	6060	101241	**525157**
110	161713	9307	47033	57	4685	0	0	**222795**
111	188852	11288	9339	962	9773	1757	4068	**226039**
112	94381	13462	6298	360	4958	2668	0	**122127**
113	228825	43747	14879	1279	12575	1191	8789	**311285**
114	76006	11314	9329	39	3216	0	165	**100069**
115	242754	39039	21174	1310	7168	1161	1658	**314264**
116	195953	41196	6877	433	10251	109	3682	**258501**
117	202705	27458	19787	133	1661	1345	1547	**254636**
118	124745	189518	4478	392	11599	3101	2309	**336142**
119	131221	35200	13981	641	4560	66	1207	**186876**
120	128352	8451	2134	99	3052	0	0	**142088**
TOTAL	**3379040**	**734174**	**390255**	**19723**	**140918**	**27430**	**146141**	**4837681**
(Source: HAZUS-MH 2.1, 2015)								

Table 4-6: Talladega County Building Contents Exposure
(Numbers shown in thousands of dollars)

Census Tract	Residential	Commercial	Industrial	Agriculture	Religious	Government	Education	Contents Exposure
101	188533	31749	42273	1342	10614	2387	10487	**287385**
102	130966	46174	206872	7701	11690	311	1696	**405410**
103	179094	28718	26922	1362	13532	6052	7129	**262809**
104	51036	14751	17112	3077	4092	1340	0	**91408**
105	63482	10046	13294	0	4104	0	0	**90926**
106	42691	17341	545	0	3517	0	0	**64094**
107	35768	4152	454	229	4535	887	2896	**48921**
109	111148	177349	36218	307	15336	6911	101241	**448510**
110	80911	10280	69807	57	4685	0	0	**165740**
111	94532	11288	13202	962	9773	2496	4068	**136321**
112	47245	13462	8998	360	4958	3658	0	**78681**
113	114644	44810	20444	1279	12575	1191	8789	**203732**
114	38029	12631	13741	39	3216	0	165	**67821**
115	121502	39615	29622	1310	7168	1742	1738	**202697**
116	98124	43737	9260	433	10251	109	4073	**165987**
117	101466	27595	28965	133	1661	1841	1547	**163208**
118	62464	240472	5770	392	11599	3101	2309	**326107**
119	65694	35824	18391	641	4560	66	1207	**126383**
120	64243	9579	2704	99	3052	0	0	**79677**
TOTAL	**1691572**	**819573**	**564594**	**19723**	**140918**	**32092**	**147345**	**3415817**
(Source: HAZUS-MH 2.1, 2015)								

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Critical Facility Inventory

Critical facilities are crucial to the daily operation of Talladega 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 4-7** is vulnerable to each of the hazards identified in the risk assessment. Critical facilities include but are not limited to the following:

- Governmental
- Police and Fire Departments
- Public Works
- Educational
- Industrial
- Medical

HAZUS-MH 2.1 was also utilized for building and content values.

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TABLE 4-7: Talladega County Critical Facilities

(Source: Local and HAZUS-MH 2.1)

Facility	Location	Area	Use	Value
Governmental Services				
Talladega County Courthouse	1 Court Square, Talladega	Talladega Co.	Government	
Talladega County EMA Office	26715 AL Highway 21, Talladega	Talladega Co.	Government	
Talladega County Highway Department	820 AL Highway 21, Talladega	Talladega Co.	Government	
Talladega County Sheriff's Department	148 East Street North, Talladega	Talladega Co.	Government	
Talladega County Revenue Office	3802 Highway 21 South, Unit 1, Oxford, AL	Talladega Co.	Government	
Talladega County 911 Office	26175 AL Highway 21, Talladega	Talladega Co.	Government	
Public Works				
Talladega County Water and Sewer Board Office	100 Court Street N.	Talladega Co.	Public Works	
Talladega County Water Department	1 Court Square, Talladega	Talladega Co.	Public Works	
Education				
Talladega County Board of Education	106 South Street W.	Talladega Co.	Education	
TOTAL				

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Development Trends

The 2010 Census for Talladega County, Alabama shows a countywide population of 82,291. Current population projection numbers show that the population in Talladega County will continue increasing within the next 20 years. There is a population change of 724 from 2010 to 2030, which is a 7.24% population decrease. **Table 4-8** provides the population projections for Talladega County.

Table 4-8: Talladega County Population Projections	
YEAR	**POPULATION PROJECTION**
2015	87,518
2020	89,027
2025	90,021
2030	86,794
(Sources: Center for Business and Economic Research, University of Alabama; Alabama Hazard Mitigation Plan, 2014)	

The development trends in the county do not indicate any marked increase in vulnerability to identified hazards.

Methods of Warning

Talladega County Emergency Management Agency and the county's jurisdictions have constructed a warning system that provides multiple ways to receive weather watches, warnings, and other emergency messages.

NOAA Weather Radio

NOAA Weather Radio 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 offices 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 the first Tuesday of each month at four p.m., weather permitting.

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TABLE 4-9: Talladega County Outdoor Warning Sirens	
Siren	**Siren Location**
CB01	Desoto Caverns Pkwy/ Industrial Park
CB02	Hillside Drive
CB03	Hwy 280
CB04	County Road 33
CB05	75 Earl Street
CB06	90 Hillcrest
CB07	Dirt Road Past Evans Drive
EB01	Hwy 78 & Mudd Street
EB02	Plum Springs Road/ Patton Chapel Road
EB03	Hwy 78
EB04	I20 Exit 173
EB05	1050 Brickstore Road
IR01	3614 Ironaton Road
IR02	3630 Stockdale Road
IR03	385 Union T Road
LC01	Mindi Road
LC02	City Hall
LC03	Hwy 78 / Woodrow Street
LC04	2533 Patton Chappel Road
LC05	Plum Springs Road
LC06	Holly Hills Road
LC07	3rd Avenue

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LC08	1271 Rushing Springs Road
LC09	46511 US Hwy 78
LC10	Eastwood Rd / Drew Ln
LC11	854 Oak Forest Cr
LC12	5450 Embry Bend Road
LC13	31 Cherry Lane
LC14	Lomar Dr
LC15	288 Wyatt Blvd
LC16	2227 Sycamore Church Road
LC17	320 Grandview Cir
MF01	Cedars Rd @ School
MF02	Hill Cr
MF03	Camp Mac
MF04	1980 Richietown Road
MF05	620 Priebes Mill Road
MF06	1120 Silver Run
MF07	26 Oak Grove Road
MF08	345 McElderry Circle
MF09	901 Quail Run
MF10	735 Old Schoolhouse Road
MF11	3089 Chinnabee Road
OG01	Gantts Junction @ OG FD/Town Hall
OG02	Odens Mill Road & Merkel Loop Road
OG03	Odens Mill Road & Lauras Ln

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OG04	Gravity Hill Rd & Kimberly Rd
OX01	580 Buckhorn Rd
OX02	3420 Gunnels Lane
OX03	4000 Pecanwood Rd
RF01	3575 Griffiths Bend Rd
RF02	191 Pine Point Lane
RF03	4485 Renfroe Road
RF04	355 Ridgeway
RF05	2255 Howells Cove Road
RF06	635 Water Oak Lane
RF07	95 Hayes Road
TS01	7999 Jackson Trace Road
TS02	Speedway Blvd
TS03	281 Industry Way
ST01	4711 Howells Cove Road
ST02	1099 Stemley Bridge Road
ST03	7455 Stemley Bridge Road
SM01	Main Street @Sycamore VFD
SY01	Ft. Williams & Terrace Road
SY02	South Main & Clay St.
SY03	End of Hillside Drive @Water Tank
SY04	Oldfield Road @ Sayers Lane
SY05	Beckett Drive @Hwy 21
SY06	Commerce Drive& Hwy 21

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TA01	911 Center
TA02	1336 Shocco Springs
TA03	160 E Renfroe Road
TA04	2360 Jackson Trace Road
TA05	165 Mt. Olive Circle
TA06	120 Woodland Heights
TA07	601 Pearl Street
TA08	11 Providence Road
TA09	108 Brecon Access Road
TA10	421 Cedar Street
TA11	Frank Street
TA12	321 Turners Mill Road
TA13	399 Welch Ave
TA14	84 Terra Lane
WA01	35 Sorgham Lane
WA02	Hwy 77 @ Chandlers Springs

The entire countywide Outdoor Siren Warning System is periodically tested. Notification of testing is usually posted in the newspapers to avoid confusion. The general public is advised to not depend on hearing the sirens inside a building. The sirens are designed to be heard outdoors only and are installed near recreational areas 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.

Broadcast Media

One of the key elements of the Countywide Warning System is broadcast media. Most of the radio, television, and cable companies that serve Talladega County residents are dedicated to

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informing their audiences of impending emergencies. These broadcasters have partnered with the Talladega County Emergency Management Agency to bring their listeners and viewers fast, accurate, and important severe weather and civil emergency information via EAS and traditional newsgathering methods. Most of the television stations serving the Talladega County market (ABC 33/40, NBC 13, and Fox 6) feature live Doppler radar and certificated meteorologists. Many of the radio stations provide continuous severe weather coverage. Local newspapers, outdoor warning sirens, NOAA radios, and ALERT FM also assist in informing the public of risks, threats, watches, warnings, evacuations, shelters, etc. The Talladega County EMA has printed and distributed materials with information concerning safe rooms, natural and man-made hazards, and what to do during tornados.

Vulnerability Summary

Table 4-11 provides a summary of Talladega 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 Three 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.

Estimated Loss Projections

Table 4-10 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 4-12 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

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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.

Table 4-10: 2014 Values used for Monetary Conversion of Tornado Injuries and Deaths

Damage Category	Value
Injury (blended major and minor)	$23,175
Death	$3,660,003
(Source: FEMA, 2014)	

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)*

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Table 4-11: Talladega County Vulnerability Summary

Natural Hazards	City of Talladega	City of Childersburg	City of Sylacauga	City of Lincoln	Town of Oak Grove	Town of Munford	Talladega County
Thunderstorm	H	H	H	H	L	H	H
Lightning	L	L	L	L	L	L	L
Hail	M	H	H	M	L	M	M
Tornado	L	M	L	L	L	L	M
Flood/Flash Flood	M	M	M	L	L	L	M
Drought/ Extreme Heat	L	L	L	L	L	L	M
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/ Winter Weather/Extreme Cold	L	L	L	L	L	L	L
Hurricane/Tropical Storm/Tropical Depression/ High Wind/Strong Wind	L	L	L	L	L	L	L
Sinkhole/ Expansive Soil	L	L	L	L	L	L	M
Landslide	L	L	L	L	L	L	L
Earthquake	L	L	L	L	L	L	L
Wildfire	L	L	L	L	L	L	H
Dam/Levee Failure	L	L	L	L	L	L	L

KEY:
NA – Not Applicable; not a hazard to the jurisdiction
L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction)
M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence)
H – High Risk; significant risk/major damage potential (damage to over 10% of jurisdiction, regular occurrence)

(Source: Participating Jurisdictions, 2015)

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Table 4-12: Talladega County
Estimated Loss Projections from Specified Hazards

Natural Hazards	Average Occurrences (per year)	Total Deaths	Total Injuries	Average Death and Injury Loss (per event)	Average Crop and Property Loss (per event)	Projected Loss (per event)
Thunderstorm	11.7	Unknown	1	$3,863	Unknown	$6,308
Lightning	0.3	Unknown	Unknown	Unknown	Unknown	$26,667
Hail	5.6	Unknown	Unknown	Unknown	Unknown	$696
Tornado	1.0	Unknown	Unknown	Unknown	Unknown	$140,800
Flood/Flash Flood	2.1	Unknown	1	$3,863	Unknown	$27,619
Drought/Extreme Heat	0.5	Unknown	Unknown	Unknown	Unknown	Unknown
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	0.2	Unknown	Unknown	Unknown	Unknown	Unknown
Hurricane/Tropical Storm/ Tropical Depression/High Wind/ Strong Wind	3.3	Unknown	Unknown	Unknown	Unknown	$87,500
Sinkhole/Expansive Soil	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Landslide	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Earthquake	0.1	Unknown	Unknown	Unknown	Unknown	Unknown
Wildfire	107.3	Unknown	Unknown	Unknown	$203,300	$221,597
Dam/Levee Failure	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

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, 2015

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences during the ten-year period with the exception of wildfire which 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.

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Mitigating Potential Losses

The Hazard Mitigation Planning Committee set forth mitigation goals and objectives for the county and its jurisdictions. Each jurisdiction sets forth its own mitigation action plan located in Section Five.

Mitigation Strategy

In the preparation of the mitigation strategy, the Hazard Mitigation Planning Committee reviewed the goals and objectives of the 2010 plan revision. The committee agreed the goals and objectives would remain the same for this plan revision.

Ultimately, the goal of mitigation is to reduce or eliminate the long-term risk to people and their property from hazards and their effects. The members of the Talladega County Hazard Mitigation Committee, as well as all jurisdictions participating in the mitigation plan have identified the following goals for this mitigation plan:

- To protect human life and health,
- To protect natural resources and farmland,
- 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.

Mitigation Actions

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.

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;

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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:

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.

Action Priority and Cost Benefit Review

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.

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.

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 4-13** shows Talladega County's updated mitigation actions for the 2015 plan revision. During the plan update process new actions were identified and added to the plan. For

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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.

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Table 4-13: Talladega County Mitigation Actions, 2015	
Mitigation Action	Woods Ferry Road-4ft rip rap and road base and resurface to eliminate beavers tunneling under road and causing road failure.
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	Talladega County Commission and Engineers
Time frame for Completion	5 years/Ongoing
Estimated Cost	$34,000
Funding Sources	Local; Grants
Priority	High
Milestones	This project was completed during this planning process. The county plans to continue monitoring this project to make sure no additional problems occur.
Mitigation Action	County-wide drainage improvement project. Clearing undergrowth from drainage areas causing flood problems. The county plans to acquire easements from landowners.
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	Talladega County Commission and Engineers
Time frame for Completion	5 years/Ongoing
Estimated Cost	$200,000
Funding Sources	Local; Grants
Priority	High
Milestones	Budgetary constraints have prevented this project from being completed. It is still in the interest of the county and engineer to complete this project should future funding come available.
Mitigation Action *New Item	Install Community Safe Rooms in the county.
Hazard(s) Addressed	Thunderstorm, Tornado, High Wind
Applies to new/existing asset	New
Local Planning Mechanism	Talladega County Commission and EMA
Time frame for Completion	3 years from funding
Estimated Cost	$150,000 each
Funding Sources	Local; Grants
Priority	High
Milestones	New Action
Mitigation Action	Camp Bownie Road-Porous soil causing road failure. Needs 3ftX1 mile of soil replacement.
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	Talladega Commission and Engineers
Time frame for Completion	5 years
Estimated Cost	$100,00
Funding Sources	Local; Grants
Priority	High

Milestones	This action has been completed during the planning period.
Mitigation Action	Quarry roads inadequate for surface loads. The county plans to complete improvements to these roads for safer travel.
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	Talladega Commission and Engineers
Time frame for Completion	5 years from funding/Ongoing
Estimated Cost	$200,000
Funding Sources	Local; Grants
Priority	High
Milestones	This action has been completed.
Mitigation Action	Flat Creek at Drag Strip Bridge (1 lane wooden bridge) Replacement of Bridge
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	Talladega Commission and Engineers
Time frame for Completion	5 years
Estimated Cost	$2.3million
Funding Sources	Local; Grants
Priority	High
Milestones	This project was completed during this planning period.
Mitigation Action	Arco Dairy Road Drainage Improvements (runoff undercuts ROW, undermines road bed)
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	Talladega Commission and Engineer
Time frame for Completion	5 years
Estimated Cost	$50,000
Funding Sources	Local; Grants
Priority	High
Milestones	The county has not been able to complete this project due to budgetary constraints. They plan to continue pursuing this action during this planning period.
Mitigation Action *New Item	Renfrow Road- Right of way problem. The county would like to shore up shoulders near Clear Creek Bridge.
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	Talladega Commission and Engineers
Time frame for Completion	5 years
Estimated Cost	$400,000
Funding Sources	Local; Grants
Priority	High
Milestones	New Action
Mitigation Action *New Item	Berney Station Bridge (Timber Pile Bridge)
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	Talladega Commission and Engineers

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Time frame for Completion	5 years
Estimated Cost	$2.5 million
Funding Sources	Local; Grants
Priority	High
Milestones	New Action
Mitigation Action *New Item	County-wide Repairs
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	Talladega Commission
Time frame for Completion	5 years
Estimated Cost	$2 million
Funding Sources	Local; Grants
Priority	High
Milestones	New Action

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Section Five: Jurisdiction Assessments

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CITY OF TALLADEGA

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Table 5-1: City of Talladega
Risk and Vulnerability Overview

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

Sources: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey; Participating Jurisdictions, 2015

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 fifteen 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.

Vulnerability: NA – Not Applicable; not a hazard to the jurisdiction
L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction)
M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence)
H – High Risk; significant risk/major damage potential (damage to over 10% of jurisdiction, regular occurrence)

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TABLE 5-2: TOWN OF EDWARDSVILLE HAZARD EVENTS

20 Thunderstorm Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
TALLADEGA	TALLADEGA CO.	AL	05/31/2004	04:20	CST	Thunderstorm Wind	50 kts. EG	0	0	14.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	07/14/2004	00:45	CST	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/19/2006	17:50	CST	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	05/29/2006	12:35	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	03/01/2007	19:03	CST-6	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	08/24/2007	12:55	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/02/2009	21:40	CST-6	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/19/2009	21:00	CST-6	Thunderstorm Wind	50 kts. EG	0	0	15.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	06/14/2009	11:36	CST-6	Thunderstorm Wind	45 kts. EG	0	0	0.50K	0.00K

TALLADEGA	TALLADEGA CO.	AL	06/15/2009	21:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	06/15/2009	21:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	06/21/2010	19:57	CST-6	Thunderstorm Wind	70 kts. EG	0	0	250.00K	0.00K
TALLADEGA MUNI ARPT	TALLADEGA CO.	AL	11/30/2010	09:28	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/20/2011	23:06	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/27/2011	05:31	CST-6	Thunderstorm Wind	60 kts. EG	0	0	5.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	03/31/2012	18:14	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/05/2012	18:48	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	05/06/2012	06:04	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	03/18/2013	15:03	CST-6	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K

Lightning Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Unknown lightning events occurred or were reported during 01/01/2004 thru 12/31/2014.

8 Hail Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
TALLADEGA	TALLADEGA CO.	AL	04/22/2005	16:25	CST	Hail	1.75 in.	0	0	9.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/19/2006	17:00	CST	Hail	1.75 in.	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/19/2006	17:16	CST	Hail	0.88 in.	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/19/2006	17:20	CST	Hail	1.00 in.	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/19/2006	17:28	CST	Hail	2.75 in.	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/19/2006	17:31	CST	Hail	1.75 in.	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	04/19/2006	17:55	CST	Hail	2.75 in.	0	0	0.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	05/29/2006	12:35	CST	Hail	1.00 in.	0	0	20.00K	0.00K

1 Tornado Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
TALLADEGA	TALLADEGA CO.	AL	11/24/2004	06:41	CST	Tornado	F0	0	0	50.00K	0.00K

2 Flood/Flash Flood Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
TALLADEGA	TALLADEGA CO.	AL	06/02/2005	15:30	CST	Flash Flood		0	0	10.00K	0.00K
TALLADEGA	TALLADEGA CO.	AL	01/30/2013	11:00	CST-6	Flash Flood		0	0	0.00K	0.00K

Drought/Extreme Heat Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Unknown drought/extreme heat events occurred or were reported during 01/01/2004 thru 12/31/2014.

Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Unknown winter weather events occurred or were reported during 01/01/2004 thru 12/31/2014.

Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Unknown hurricane/tropical storm events occurred or were reported during 01/01/2004 thru 12/31/2014.

Sinkhole Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: U.S. Geological Survey)

Unknown sinkhole events occurred or were reported during 01/01/2004 thru 12/31/2014.

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Landslide Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: U.S. Geological Survey)
Unknown landslide events occurred or were reported during 01/01/2004 thru 12/31/2014.

Earthquake Event – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: www.city-data.com)
Unknown earthquake event occurred or were reported during 01/01/2004 thru 12/31/2014.

Wildfire Events – 2010 thru 2013
(Source: Alabama Forestry Commission)
Unknown wildfire events occurred or were reported during 01/01/2010 thru 12/31/2013.

Dam/Levee Failure Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database/Local Input)
Unknown dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

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Table 5-3: City of Talladega
Hazard Probability Assessment

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	20	>100%	>10%	Citywide
Lightning	0	Unknown	>10%	Citywide
Hail	8	80%	>10%	Citywide
Tornado	1	10%	>10%	Citywide
Flood/Flash Flood	2	20%	>10%	Citywide
Drought/Extreme Heat	0	Unknown	>10%	Citywide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	0	Unknown	>10%	Citywide
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	0	Unknown	>10%	Citywide
Sinkhole/Expansive Soil	0	Unknown	>10%	Citywide
Landslide	0	Unknown	>10%	Citywide
Earthquake	0	Unknown	>10%	Citywide
Wildfire	0	Unknown	>10%	Citywide
Dam/Levee Failure	0	Unknown	>10%	Citywide

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 (Table 4-11). Zero denotes no data available to determine the probability, extent, or affected area.

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TABLE 5-4: City of Talladega Critical Facilities	
Facility	**Use**
Talladega City Hall	Government
Talladega Fire Department	Fire and Rescue
Talladega Police Department	Law Enforcement
(Source: Local Jurisdiction)	

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Table 5-5: City of Talladega Estimated Loss Projections from Specified Hazards						
Natural Hazards	**Average Occurrences** (per year)	**Total Deaths**	**Total Injuries**	**Average Death and Injury Loss** (per event)	**Average Crop and Property Loss** (per event)	**Projected Loss** (per event)
Thunderstorm	2	Unknown	Unknown	Unknown	$15,825	Unknown
Lightning	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Hail	0.8	Unknown	Unknown	Unknown	$3,625	Unknown
Tornado	0.1	Unknown	Unknown	Unknown	$50,000	Unknown
Flood/Flash Flood	0.2	Unknown	Unknown		$5,000	Unknown
Drought/Extreme Heat	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Sinkhole/Expansive Soils	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Landslide	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Earthquake	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Wildfire	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Dam/Levee Failure	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

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, 2015

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

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City of Talladega Mitigation Action Plan

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

Mitigation Status

During the plan update, mitigation actions were reviewed in order to identify completed, deferred, or deleted actions from the previous plan and incorporate actions added during annual updates. **Table 5-6** shows the City of Talladega's updated mitigation actions. During the plan update process new actions were identified and added to the plan. 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.

Mitigation Strategy – City of Talladega

Table 5-6: City of Talladega Mitigation Actions 2015	
Mitigation Action	Install/Construct Community Safe Rooms for the public
Hazard(s) Addressed	Thunderstorm, Tornado, High Wind
Applies to new/existing asset	Town Council
Local Planning Mechanism	Town Council and County EMA
Time frame for Completion	3 years
Estimated Cost	$100,000
Funding Sources	Local and grants funds
Priority	High
Status	The town has continued interest in completing this project. Budgetary constraints have prevented the implementation to date.
Mitigation Action	Buy outs of properties located in special flood hazard areas
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Talladega
Time frame for Completion	10 years from funding availability
Estimated Cost	Unknown
Funding Sources	Local; Grants
Priority	High
Status	This action has not been completed due to lack of funding. The city plans to pursue this action should funding become available.
Mitigation Action	Auxillary power hook-ups at source water well sites
Hazard(s) Addressed	Flood

Applies to new/existing asset	Existing
Local Planning Mechanism	City of Talladega
Time frame for Completion	3 years from funding availability
Estimated Cost	$19,000
Funding Sources	Local; Grants
Priority	High
Status	This action has not been completed due to lack of funding. The city will continue to pursue this project during the next planning period.
Mitigation Action	Trailer mounted fuel powdered generator
Hazard(s) Addressed	All
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Talladega
Time frame for Completion	3 years
Estimated Cost	$14,000
Funding Sources	Local; Grants
Priority	High
Status	The city has not been able to complete this action due to lack of funds. They plan to complete this action if funding becomes available.
Mitigation Action	Increase water source supply to assist fire protection demands
Hazard(s) Addressed	Wildfire
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Talladega
Time frame for Completion	3 years
Estimated Cost	$230,000
Funding Sources	Local; Grants
Priority	High
Status	The city has not completed this action due to lack of funding. They plan to complete this action as soon as funding becomes available.
Mitigation Action	Inflow and Infiltration reduction on sanitary sewer collection piping
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Talladega
Time frame for Completion	5 years
Estimated Cost	$500,000
Funding Sources	Locall Grants
Priority	High
Status	The city has not completed this action due to lack of funding. They plan to complete the action when funding becomes available.
Mitigation Action	Johnson and Coosa Street pipe and culvert improvements
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Talladega
Time frame for Completion	5years

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Estimated Cost	$250,000
Funding Sources	Local; Grants
Priority	High
Status	Lack of funding has prevented this action from being completed. The city plans to complete this project when funding is available.
Mitigation Action	Channelize creeks/branches/ditches at: 17th to NS railroad Town Branch North Street E to Railroad Street Isbel Branch McMillian and Elm to Isbell Branch Ditch from Ward to City Limits at Naff Street
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Talladega
Time frame for Completion	5 years
Estimated Cost	$250,000
Funding Sources	Local; Grants
Priority	High
Status	The city has not completed this action due to lack of funding. As soon as funding is available they plan to complete the action.
Mitigation Action	Drainage improvement along Ave. H from Davis Street to NS Railroad
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Talladega
Time frame for Completion	5 years
Estimated Cost	$75,000
Funding Sources	Local; Grants
Priority	High
Status	The city has been unable to complete this action due to budgetary constraints. They plan to complete the action when funding becomes available.
Mitigation Action	Drainage improvement along Spring Street to Sunset
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Talladega
Time frame for Completion	5 years
Estimated Cost	$75,000
Funding Sources	Local; Grants
Priority	High
Status	The county has not completed this action due to lack of funding, however they plan to do so once funding becomes available.
Mitigation Action	Install culvert in Isbell Branch on McMillan Street beween George Holdingdridge Land and Highway 21S
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing

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Local Planning Mechanism	City of Talladega
Time frame for Completion	5 years
Estimated Cost	$75,000
Funding Sources	Local; Grants
Priority	High
Status	This action has not been completed due to lack of funding. The city plans to complete this action when funding becomes available.

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CITY OF CHILDERSBURG

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Table 5-7: City of Childersburg
Risk and Vulnerability Overview

Natural Hazards	Hazard Identification	Mitigation Actions Prioritization	Prioritized Occurrence Threat	Vulnerability
Thunderstorm	X	2	1	H
Lightning	X	3	4	L
Hail	X	3	2	H
Tornado	X	2	3	M
Flood	X	1	3	M
Drought/Extreme Heat	X	3	4	L
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	4	L
Landslide	X	3	4	L
Earthquake	X	3	4	L
Wildfire	X	3	4	L
Dam/Levee Failure	X	3	4	L

KEY:
Hazard Identification – Identified by local jurisdictions
Mitigation Actions Prioritization - 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.
Prioritized Occurrence Threat - 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 fifteen 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.
Vulnerability – Identified by local jurisdictions. NA – Not Applicable; not a hazard to the jurisdiction; L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction); M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence); and H – High Risk; significant risk/major damage potential (damage to over 10% of jurisdiction, regular occurrence)

(Source: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey; Participating Jurisdictions, 2015)

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TABLE 5-8: CITY OF CHILDERSBURG HAZARD EVENTS

7 Thunderstorm Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILDERSBURG	TALLADEGA CO.	AL	04/08/2006	01:03	CST	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	04/19/2006	17:30	CST	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	07/19/2006	15:00	CST	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	07/22/2006	11:30	CST	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	07/01/2007	12:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	04/02/2009	21:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	07/05/2012	18:35	CST-6	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K

Lightning Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)
Unknown lightning events occurred or were reported during 01/01/2003 thru 12/31/2013.

5 Hail Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILDERSBURG	TALLADEGA CO.	AL	03/22/2005	09:17	CST	Hail	1.00 in.	0	0	0.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	04/22/2005	13:02	CST	Hail	1.00 in.	0	0	1.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	12/04/2005	12:51	CST	Hail	1.75 in.	0	0	4.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	04/19/2006	17:30	CST	Hail	0.88 in.	0	0	0.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	06/12/2007	23:37	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K

2 Tornado Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILDERSBURG	TALLADEGA CO.	AL	11/24/2004	06:36	CST	Tornado	F1	0	0	80.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	04/08/2006	02:03	CST	Tornado	F0	0	0	30.00K	0.00K

4 Flood/Flash Flood Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILDERSBURG	TALLADEGA CO.	AL	03/09/2011	07:15	CST-6	Flash Flood		0	0	10.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	01/30/2013	11:02	CST-6	Flash Flood		0	0	0.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	11/10/2009	20:00	CST-6	Flood		0	0	0.00K	0.00K
CHILDERSBURG	TALLADEGA CO.	AL	03/10/2010	09:30	CST-6	Flood		0	0	500.00K	0.00K

Drought/Extreme Heat Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)
Unknown drought events occurred or were reported during 01/01/2003 thru 12/31/2013.

Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)
Unknown winter storm events occurred or were reported during 01/01/2003 thru 12/31/2013.

Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)
Unknown tropical storm events occurred or were reported during 01/01/2003 thru 12/31/2013.

Sinkhole Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: U.S. Geological Survey)
Unknown sinkhole events occurred or were reported during 01/01/2004 thru 12/31/2014.

Landslide Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: U.S. Geological Survey)
Unknown landslide events occurred or were reported during 01/01/2004 thru 12/31/2014.

Earthquake Event – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: www.city-data.com)
Unknown earthquake event occurred or were reported during 01/01/2004 thru 12/31/2014.

Wildfire Events – 2010 thru 2013
(Source: Alabama Forestry Commission)
Unknown wildfire events occurred or were reported during 01/01/2003 thru 12/31/2013.

Dam/Levee Failure Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database/Local Input)
Unknown dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

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Table 5-9: City of Childersburg Hazard Probability Assessment				
Natural Hazards	**Number of Historical Occurrences**	**Probability of Future Occurrence**	**Extent**	**Area Affected**
Thunderstorm	7	70%	>10%	Citywide
Lightning	0	Unknown	<10%	Citywide
Hail	5	50%	>10%	Citywide
Tornado	2	20%	>10%	Citywide
Flood/Flash Flood	4	40%	>10%	Citywide
Drought/Extreme Heat	0	Unknown	<10%	Citywide
Winter Storm/Frost Freeze/Heavy Snow/ Ice Storm/Winter Weather/ Extreme Cold	0	Unknown	<10%	Citywide
Hurricane/High Wind/ Strong Wind/ Tropical Storm/ Tropical Depression	0	Unknown	<10%	Citywide
Sinkhole/Expansive Soil	0	Unknown	<10%	Citywide
Landslide	0	Unknown	<10%	Citywide
Earthquake	0	Unknown	<10%	Citywide
Wildfire	0	Unknown	<10%	Citywide
Dam/Levee Failure	0	Unknown	<10%	Citywide

Source: NOAA NCDC; U. S. Inflation Calculator/Consumer Price Index; USGS ; Local Input; USDA Census of Agriculture; Alabama Forestry Commission; and National Forestry Service; Participating Jurisdictions, 2015

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 (Table 4-12). Zero denotes no data available to determine the probability, extent, or affected area.

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TABLE 5-10: City of Childersburg Critical Facilities	
Facility	**Use**
Childersburg City Hall	Government
Childersburg Fire Department	Fire and Rescue
Childersburg Police Department	Law Enforcement
(Source: Local Jurisdiction)	

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Table 5-11: City of Childersburg
Estimated Loss Projections from Specified Hazards

Natural Hazards	Average Occurrences (per year)	Total Deaths	Total Injuries	Average Death and Injury Loss (per event)	Average Crop and Property Loss (per event)	Projected Loss (per event)
Thunderstorm	0.7	Unknown	Unknown	Unknown	Unknown	$2,429
Lightning	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Hail	0.5	Unknown	Unknown	Unknown	Unknown	$1,000
Tornado	0.2	Unknown	Unknown	Unknown	Unknown	$55,000
Flood/Flash Flood	0.4	Unknown	Unknown	Unknown	Unknown	$127,500
Drought/Extreme Heat	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Hurricane/Tropical Storm/ Tropical Depression/High Wind/ Strong Wind	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Sinkhole/Expansive Soil	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Landslide	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Earthquake	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Wildfire	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Dam/Levee Failure	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

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, 2015

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences during the ten-year period with the exception of wildfire. 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.

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City of Childersburg Mitigation Action Plan

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

Mitigation Strategy – City of Childersburg

Table 5-12: City of Childersburg Mitigation Actions	
Mitigation Action New	Install/construct community safe rooms in the senior citizens center
Hazard(s) Addressed	Thunderstorm, Tornado, High Wind
Applies to new/existing asset	Existing
Local Planning Mechanism	Town Council
Time frame for Completion	5 Years
Estimated Cost	$100,000
Funding Sources	Local and Grant Funds
Priority	High
Status	New Action
Mitigation Action New	Install emergency generators in needed facilities
Hazard(s) Addressed	Thunderstorm, Tornado, High Wind
Applies to new/existing asset	Existing
Local Planning Mechanism	Town Council
Time frame for Completion	5 Years
Estimated Cost	$80,000
Funding Sources	Local and Grant Funds
Priority	High
Status	New Action
Mitigation Action	4th Street SE-Drainage Street and Bridge Improvement
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Childersburg
Time frame for Completion	5 years
Estimated Cost	$500,000
Funding Sources	Local; Grants
Priority	High
Status	The lack of funding has prevented this action from being completed. The city plans to complete this action once funding becomes available.
Mitigation Action	4th Avenue SW-Drainage and Street Improvements
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Childersburg
Time frame for Completion	5 years
Estimated Cost	$750,000
Funding Sources	Local; Grants
Priority	High
Status	This action has not been completed due to funding. Once funding becomes available the city plans to complete this project.
Mitigation Action	Pleasant Valley Drainage Improvements
Hazard(s) Addressed	Flooding

Applies to new/existing asset	Existing
Local Planning Mechanism	City of Childersburg
Time frame for Completion	5 years
Estimated Cost	$500,000
Funding Sources	Local; Grants
Priority	High
Status	Lack of funding has prevented the city from completing this action item. They plan to complete the project once funding becomes available.
Mitigation Action	Childersburg/Fayettville Highway Bridge and Drainage Improvements
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Childersburg
Time frame for Completion	5 years
Estimated Cost	$1,000,000
Funding Sources	Local; Grants
Priority	High
Status	Lack of funding has prevented the city from completing this project. Once funding becomes available they will complete this action.

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CITY OF SYLACAUGA

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Table 5-13: City of Sylacauga
Risk and Vulnerability Overview

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

KEY:
Hazard Identification – Identified by local jurisdictions
Mitigation Actions Prioritization - 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.
Prioritized Occurrence Threat - 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 fifteen 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.
Vulnerability – Identified by local jurisdictions. NA – Not Applicable; not a hazard to the jurisdiction; L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction); M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence); and H – High Risk; significant risk/major damage potential (damage to over 10% of jurisdiction, regular occurrence)

(Sources: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey; Participating Jurisdictions, 2015)

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TABLE 5-14: CITY OF SYLACAUGA HAZARD EVENTS

10 Thunderstorm Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
SYLACAUGA	TALLADEGA CO.	AL	07/27/2005	14:40	CST	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	04/08/2006	01:11	CST	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	04/19/2006	18:50	CST	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	10/19/2006	16:27	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	10/23/2007	01:10	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
SYLACAUGA MERKLE ARP	TALLADEGA CO.	AL	07/22/2008	15:45	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	05/03/2009	14:04	CST-6	Thunderstorm Wind	50 kts. EG	0	0	30.00K	0.00K
SYLACAUGA MERKLE ARP	TALLADEGA CO.	AL	06/15/2009	21:49	CST-6	Thunderstorm Wind	40 kts. EG	0	0	0.50K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	05/26/2011	14:08	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K

SYLACAUGA	TALLADEGA CO.	AL	06/24/2011	17:12	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K

Lightning Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Unknown lightning events occurred or were reported during 01/01/2004 thru 12/31/2014.

10 Hail Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
SYLACAUGA	TALLADEGA CO.	AL	04/22/2005	13:19	CST	Hail	1.00 in.	0	0	1.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	12/04/2005	14:50	CST	Hail	0.75 in.	0	0	0.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	04/03/2006	05:46	CST	Hail	1.00 in.	0	0	0.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	04/03/2006	05:46	CST	Hail	0.88 in.	0	0	0.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	04/19/2006	18:20	CST	Hail	1.00 in.	0	0	0.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	04/19/2006	18:35	CST	Hail	2.75 in.	0	0	0.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	05/13/2006	18:35	CST	Hail	1.00 in.	0	0	0.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	05/13/2006	18:40	CST	Hail	1.00 in.	0	0	0.00K	0.00K

SYLACAUGA	TALLADEGA CO.	AL	06/14/2007	14:36	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
SYLACAUGA	TALLADEGA CO.	AL	06/01/2008	16:23	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K

Tornado Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)
Unknown tornado events occurred or were reported during 01/01/2004 thru 12/31/2014.

1 Flood/Flash Flood Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
SYLACAUGA	TALLADEGA CO.	AL	08/09/2005	14:01	CST	Flash Flood		0	0	5.00K	0.00K

Drought/Extreme Heat Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)
Unknown drought events occurred or were reported during 01/01/2004 thru 12/31/2014.

Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)
Unknown winter weather events occurred or were reported during 01/01/2004 thru 12/31/2014.

Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)
Unknown tropical storm events occurred or were reported during 01/01/2004 thru 12/31/2014.

Sinkhole Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: U.S. Geological Survey)
Unknown sinkhole events occurred or were reported during 01/01/2004 thru 12/31/2014.

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Landslide Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: U.S. Geological Survey)
Unknown landslide events occurred or were reported during 01/01/2004 thru 12/31/2014.

Earthquake Event – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: www.city-data.com)
Unknown earthquake events occurred or were reported during 01/01/2004 thru 12/31/2014.

Wildfire Events – 2010 thru 2013
(Source: Alabama Forestry Commission)
Unknown wildfire events occurred or were reported during 01/01/2004 thru 12/31/2014.

Dam/Levee Failure Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database/Local Input)
Unknown dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

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Table 5-15: City of Sylacauga Hazard Probability Assessment				
Natural Hazards	**Number of Historical Occurrences**	**Probability of Future Occurrence**	**Extent**	**Area Affected**
Thunderstorm	10	>100%	>10%	Citywide
Lightning	Unknown	Unknown	Unknown	Citywide
Hail	10	>100%	>10%	Citywide
Tornado	Unknown	Unknown	Unknown	Citywide
Flood/Flash Flood	1	10%	<10%	Citywide
Drought/Extreme Heat	Unknown	Unknown	Unknown	Citywide
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/ Winter Weather/ Extreme Cold	Unknown	Unknown	Unknown	Citywide
Hurricane/Tropical Storm/ Tropical Depression/High Wind/Strong Wind	Unknown	Unknown	Unknown	Citywide
Sinkhole/Expansive Soil	Unknown	Unknown	Unknown	Citywide
Landslide	Unknown	Unknown	Unknown	Citywide
Earthquake	Unknown	Unknown	Unknown	Citywide
Wildfire	Unknown	Unknown	Unknown	Citywide
Dam/Levee Failure	Unknown	Unknown	Unknown	Citywide

Source: NOAA NCDC; U. S. Inflation Calculator/Consumer Price Index; USGS; Local Input; USDA Census of Agriculture; Alabama Forestry Commission; and National Forestry Service; Participating Jurisdictions, 2015

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 (Table 4-11). Zero denotes no data available to determine the probability, extent, or affected area.

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TABLE 5-16: City of Sylacauga Critical Facilities	
Facility	**Use**
Sylacauga City Hall	Government
Sylacauga Fire Department	Fire and Rescue
Sylacauga Police Department	Law Enforcement
(Source: Local Jurisdiction)	

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Table 5-17: City of Sylacauga Estimated Loss Projections from Specified Hazards						
Natural Hazards	**Average Occurrences** (per year)	**Total Deaths**	**Total Injuries**	**Average Death and Injury Loss** (per event)	**Average Crop and Property Loss** (per event)	**Projected Loss** (per event)
Thunderstorm	1	Unknown	Unknown	Unknown	Unknown	$4,750
Lightning	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Hail	1	Unknown	Unknown	Unknown	Unknown	$100
Tornado	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Flood/Flood	0.1	Unknown	Unknown	Unknown	Unknown	$5,000
Drought/Extreme Heat	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Winter Weather/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Hurricane/Tropical Storm/ Tropical Depression/High Wind/ Strong Wind	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Sinkhole/Expansive Soil	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Landslide	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Earthquake	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Wildfire	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Dam/Levee Failure	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

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, 2015

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences during the ten-year period with the exception of wildfire. 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.

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City of Sylacauga Mitigation Action Plan

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

Mitigation Strategy – City of Sylacauga

Table 5-18: City of Sylacauga Mitigation Actions	
Mitigation Action	Douglas Avenue Drainage Improvements
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Sylacauga
Time frame for Completion	5 years
Estimated Cost	$665,000
Funding Sources	Local; Grants
Priority	High
Status	This project has not been completed due to lack of funding. The city would like to complete this project once funding becomes available.
Mitigation Action	Hydraulic Study for the City of Sylacauga
Hazard(s) Addressed	Flood
Applies to new/existing asset	New
Local Planning Mechanism	City of Sylacauga
Time frame for Completion	7 years
Estimated Cost	$1,000,000
Funding Sources	Local; Grants
Priority	High
Status	The city has been unable to complete this study due to budgetary constraints, however they hope to complete this action once funding is available.
Mitigation Action New	Install Community Safe Rooms
Hazard(s) Addressed	Thunderstorm, Tornado, High Wind
Applies to new/existing asset	New
Local Planning Mechanism	City Council and County EMA
Time frame for Completion	3 Years
Estimated Cost	$42,000
Funding Sources	Local and Grant Funds
Priority	High
Status	New Action
Mitigation Action	Sewer Replacement/Improvement Projects (replace brick manholes, replace clay pipes) Mill Village Area/ W. Hickory/Valleyview
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Sylacauga
Time frame for Completion	Ongoing
Estimated Cost	$1,150,000

Funding Sources	Local; Grants
Priority	High
Status	The city has completed a portion of W Hickory until funding was no longer available. Once funding becomes available the city plans to continue making improvements.
Mitigation Action	4th Street to Kingston Street on Darby Branch Improvements
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Sylacauga
Time frame for Completion	Ongoing
Estimated Cost	$800,000
Funding Sources	Local; Grants
Priority	High
Status	Due to lack of funding the city has not completed this action. They plan to complete the project once funding becomes available.
Mitigation Action NEW	Emergency Generator for Pine Grove Well
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Sylacauga
Time frame for Completion	5 years
Estimated Cost	$200,000
Funding Sources	Local; Grants
Priority	High
Status	New Action
Mitigation Action NEW	Emergency generator for Fairmont Waste Water Treatment Plant
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Sylavauga
Time frame for Completion	5 years
Estimated Cost	$200,000
Funding Sources	Local; Grants
Priority	High
Status	New Action

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CITY OF LINCOLN

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Table 5-19: City of Lincoln Risk and Vulnerability Overview				
Natural Hazards	**Hazard Identification**	**Mitigation Actions Prioritization**	**Prioritized Occurrence Threat**	**Vulnerability**
Thunderstorm	X	2	1	H
Lightning	X	3	4	L
Hail	X	3	2	M
Tornado	X	2	3	L
Flood	X	1	3	L
Drought/Extreme Heat	X	3	4	L
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	4	L
Landslide	X	3	4	L
Earthquake	X	3	4	L
Wildfire	X	3	4	L
Dam/Levee Failure	X	3	4	L

KEY:
Hazard Identification – Identified by local jurisdictions
Mitigation Actions Prioritization - 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.
Prioritized Occurrence Threat - 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 fifteen 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.
Vulnerability – Identified by local jurisdictions. NA – Not Applicable; not a hazard to the jurisdiction; L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction); M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence); and H – High Risk; significant risk/major damage potential (damage to over 10% of jurisdiction, regular occurrence)

(Source: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey; Participating Jurisdictions, 2015)

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TABLE 5-20: CITY OF LINCOLN HAZARD EVENTS

15 Thunderstorm Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
LINCOLN	TALLADEGA CO.	AL	04/22/2005	10:39	CST	Thunderstorm Wind	52 kts. EG	0	0	6.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	07/01/2005	14:00	CST	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	07/22/2006	13:30	CST	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	02/26/2008	04:20	CST-6	Thunderstorm Wind	70 kts. EG	0	0	100.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	08/02/2008	18:29	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	08/02/2008	18:29	CST-6	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	04/02/2009	21:25	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	05/03/2009	14:34	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	06/12/2009	19:55	CST-6	Thunderstorm Wind	50 kts. EG	0	1	3.00K	0.00K

LINCOLN	TALLADEGA CO.	AL	04/04/2011	19:19	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	04/11/2011	19:15	CST-6	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	04/27/2011	05:26	CST-6	Thunderstorm Wind	70 kts. EG	0	0	4.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	06/14/2012	14:39	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	07/10/2012	17:00	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	07/10/2012	17:10	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K

Lightning Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Unknown lightning events occurred or were reported during 01/01/2004 thru 12/31/2014.

8 Hail Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
LINCOLN	TALLADEGA CO.	AL	10/19/2004	09:03	CST	Hail	0.88 in.	0	0	0.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	04/22/2005	10:25	CST	Hail	1.00 in.	0	0	1.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	06/02/2005	15:30	CST	Hail	0.88 in.	0	0	0.00K	0.00K

LINCOLN	TALLADEGA CO.	AL	12/28/2005	12:34	CST	Hail	0.75 in.	0	0	0.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	12/28/2005	12:58	CST	Hail	1.75 in.	0	0	3.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	08/02/2008	18:39	CST-6	Hail	1.25 in.	0	0	0.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	02/18/2009	15:26	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	03/18/2013	14:50	CST-6	Hail	2.00 in.	0	0	0.00K	0.00K

2 Tornado Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
LINCOLN	TALLADEGA CO.	AL	11/24/2004	06:48	CST	Tornado	F0	0	0	60.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	11/24/2004	06:59	CST	Tornado	F2	0	0	125.00K	0.00K

2 Flood/Flash Flood Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

LINCOLN	TALLADEGA CO.	AL	02/06/2006	15:50	CST	Flash Flood		0	0	2.00K	0.00K
LINCOLN	TALLADEGA CO.	AL	04/07/2014	03:30	CST-6	Flash Flood		0	0	0.00K	0.00K

Drought/Extreme Heat Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Unknown drought events occurred or were reported during 01/01/2004 thru 12/31/2014.

Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Unknown winter weather events occurred or were reported during 01/01/2004 thru 12/31/2014.

Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)
Unknown tropical storm events occurred or were reported during 01/01/2004 thru 12/31/2014.

Sinkhole Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: U.S. Geological Survey)
Unknown sinkhole events occurred or were reported during 01/01/2004 thru 12/31/2014.

Landslide Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: U.S. Geological Survey)
Unknown landslide events occurred or were reported during 01/01/2004 thru 12/31/2014.

Earthquake Event – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: www.city-data.com)
earthquake event occurred or were reported during 01/01/2004 thru 12/31/2014.

Wildfire Events – 2010 thru 2013
(Source: Alabama Forestry Commission)
Unknown wildfire events occurred or were reported during 01/01/2004 thru 12/31/2014.

Dam/Levee Failure Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database/Local Input)
Unknown dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

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Table 5-21: City of Lincoln Hazard Probability Assessment				
Natural Hazards	**Number of Historical Occurrences**	**Probability of Future Occurrence**	**Extent**	**Area Affected**
Thunderstorm	15	>100%	>10%	Citywide
Lightning	Unknown	Unknown	>10%	Citywide
Hail	8	80%	>10%	Citywide
Tornado	2	20%	>10%	Citywide
Flood/Flash Flood	2	20%	>10%	Citywide
Drought/Extreme Heat	Unknown	Unknown	Unknown	Citywide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	Unknown	Unknown	Unknown	Citywide
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	Unknown	Unknown	Unknown	Citywide
Sinkhole/Expansive Soil	Unknown	Unknown	Unknown	Citywide
Landslide	Unknown	Unknown	Unknown	Citywide
Earthquake	Unknown	Unknown	Unknown	Citywide
Wildfire	Unknown	Unknown	Unknown	Citywide
Dam/Levee Failure	Unknown	Unknown	Unknown	Citywide
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 (Table 4-11). Zero denotes no data available to determine the probability, extent, or affected area.				

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TABLE 5-22: City of Lincoln Critical Facilities	
Facility	**Use**
Lincoln City Hall	Government
Lincoln Fire Department	Fire and Rescue
Lincoln Police Department	Law Enforcement
(Source: Local Jurisdiction)	

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Table 5-23: City of Lincoln Estimated Loss Projections from Specified Hazards						
Natural Hazards	**Average Occurrences** (per year)	**Total Deaths**	**Total Injuries**	**Average Death and Injury Loss** (per event)	**Average Crop and Property Loss** (per event)	**Projected Loss** (per event)
Thunderstorm	1.5	Unknown	Unknown	Unknown	Unknown	$1,000
Lightning	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Hail	0.8	Unknown	Unknown	Unknown	Unknown	$92,500
Tornado	0.2	Unknown	Unknown	Unknown	Unknown	$500
Flood/Flash Flood	0.2	Unknown	Unknown		Unknown	$9,067
Drought/Extreme Heat	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Winter Storm/Frost Freeze/Heavy Snow/ Ice Storm/Winter Weather/Extreme Cold	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Sinkhole/Expansive Soil	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Landslide	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Earthquake	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Wildfire	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Dam/Levee Failure	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
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, 2015						
Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences during the ten-year period with the exception of wildfire. 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.						

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City of Lincoln Mitigation Action Plan

The City of Lincoln recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated. The town has been very active with their mitigation projects, as noted below under benchmarking.

City of Lincoln Mitigation Actions

Table 5-24:City of Lincoln Mitigation Actions	
Mitigation Action	Drainage Improvements along Railroad Avenue
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Lincoln
Time frame for Completion	5 years
Estimated Cost	$500,000
Funding Sources	Local; Grants
Priority	High
Status	Due to lack of funding the city has not completed this action. They plan to complete the action once funding becomes available.
Mitigation Action	Flood Mitigation Project along Blue Eye Creek
Hazard(s) Addressed	Flood
Applies to new/existing asset	Existing
Local Planning Mechanism	City of Lincoln
Time frame for Completion	5 years
Estimated Cost	$750,000
Funding Sources	Local; Grants
Priority	High
Status	Lack of funding has prevented this project from being completed. The city plans to complete this action once funding is available.
Mitigation Action NEW	Install Community Safe Rooms
Hazard(s) Addressed	Tornado
Applies to new/existing asset	New
Local Planning Mechanism	City of Lincoln
Time frame for Completion	3 years form funding availability
Estimated Cost	$150,000 each
Funding Sources	Local; Grants
Priority	High
Status	New Action
Mitigation Action NEW	Purchase emergency generators for the city
Hazard(s) Addressed	Thunderstorm
Applies to new/existing asset	Existing

Local Planning Mechanism	City of Lincoln
Time frame for Completion	3 years from funding availability
Estimated Cost	$100,000
Funding Sources	Local; Grants
Priority	High
Status	New Action

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TOWN OF OAK GROVE

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Table 5-25: Town of Oak Grove Risk and Vulnerability Overview				
Natural Hazards	**Hazard Identification**	**Mitigation Actions Prioritization**	**Prioritized Occurrence Threat**	**Vulnerability**
Thunderstorm	X	1	1	L
Lightning	X	2	1	L
Hail	X	2	1	L
Tornado	X	1	1	L
Flood	X	2	1	L
Drought/Extreme Heat	X	2	1	L
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	X	2	1	L
Hurricane/Tropical Storm/Tropical Depression/ High Wind/Strong Wind	X	2	1	L
Sinkhole/Expansive Soil	X	2	1	L
Landslide	X	2	1	L
Earthquake	X	2	1	L
Wildfire	X	2	1	L
Dam/Levee Failure	X	2	1	L

KEY:
Hazard Identification – Identified by local jurisdictions
Mitigation Actions Prioritization - 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.
Prioritized Occurrence Threat - 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 fifteen 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.
Vulnerability – Identified by local jurisdictions. NA – Not Applicable; not a hazard to the jurisdiction; L – Low Risk; little damage potential (damage to less than 5% of the jurisdiction); M – Medium Risk; moderate damage potential (damage to 5-10% of jurisdiction, infrequent occurrence); and H – High Risk; significant risk/major damage potential (damage to over 10% of jurisdiction, regular occurrence)

(Source: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey; Participating Jurisdictions, 2015)

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TABLE 5-26: CITY OF LINCOLN HAZARD EVENTS

Thunderstorm Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)
Unknown thunderstorm events occurred or were reported during 01/01/2004 thru 12/31/2014.

Lightning Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)
Unknown lightning events occurred or were reported during 01/01/2004 thru 12/31/2014.

Hail Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)
Unknown hail events occurred or were reported during 01/01/2004 thru 12/31/2014.

Tornado Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)
Unknown tornado events occurred or were reported during 01/01/2004 thru 12/31/2014.

Flood/Flash Flood Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)
Unknown flash flood events occurred or were reported during 01/01/2004 thru 12/31/2014.

Drought/Extreme Heat Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)
Unknown drought events occurred or were reported during 01/01/2004 thru 12/31/2014.

Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)
Unknown winter weather events occurred or were reported during 01/01/2004 thru 12/31/2014.

Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: NOAA NCDC Storm Events Database)
Unknown tropical storm events occurred or were reported during 01/01/2004 thru 12/31/2014.

Sinkhole Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: U.S. Geological Survey)
Unknown sinkhole events occurred or were reported during 01/01/2004 thru 12/31/2014.

Landslide Events – 01/01/2004 thru 12/31/2014 (4018 days)
(Source: U.S. Geological Survey)
Unknown landslide events occurred or were reported during 01/01/2004 thru 12/31/2014.

Earthquake Event – 01/01/2004 thru 12/31/2014 (4018 days)

(Source: www.city-data.com)

earthquake event occurred or were reported during 01/01/2004 thru 12/31/2014.

Wildfire Events – 2010 thru 2013

(Source: Alabama Forestry Commission)

Unknown wildfire events occurred or were reported during 01/01/2004 thru 12/31/2014.

Dam/Levee Failure Events – 01/01/2004 thru 12/31/2014 (4018 days)

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

Unknown dam/levee failure events occurred or were reported during 01/01/2003 thru 12/31/2013.

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Table 5-27: Town of Oak Grove Hazard Probability Assessment				
Natural Hazards	**Number of Historical Occurrences**	**Probability of Future Occurrence**	**Extent**	**Area Affected**
Thunderstorm	Unknown	Unknown	Unknown	Citywide
Lightning	Unknown	Unknown	Unknown	Citywide
Hail	Unknown	Unknown	Unknown	Citywide
Tornado	Unknown	Unknown	Unknown	Citywide
Flood/Flash Flood	Unknown	Unknown	Unknown	Citywide
Drought/Extreme Heat	Unknown	Unknown	Unknown	Citywide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	Unknown	Unknown	Unknown	Citywide
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	Unknown	Unknown	Unknown	Citywide
Sinkhole/Expansive Soil	Unknown	Unknown	Unknown	Citywide
Landslide	Unknown	Unknown	Unknown	Citywide
Earthquake	Unknown	Unknown	Unknown	Citywide
Wildfire	Unknown	Unknown	Unknown	Citywide
Dam/Levee Failure	Unknown	Unknown	Unknown	Citywide
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 (Table 4-11). Zero denotes no data available to determine the probability, extent, or affected area.				

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TABLE 5-28: Town of Oak Grove Critical Facilities	
Facility	**Use**
Oak Grove City Hall	Government
Oak Grove Fire Department	Fire and Rescue
Oak Grove Police Department	Law Enforcement
(Source: Local Jurisdiction)	

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Table 5-29: Town of Oak Grove Estimated Loss Projections from Specified Hazards						
Natural Hazards	**Average Occurrences** (per year)	**Total Deaths**	**Total Injuries**	**Average Death and Injury Loss** (per event)	**Average Crop and Property Loss** (per event)	**Projected Loss** (per event)
Thunderstorm	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lightning	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Hail	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Tornado	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Flood/Flash Flood	Unknown	Unknown	Unknown		Unknown	Unknown
Drought/Extreme Heat	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Winter Storm/Frost Freeze/Heavy Snow/ Ice Storm/Winter Weather/Extreme Cold	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Sinkhole/Expansive Soil	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Landslide	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Earthquake	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Wildfire	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Dam/Levee Failure	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
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, 2015						
Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences during the ten-year period with the exception of wildfire. 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.						

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Town of Oak Grove Mitigation Action Plan

The Town of Oak Grove recognizes the importance of mitigation planning and will incorporate mitigation planning in planning documents as they are revised or initiated. The town has been very active with their mitigation projects, as noted below under benchmarking.

Town of Oak Grove Mitigation Actions

Table 5-30:Town of Oak Grove Mitigation Actions	
Mitigation Action	Installation of emergency alert siren for Cedar Creek Community
Hazard(s) Addressed	Tornado; Thunderstorm
Applies to new/existing asset	New
Local Planning Mechanism	Town of Oak Grove
Time frame for Completion	3 years form funding
Estimated Cost	$15,050
Funding Sources	Local; Grants
Priority	High
Status	The town has not completed this action due to lack of funding. They plan to do so as soon as funding becomes available.
Mitigation Action	Installation of community safe rooms
Hazard(s) Addressed	Tornado; Thunderstorm
Applies to new/existing asset	New
Local Planning Mechanism	Town of Oak Grove
Time frame for Completion	3 years from funding
Estimated Cost	$150,000
Funding Sources	Local; Grants
Priority	High
Status	The town has not completed this action due to lack of funding. When funding becomes available, they plan to complete this project.
Mitigation Action NEW	Purchase emergency generators for the city
Hazard(s) Addressed	Thunderstorm
Applies to new/existing asset	Existing
Local Planning Mechanism	Town of Oak Grove
Time frame for Completion	3 years from funding availability
Estimated Cost	$100,000
Funding Sources	Local; Grants
Priority	High
Status	New Action

Section Six: Mitigation Plan Maintenance

The plan may be reviewed at any time at the request of any local government, by the Chairman (Talladega County EMA Director) of the Hazard Mitigation Planning Committee, or at the EMA Director's discretion. Local governments may submit a formal letter to the Talladega County EMA Director/Chairman of the Talladega County Hazard Mitigation Planning Committee requesting a review of the plan. The public may also request review of the plan by submitting a formal letter to the Talladega County EMA Director/Chairman of the Talladega County Hazard Mitigation Planning Committee requesting a review of the plan. In the future, the County EMA will strive to get jurisdictions with websites to post the Hazard Mitigation Plan and provide a way for the public to comment online. Citizen Input on Hazard Mitigation Planning forms will be placed in public places, to include on the courthouse bulletin board, in the local government buildings, and in the library to provide the public a chance to provide feedback during the plan's implementation, monitoring, update, and evaluation process.

The Hazard Mitigation Planning Committee may re-evaluate the plan after a disaster has occurred to make sure that mitigation of the hazard was addressed properly. At the minimum, the Hazard Mitigation Planning Committee will annually monitor, evaluate, and amend this plan. Public participation is encouraged to allow the public an opportunity to participate in the process. Two planning meetings were held to provide the public an opportunity to comment on the plan during the drafting state of the planning process. County Commission meetings and City and Town Council meetings will also be held, prior to plan adoption, to provide the public an opportunity to comment on the plan. In addition, all public citizens who attended planning meetings were sent emails with the plan attached and given an opportunity to comment on the plan prior to FEMA approval pending adoptions. Efforts will be made to have the annual survey form placed on all jurisdictional websites for the public to complete and return. The Hazard Mitigation Planning Committee will review a variety of resources and examine conditions, which may affect mitigation activities for natural hazards. The committee will review existing plans, policies, maps, and other documentation such as, but not limited to:

- NFIP flood panels
- Post-disaster redevelopment models

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- Critical facilities lists and maps
- Existing land-use maps
- Future land-use maps
- Current zoning maps
- Land development codes
- Governing body codes and resolutions
- Comprehensive plans, including drainage studies
- Emergency Operations Plan
- Standard Operating Guidelines
- Various other plans and/or studies related to hazard mitigation

For monitoring, evaluating, and updating this plan, Director of the Talladega County EMA/Chairman of the HMPC will serve as the point of contact for all amendments to the plan and will coordinate all additions, deletions or amendments of actions to the plan, as needed. The EMA Director/Chairman of the HMPC will be responsible for informing the local governing bodies of any amendments made to the plan. Any local government seeking to add an action to the plan will be responsible for providing support for the action in the form of a resolution if, and only if, the funding source(s) requires so. The entire plan will be updated on a five-year planning cycle.

During the past five years, the Talladega County EMA/Chairman of the HMPC kept no records of the annual plan reviews; therefore, regular plan monitoring will be conducted differently in the next five years. Regular plan monitoring will be achieved through the County EMA's efforts to track mitigation activities. The Director of the Talladega County EMA/Chairman of the HMPC is the responsible person for the review of the plan to include monitoring, evaluating, and updating of the plan, reconvening the committee only if additional information is available or the EMA Director/HMPC Chairman requires assistance. The annual review of the plan will take place in June of each year. Although the entire plan's progress will be monitored, evaluated, and updated on a continuous basis throughout the five-year timeframe, the annual review will begin by the EMA Director/HMPC Chairman emailing a survey form to the HMPC members asking them for their input and giving them a two-week deadline on

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returning the information to the EMA Director/HMPC Chairman. Following the two-week deadline, the EMA Director/HMPC Chairman will consolidate the survey forms and act upon the findings as needed and in the methods described below. Again, efforts will be made to have the annual survey form placed on all jurisdictional websites for the public to complete and return.

The County EMA will conduct an annual evaluation of the plan, reconvening the committee only if additional information is available or the EMA Director/HMPC Chairman requires assistance. The EMA Director/HMPC Chairman will document the annual evaluation and note the findings. The evaluation will consider several basic factors including:

1. Changes in the level of risk to the county and its citizens
2. Changes in laws, policies, or regulations at the local or state level
3. Changes in state or local agencies or their procedures that will affect how mitigation programs or funds are administered
4. Significant changes in funding sources or capabilities
5. Changes in the composition of the Hazard Mitigation Committee
6. Progress on mitigation actions (including project closeouts) and new mitigation actions that the county is considering
7. Major changes to the multi-jurisdictional hazard mitigation plan

Additionally, the County EMA Director/HMPC Chairman will contact local agencies (and other individuals and organizations as appropriate) to determine if updates have been made to certain elements of the local plans as part of the annual review process. The purpose of this effort is to ensure that local information about risk, goals, projects, and mitigation strategies included in the plan remains current.

In the event modifications to the plan are warranted as a result of the annual review or other conditions, the HMPC will oversee and approve all revisions to the plan. Conditions which might warrant revisions to this plan would include, but not be limited to, special opportunities for funding, a response to a natural disaster, and changes in jurisdictions' capabilities to implement the plan. Before any revisions are submitted to the jurisdictions for adoption, a notice may be placed in the local newspaper or posted in public facilities, allowing an opportunity for the public to review the proposed amendments at the EMA, submit written comments, and/or present

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comments at a public meeting. The HMPC will then submit all revisions for adoption by jurisdictions affected by the changes. A copy of the plan revisions will be submitted to all holders of the original plan in a timely manner.

Incorporation into Existing Planning Mechanisms

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

Incorporation of the hazard mitigation plan will vary for each jurisdiction based an 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.

Many jurisdictions have no zoning or existing plans of any type other than this mitigation plan (see **Table 1-1**) and do not have the resources or funding to prepare them. In these cases, where applicable, the mitigation plan elements will be incorporated into local development decisions by the appropriate local coordinating body in order to determine funding, prioritization, and review of new development activities. At such time as the jurisdiction does adopt zoning and building codes they will reflect the goals and objectives set forth in this plan. Further, any jurisdiction preparing or updating a comprehensive plan will reflect their hazard mitigation goals and objectives in their plan. These updates will occur as budget and time allow.

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 1-1** 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.

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APPENDIX I
Adopting Resolutions

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APPROVAL & IMPLEMENTATION

The purpose of hazard mitigation is to implement action that eliminate the risk from hazards, or reduce the severity of the effects of hazards on people and property. Mitigation actions are both short-term and long-term activities that reduce the cause or occurrence of hazards; reduce exposure to hazards; or reduce effects of hazards through various means to include preparedness, response and recovery measures.

This plan update applies to all local agencies, boards, commissions, and departments assigned mitigation responsibilities, and to others as designated by the Talladega County Commission or Director of the Talladega County Emergency Management Agency.

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

Talladega 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. Talladega 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 Talladega County EMA will review and if necessary, update the plan every five years from the date of approval in accordance with 44 CFR, 201.6 (5) (d) (3) in order to continue program eligibility.

As the Director of the Talladega 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 Talladega County, Alabama.

_____ _____

Date

Travis McGrady, Director
Talladega County Emergency Management Agency

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County of Talladega

2015 Talladega County Hazard Mitigation Plan Update

Resolution of Adoption

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

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

WHEREAS, the County of Talladega is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the County of Talladega has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the County Commission that the County of Talladega adopts the 2015 Talladega County Hazard Mitigation Plan update, and resolves to execute the actions in the plan.

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

_____

Chairman, Talladega County Commission

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City of Talladega

2015 Talladega County Hazard Mitigation Plan Update

Resolution of Adoption

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

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

WHEREAS, the City Talladega 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 Talladega 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 Talladega adopts the 2015 Talladega 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 Talladega

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City of Childersburg

2015 Talladega County Hazard Mitigation Plan Update

Resolution of Adoption

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

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

WHEREAS, the City of Childersburg 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 Childersburg 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 Childersburg adopts the 2015 Talladega 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 Childersburg

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City of Sylacauga

2015 Talladega County Hazard Mitigation Plan Update

Resolution of Adoption

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

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

WHEREAS, the City of Sylacauga 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 Sylacauga 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 Sylacauga adopts the 2015 Talladega 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 Sylacauga

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City of Lincoln

2015 Talladega County Hazard Mitigation Plan Update

Resolution of Adoption

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

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

WHEREAS, the City of Lincoln 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 Lincoln 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 Lincoln adopts the 2015 Talladega 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.

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Mayor, City of Lincoln

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Town of Oak Grove

2015 Talladega County Hazard Mitigation Plan Update

Resolution of Adoption

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

WHEREAS, the Town of Oak Grove participated in the updating of a multi-jurisdictional plan, the Talladega County Hazard Mitigation Plan; and

WHEREAS, the Town of Oak Grove 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 Oak Grove 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 Oak Grove adopts the 2015 Talladega 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 Oak Grove

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