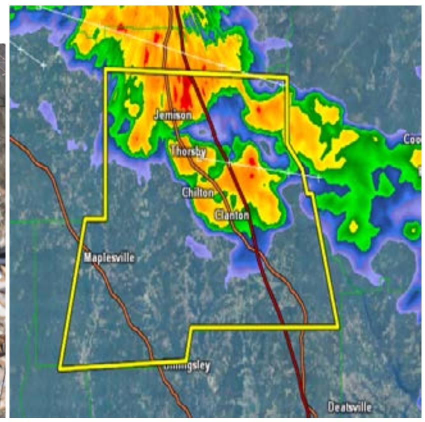
Chilton County
Hazard Mitigation Plan



2015 Plan Update

LEE HELMS ASSOCIATES

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

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Chilton County Hazard Mitigation Plan

Table of Contents

Introduction		10
Section One	Planning Process	12
	Plan Update Process	12
	Continued Public Participation	12
	Hazard Mitigation Planning Committee	13
	Participation Guidelines	15
	Committee and Public Meeting Schedule and Participation	15
	Interagency and Intergovernmental Coordination	32
	Integration with Existing Plans	33
	Plan Adoption	34
Section Two	General Characteristics	36
	Growth Trends	36
	General Geology	42
Section Three	Chilton County Risk Assessment	50
	Hazard Profiles	70
	I. Thunderstorms	70
	II. Lightning	72
	III. Hail	76
	IV. Tornados	80
	V. Floods/Flash Flooding	86
	VI. Droughts/Extreme Heat	92
	VII. Winter Storms/Frost Freezes/Heavy Snow/Ice Storms/ Winter Weather/Extreme Cold	98
	VIII. Hurricanes/Tropical Storms/Tropical Depressions/High Winds/ Strong Winds	102

	IX.	Sinkholes/Expansive Soils	106
	X.	Landslides	110
	XI.	Earthquake	112
	XII.	Wildfire	120
	XIII.	Dam Failure	128
Section Four		Vulnerability Assessment	133
		Socially Vulnerable Populations	144
		Vulnerable Structures	153
		Critical Facility Inventory	155
		Development Trends	156
		Methods of Warning	163
		Vulnerability Summary	166
		Estimated Loss Projections	167
		Mitigating Potential Losses	171
Section Five		Jurisdiction Assessments	184
		City of Clanton	186
		City of Jemison	210
		Town of Maplesville	232
		Town of Thorsby	252
		Chilton County Board of Education	274
		Enterprise Volunteer Fire and Rescue Department	280
Section Six		Mitigation Plan Maintenance	285
		Incorporation into Existing Planning Mechanisms	287

Appendices

Appendix I	Adopting Resolutions	290
	Chilton County EMA	292
	Chilton County	294
	City of Clanton	296
	City of Jemison	298
	Town of Maplesville	300
	Town of Thorsby	302
	Chilton County Board of Education	304
	Enterprise Volunteer Fire and Rescue Department	306

LIST OF MAPS, FIGURES, & TABLES

Maps		Page
2-1	Chilton County General Location	38
2-2	Chilton County Population Density	40
4-1	Chilton County Census Tracts	148

Figures

2-1	Geology of Alabama	48
3-1	Generalized Tornado Paths	83
3-2	Wind Zones in the United States	83
3-3	Sinkholes and Sinkhole Density Across Alabama	107
3-4	General Soils of Alabama	108
3-5	Landslide Incidence & Susceptibility in Chilton County	111
3-6	National Seismic Hazard Mapping Project	117

3-7 Seismic Zones of the Southeastern United States 118
3-8 Total Acres Burned by Wildfire (1997-2012) 124
3-9 Number of Fires Per Year Per Square Mile (1997-2012) 126

Tables

1-1 Chilton County Existing Plans by Jurisdiction 35

2-1 Growth Trends in 1190-2013 Population 37

3-1 Chilton County Hazard Probability of Future Occurrence 54
3-2 Chilton County Hazard Identification by Jurisdiction 55
3-3 Chilton County Prioritized Occurrence Threat by Jurisdiction Based on Past Events 56
3-4 Chilton County Mitigation Actions Prioritization 57
3-5 Chilton County Hazard Events 58
3-6 Estimating Hail Size 77
3-7 Fujita Tornado Scales 85
3-8 Flood Probability Terms 88
3-9 Chilton County NFIP Status by Jurisdiction 91
3-10 Heat Index/Heat Disorders 96
3-11 Saffir-Simpson Hurricane Wind Scale 103
3-12 Earthquake PGA, Magnitude, and Intensity Comparison 114
3-13 Wildfires in Chilton County 1997-2012 121
3-14 Chilton County Dams Risk Categories 131
3-15 Chilton County Dam Inventory 132

4-1 Community Safe Rooms in Chilton County 138
4-2 Chilton County Population Characteristics 146
4-3 Chilton County Income Data 152
4-4 Chilton County Housing Characteristics 153
4-5 Chilton County Building Stock by General Occupancy 154

4-6	Chilton County Building Exposure	154
4-7	Chilton County Building Contents Exposure	155
4-8	Chilton County Critical Facilities	156
4-9	Chilton County Population Projections	157
4-10	Chilton County Outdoor Warning Sirens	165
4-11	2014 Values Used for Monetary Conversion of Tornado Injuries and Deaths	167
4-12	Chilton County Vulnerability Summary	169
4-13	Chilton County Estimated Losses from Specified Hazards	170
4-14	Chilton County Mitigation Actions	174
5-1	City of Clanton Risk & Vulnerability Overview	188
5-2	City of Clanton Hazard Events	190
5-3	City of Clanton Hazard Probability Assessment	200
5-4	City of Clanton Critical Facilities Inventory	201
5-5	City of Clanton Estimated Loss Projections from Specified Hazards	202
5-6	City of Clanton Mitigation Actions	205
5-7	City of Jemison Risk & Vulnerability Overview	212
5-8	City of Jemison Hazard Events	214
5-9	City of Jemison Hazard Probability Assessment	222
5-10	City of Jemison Critical Facilities	223
5-11	City of Jemison Estimated Loss Projections from Specified Hazards	224
5-12	City of Jemison Mitigation Actions	228
5-13	Town of Maplesville Risk & Vulnerability Overview	234
5-14	Town of Maplesville Hazard Events	236
5-15	Town of Maplesville Hazard Probability Assessment	243
5-16	Town of Maplesville Critical Facilities	244
5-17	Town of Maplesville Estimated Loss Projections from Specified Hazards	245
5-18	Town of Maplesville Mitigation Actions	248
5-19	Town of Thorsby Risk & Vulnerability Overview	254
5-20	Town of Thorsby Hazard Events	256
5-21	Town of Thorsby Hazard Probability Assessment	262
5-22	Town of Thorsby Critical Facilities	263

5-23	Town of Thorsby Estimated Loss Projections from Specified Hazards	264
5-24	Town of Thorsby Mitigation Actions	268
5-25	Chilton County Board of Education Mitigation Actions	278
5-26	Enterprise Volunteer Fire and Rescue Department Mitigation Actions	284

Introduction

Chilton County Hazard Mitigation Plan

The Chilton 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, Clanton, Jemison, Maplesville, and Thorsby. Other local governments that elected to participate in and adopt the plan are the Chilton County Board of Education and the Enterprise Volunteer Fire Department.

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.

Chilton County will continue to comply with all applicable federal and state statutes and regulations related to hazard mitigation planning. In addition, Chilton 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 December 4, 2013 through July 4, 2015. Chilton County entered into an agreement with Lee Helms Associates L.L.C. (LHA) to update the 2010 plan that was also revised by Lee Helms Associates, L. L. C. (LHA) and expires on May 19, 2015.

Scope

The Chilton County Hazard Mitigation Plan includes all incorporated and unincorporated areas in Chilton County. The plan addresses all natural hazards identified by the Federal Emergency Management Agency. All hazards that may affect Chilton 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 Chilton County Hazard Mitigation Plan is an effort to identify mitigation strategies that address the hazards to which Chilton County is the most vulnerable. This plan is only one of many means Chilton 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 of 2014 after the Chilton County Emergency Management Agency (CCEMA) was awarded a planning grant from the Alabama Emergency Management Agency (AEMA). The CCEMA received 75 percent funding from the Federal Emergency Management Agency (FEMA). The remaining 25 percent was provided locally through in-kind services. The 2015 plan update reflects a different structure as the 2010 plan.

The Chilton 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 2010 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 and/or representatives of LHA. Three meetings will be held prior to plan approval by FEMA, all of which provide the public an opportunity to participate in the planning process and provide public feedback to be incorporated into the plan's revision. Citizen input forms are also available at these meetings and at the EMA Office for those who cannot attend the meetings, but wish to participate and provide input into the plan.

Continued Public Participation

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

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

After the initial plan was completed in 2005, it was made available for ongoing public view and comment at the Chilton County Emergency Operations Center, all City and Town Halls, and the Chilton 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 Chilton 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. Jurisdictions having Facebook pages are: Jemison, Alabama and the Chilton County Board of Education. Jurisdictions having websites are: Chilton County: www.chiltoncounty.org; City of Clanton: www.clanton.al.us; City of Jemison: www.jemisonalabama.org; Town of Maplesville: www.townofmaplesville.com; Town of Thorsby: www.townofthorsby.com; Chilton County Board of Education: http://chilton.k12.al.us.

Hazard Mitigation Planning Committee

Before beginning the plan update process, LHA staff coordinated with Mr. Derrick Wright, Chilton County EMA Director, to review the hazard mitigation planning committee. Existing members were reviewed and confirmations, replacements, and additions were made as necessary. Mr. Wright, the Chilton County EMA Director assumed the responsibility as Chairman of the Hazard Mitigation Planning Committee. The Hazard Mitigation Planning Committee (HMPC) consisted of the following members:

Chilton County

Derrick Wright, Chilton County EMA, Director

Allen Goree, Verbena Fire and Rescue, Chief

Tony Wearren, Chilton County, Engineer

Connie Powell, Chilton County, Administrator

Meliah Matthews, Chilton County EMA, Administrative Assistant

Terra Scott, Chilton County E-911, Operations Manager

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

City of Clanton

Billy Joe Driver, City of Clanton, Mayor

David Driver, Clanton Fire Department, Fire Chief

City of Jemison

Shannon Welch, Chilton County Commission/City of Jemison representative (participated by phone)

Town of Maplesville

Dawn Smitherman, Town Clerk (participated by phone)

Town of Thorsby

A. Watley, Thorsby Fire, Lieutenant

R. L. Gunn, Thorsby Fire, Chief

Jean Nelson, Town of Thorsby, Mayor

Rodney Barnett, Thorsby Police Department, Chief of Police

Chilton County Board of Education

Dave Hayden and his replacement Tommy Glasscock, Chilton County Board of Education, Superintendent

(Elections have since been held and Tommy Glasscock is the new Superintendent)

Yvonna Benson, Certification Officer (participated by phone)

Fred Smith, Maintenance Superintendent (participated by phone)

Enterprise Volunteer Fire and Rescue Department (provided information through one-on-one meetings, telephone calls and emails)

Gary Headley, Fire Chief Station 131

David Jones, Fire Chief Station 132

Amelia Headley, Member

Surrounding Counties

Hub Harvey, Shelby County EMA, Director

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 Chilton 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 Chilton County EMA during the update and finalization of the Chilton 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 Shelby (Hub Harvey, EMA Director, 205-669-3999), Coosa (Terri Hale, EMA Director, 256-377-2418), Elmore (Eric Jones, EMA Director, 334-567-6451), Autauga (Ernie Baggett, EMA Director, 334-361-3758), Dallas (Rhonda Abbott and replacement Toya Stiles, EMA Director, 334-874-2515) Perry (DeAndrae Kimbrough, EMA Director, 334-683-2236) and Bibb (Wayne Hayes and replacement Kirk Smith, EMA Director, 205-926-3113) 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 Chilton 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 Chilton 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. Only the Shelby County EMA Director attended a meeting; however during contacts made, all surrounding counties expressed their willingness to help in the event of a disaster. Public meeting notices were published in the Clanton Advertiser 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. No forms were completed during the planning process and are included in this section.

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INITIAL MEETING AGENDA
2015 CHILTON COUNTY HAZARD MITIGATION PLAN UPDATE
Tuesday, September 30, 2014 @ 10 a.m.
City Hall Council Room, Clanton

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

2. Project Background
   - 2010 plan update was prepared by Lee Helms Associates, L. L.C. under the direction of the Chilton County Emergency Management Agency and the Hazard Mitigation Planning Committee and adopted by:
     - Chilton County – Unincorporated
     - Clanton – City
     - Jemison – City
     - Maplesville – Town
     - Thorsby – Town
   - 2015 plan update will be prepared by Lee Helms Associates, L. L.C. under the direction of the Chilton County Emergency Management Agency and the Hazard Mitigation Planning Committee

3. Project Participation
   - Identify opportunities for public input into the 2015 plan update
   - Identify potential plan meeting participates that are not present today (municipalities, school boards, engineers, hospitals, surrounding county EMAs, fire departments, etc.)
     - PNP's are their own applicant

4. Project Schedule
   - 2010 plan update expires May 19, 2015
   - Period of Performance for the grant is December 4, 2013 – July 4, 2015
   - Goal date for draft plan to be submitted in order to be approved before the POP ends: Thursday, February 19, 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 to renee@leehelmsllc.com. If you have any questions or need assistance, call LHA at 205-280-3027.

5. Project Tasks for this Meeting
   - All general public attendees are to complete the form titled: "Citizen Input on Hazard Mitigation Planning" and leave completed form with LHA representative
   - Update 2010 plan information and return to LHA within the next two weeks – see handouts
   - Discuss in-kind contributions for local match to this planning grant
   - Set date and location for next meeting – (middle of January, 2015)

Tuesday, September 30, 2014 at 10 a.m.

City Hall Council Room in Clanton

Chilton County Hazard Mitigation Planning Meeting 1

The Chairman of the Hazard Mitigation Planning Committee, Mr. Derrick Wright, 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 14 committee members or designees attended the meeting, along with 2 LHA representatives. No members of the general public were in attendance.

- Derrick Wright, EMA Director
- Lee Helms, LHA
- Renee Helms, LHA
- A. Watley, Thorsby Fire, Lt.
- R. L. Gunn, Thorsby Fire, Chief
- Allen Goree, Verbena Fire and Rescue, Chief
- Tony Wearren, Chilton County, Engineer
- Connie Powell, Chilton County, Administrator
- Meliah Matthews, Chilton County EMA, Administrative Assistant
- Billy Joe Driver, City of Clanton, Mayor
- Dave Hayden, Chilton County Board of Education, Superintendent
- Terra Scott, Chilton County E-911, Operations Manager
- Jean Nelson, Town of Thorsby, Mayor
- Rodney Barnett, Thorsby Police Department, Chief of Police
- Hub Harvey, Shelby County EMA, Director
- David Driver, Clanton Fire Department, Chief

CHILTON COUNTY

Tuesday, September ~~29~~ 30, 2014 at 10 a.m. – City Hall Council Room, Clanton

INITIAL HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
A. Uatley	Agency: Thorsby Fire Job Title: Fire/Lieutenant	Phone: 205-646-3725 Fax:	thorsbyfire@centurytel.net
R.L. Gunn	Agency: Thorsby Job Title: Fire Chief	Phone: 646-3725 Fax:	thorsbyfire@centurytel.net
Lee Helms	Agency: LHA Job Title: Owner/Consultant	Phone: 205-280-3027 Fax: 205-280-0543	lee@leehelmsllc.com
Renee Helms	Agency: LHA Job Title: Manager	Phone: 205-280-3027 Fax: 205-280-0543	renee@leehelmsllc.com
	Agency: Job Title:	Phone: Fax:	
	Agency: Job Title:	Phone: Fax:	

LEE HELMS ASSOCIATES

30 CHILTON COUNTY

Tuesday, September ~~29~~, 2014 at 10 a.m. – City Hall Council Room, Clanton

INITIAL HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
ALLEN GOREE	Agency: VERBENA FIRE & RESCUE Job Title: CHIEF	Phone: 205-312-1060 Fax:	VERBENAFIRE@EXEDE.NET
Tony Wearren	Agency: Chilton County Job Title: Engineer	Phone: 205.755.0530 Fax: 205.755.8052	twearren@chilton county.org
Connie Powell	Agency: Chilton County Job Title: Administrator	Phone: 205-755-1551 Fax: 205-280-7204	cpowell@chiltoncounty.org
Meliah Matthews	Agency: Chilton EMA Job Title:	Phone: 205-755-0900 Fax: none	meliah.matthews@yahoo.org ~~chiltoncoun~~ same as his too
Derrick Wright	Agency: Chilton EMA Job Title: Director	Phone: 205-755-0900 Fax:	DWWright@Chiltoncounty.org
Billy Joe Driver	Agency: City of Clanton Job Title: mayor	Phone: 205-755-4051 Fax: 205-755-6799	cclanton@Cityofclanton.Com

LEE HELMS ASSOCIATES

CHILTON COUNTY

Tuesday, September ~~29~~ 30, 2014 at 10 a.m. – City Hall Council Room, Clanton

INITIAL HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
Dave Hayden	Agency: Board of Education Job Title: Supt. of Ed	Phone: 280 3000 Fax:	dhayden@chilton.k12.al.us
Terra Scott	Agency: Chilton Co. E911 Job Title: Operations Manager	Phone: 205-755-0911 Fax: 205-280-0911	tscott@chilton911.org
JeAN NeLSON	Agency: TOWN OF Thorsby Job Title: MAYOR	Phone: 205-646-3575 Fax:	JNelson@CenturyTel.Net
Rodney Barnett	Agency: Thorsby Police Dept Job Title: Chief of Police	Phone: 205-646-3555 Fax: 205-646-2414	thorsbypolicedept@centurytel.net
Hub Harvey	Agency: Shelby County EMA Job Title: Director	Phone: 205-669-3999 Fax: 205-669-3871	hharvey@shelbyal.com
David Driver	Agency: Clanton Fire Dept. Job Title: Fire Chief	Phone: 205-755-0533 Fax: 205-755-4213	david.driver@clantonfd.org

LEE HELMS ASSOCIATES

MID-TERM MEETING AGENDA

2015-2016 CHILTON COUNTY HAZARD MITIGATION PLAN UPDATE

Monday, January 11, 2016 @ 9 a.m.

County Commission Chambers, Clanton

1. Introductions
   - Sign-in sheets – please print and make sure your email is on the form.
2. Project Schedule
   - There will be an initial, mid-term, and final meeting. Committee members will be made aware of the meetings via email unless other means is requested. Information may be sent to LHA by fax 205-280-0543 or email to renee@leehelmsllc.com. If you have any questions or need assistance, call LHA at 205-280-3027.
   - Discuss plan process from this point to plan adoption
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
   - Update 2010 plan information – see handouts
   - Discuss in-kind contributions for local match to this planning grant

Monday, January 11, 2016 at 9 a.m.

Chilton County Commission Chambers in Clanton

Chilton County Hazard Mitigation Planning Meeting 2

Mr. Lee Helms opened the meeting. Lee Helms Associates, L. L. C. reminded the committee members and attendees of the project schedule. Attendees were referred to worksheets and other materials related to the agenda topics in order to review and provide data for the update. These worksheets were previously emailed to participants with instructions on what information needs updating. A total of seven committee members or designees attended the meeting, along with two LHA representatives and no members of the general public who completed a "Citizen Input on Hazard Mitigation Planning" form (see below).

- Lee Helms, LHA
- Renee Helms, LHA
- Connie Powell, Chilton County, Administrator
- Rodney Barnett, Thorsby Police Department, Chief of Police
- Matthew Epperson, Chilton County, Assistant Engineer
- Hub Harvey, Shelby County EMA, Director
- Yvonna Benson, Chilton Co. BOE, Certification Officer (participated by phone)
- Fred Smith, Chilton Co. BOE, Maintenance Superintendent (participated by phone)
- Dawn Smitherman, Town of Maplesville, Clerk (participated by phone)

CHILTON COUNTY

Monday, January 11, 2016 at 9 a.m. – Chilton County Commission Chambers, Clanton

MIDTERM HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
Matthew Epperson	Agency: Chilton Co. Job Title: Asst. Co Eng.	Phone: 205-755-0530 Fax:	mepperson@chiltoncounty.org
Connie Powell	Agency: Chilton Co Comm Job Title: Administrator	Phone: 205-755-1551 Fax: 205-280-7204	cpowell@chiltoncounty.org
Rodney Barnett	Agency: Thorsby Police Dept Job Title: Chief of Police	Phone: 205-646-3555 Fax:	thorsbypolicedept@centurytel.net
Hub Harvey	Agency: Shelby County EMA Job Title: Director	Phone: 205-667-3999 Fax:	hharvey@shelbyal.com
Fred Smith	Agency: Chilton Co. BOE Job Title: Maint. Sup.	Phone: 205-389-1450 Fax:	fsmith@chilton.k12.al.us
Yvonna Benson	Agency: Chilton Co. BOE Job Title: Certification Officer	Phone: 205-280-3002 Fax:	ybenson@chilton.k12.al.us

LEE HELMS ASSOCIATES

CHILTON COUNTY

Monday, January 11, 2016 at 9 a.m. – Chilton County Commission Chambers, Clanton

MIDTERM HAZARD-MITIGATION PLANNING MEETING SIGN-IN SHEET

(PLEASE PRINT CLEARLY)

NAME	AGENCY OR DEPARTMENT/ JOB TITLE	PHONE/ FAX	E-MAIL
Dawn Smitherman	Agency: Town of Maplesville Job Title: Town Clerk	Phone: 334-366-4212 Fax: 334-366-4210	maplesvilletown@bellsouth.net
	Agency: Job Title:	Phone: Fax:	
	Agency: Job Title:	Phone: Fax:	
	Agency: Job Title:	Phone: Fax:	
	Agency: Job Title:	Phone: Fax:	
	Agency: Job Title:	Phone: Fax:	

LEE HELMS ASSOCIATES

CITIZEN INPUT ON HAZARD MITIGATION PLANNING

Where in the county do you live (Which city or township?)	
What is your zip code at home?	
Do you work with Law Enforcement, Fire Service, Emergency Medical Services, Public Health, or Emergency Management? (Yes or No)	

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?		
B	Building fire?		
C	Severe thunderstorm?		
D	Tornado?		
E	Winter Weather?		
F	Terrorism?		
G	Drought?		
H	Hazardous material spill or release from pipelines, trucks, trains, or aircraft?		
I	Hazardous material spill or release from a facility?		
J	Power failure for more than two or three hours?		
K	Earthquake		

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

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

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

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

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:

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? ________________________

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

Do you own a NOAA weather radio? YES ______ NO ______

If yes, is it on right now? YES ______ NO ______

Are you familiar with the Emergency Alert System YES ____________ NO______

Do you have a device that can sound an alarm to alert you to emergencies? YES___ NO___

Can you receive emergency warning information on your pager, cell phone, or wireless messaging devices? YES__ NO__ If no, would you like to? YES___ NO___

Do you have a family emergency plan for events such as a home fire? YES____ NO __

Do you have a safe place for shelter in or around your home? YES____ NO ____

Are there emergency plans at your place of employment? YES ____________ NO______

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?

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

- Regional Planning Commission of Greater Birmingham (RPCGB) provided area planning and development and transportation planning information, as well as maps pertaining to plan information

Local Agencies

- Chilton 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 Regional Planning Commission of Greater Birmingham's (RPCGB) economic development planning efforts have been integrated into this plan revision. Of possible interest to those viewing this plan, the RPCGB also provides Chilton County with a Comprehensive Economic Development Strategy, Regional Transportation Plan, and Community Planning.

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. Goals and objectives were considered in the jurisdiction's comprehensive plan and implemented through the zoning ordinances and building codes. Risks assessments, including hazard information and mapping, helped form the basis for emergency management program activities and plans; land use plans; strategic plans; Capital Improvement Plans; zoning ordinances and building codes; Floodplain Management Plans; and Drainage Ordinances. Future growth and development will be planned away from high-risk locations.

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

All jurisdictions in Chilton County, along with the Chilton County Board of Education and the Enterprise Volunteer Fire and Rescue Department, 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 four municipalities (Clanton, Jemison, Maplesville, and Thorsby) along with the Chilton County Commission, Chilton County School Board, and the Enterprise Volunteer Fire and Rescue Department 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: Chilton County Existing Plans by Jurisdiction					
PLAN/POLICY	**Clanton**	**Jemison**	**Maplesville**	**Thorsby**	**Chilton County**
Comprehensive Plan	X	X	-	X	-
Strategic Plan					
Growth Management Plan					
Capital Improvement Plan					-
Zoning Ordinance	X	X	-	X	-
Building Code	X	X	-	X	-
Floodplain Management Plan	X	-	X	X	X
Elevation Certificates					
Drainage Ordinance					
Emergency Management Plan	X	X	X	X	X
Critical Facilities Map					
Existing Land Use Map	X	-	-	-	-
State Plan	-	-	-	-	X
Hazard Mitigation	X	X	X	X	X
Strategic National Stockpile Plan	X	X	X	X	X
Other					
Source: Participating Jurisdictions, 2014					

Section Two: General Characteristics

Chilton County is located in Central Alabama. The Counties of Shelby to the north, Coosa to the east, Elmore to the southeast, Autauga to the south, Dallas to the southwest, Perry to the southwest, and Bibb to the northwest border Chilton County. According to the 2010 Census, Chilton County has 701 square miles of land area and approximately 7.9 square miles of water area. The county contains four municipalities: Clanton, Jemison, Maplesville, and Thorsby. See **Map 2-1**: Chilton County General Location and Population Density Map. Chilton County is governed by County Commissioners who are elected by citizens in their commission districts. The chairmanship rotates on a regular basis so that each commissioner will serve a term as chairman. An elected mayor and council serve each municipality. The City of Clanton serves as the Chilton County seat and is the predominant center for local business and trade.

Chilton County has one airport located in Clanton. The airport does not provide commercial service. The major highways in Chilton County are Interstate 65, U. S. Highway 31, U. S. Highway 82, State Route 22, State Route 139, State Route 145, and State Route 155. The county is served by a north-south railway used by CSX and Norfolk Southern. Utilities in Chilton County include electricity, gas, water, sewer, and solid waste. Electrical service is provided by Alabama Power and Central Alabama Electric Cooperative and gas is supplied by Alabama Gas Corporation. AT&T provides telecommunication services. Water and sewer service is provided by municipal or rural systems.

Growth Trends

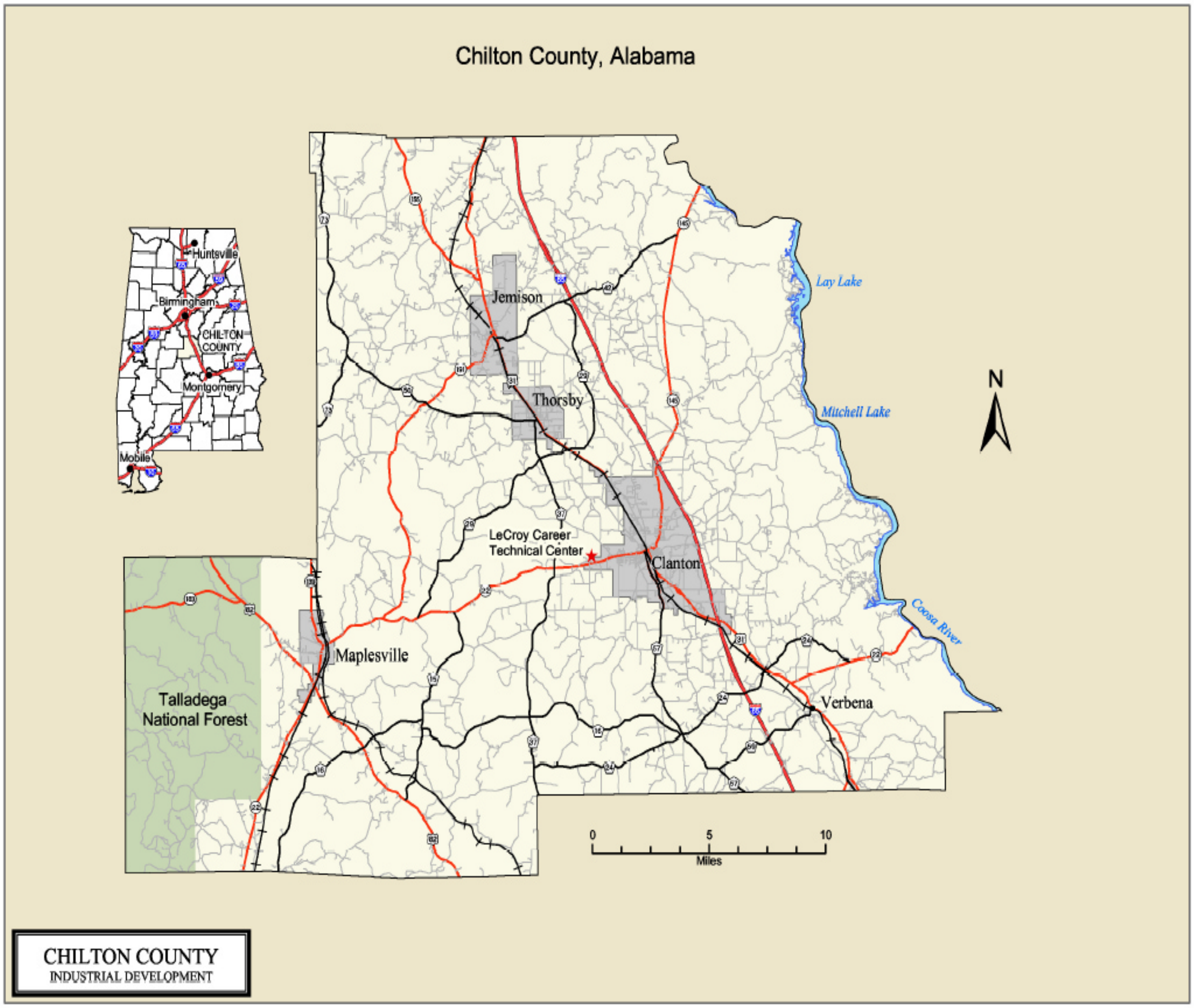
Chilton County's population increased during the years 1990-2014. All municipalities experienced increases in population. **Map 2-1**: Chilton County General Location and **Map 2-2** Chilton County Population Density Map depict the newest 2010 Census Tracts and population concentrations in Chilton County. **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 1990-2014

	4/1/1990	4/1/2000	4/1/2010	1/1/2014	Change 1990-2014 Number	Change 1990-2014 Percent
Clanton	7,738	7,857	8,619	8,686	948	12%
Jemison	2,016	2,371	2,585	2,609	593	29%
Maplesville	694	784	708	714	20	3%
Thorsby	1,444	1,858	1,980	2,001	557	39%
Chilton County	32,466	39,602	43,643	44,127	11,661	36%
Alabama	4,041,281	4,447,032	4,779,736	4,852,988	811,707	20%

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

MAP 2-1: Chilton County General Location



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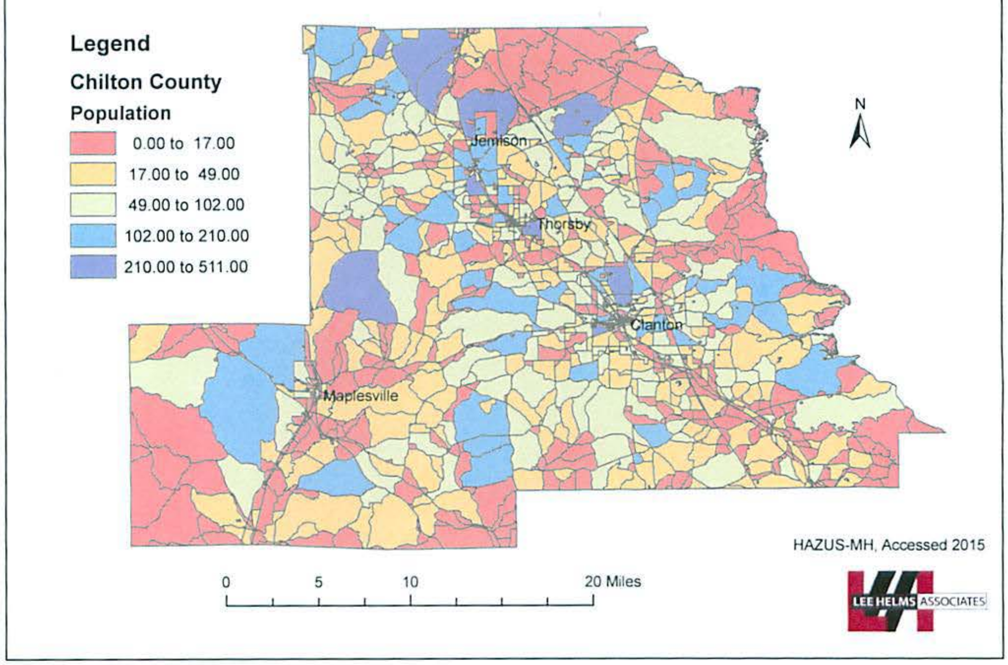
Map 2-2: Chilton County Population Density



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General Geology

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

Geologic units in Chilton County, Alabama include the following:

Wedowee Group: Wedowee Group undifferentiated (Precambrian to Paleozoic) at surface, covers < 0.1 % of this area. Wedowee Group undifferentiated includes the Cragford Phyllite and Cutnose Gneiss. Cragford Phyllite -- interbedded fine-grained graphite-chlorite-sericite schist and phyllite, garnet-sericite schist and phyllite, graphite-quartz-sericite phyllite, locally feldspathic biotite gneiss, calc-silicate rock, and quartzite. Cutnose Gneiss -- cyclically interbedded fine-grained quartz-biotite feldspathic gneiss, graphite-chlorite-sericite schist, locally thin interbeds of graphite-quartz-sericite phyllite, and quartzite. Rocks in the area northeast of Clanton in Chilton and Coosa Counties that are here assigned to the Wedowee Group also have been interpreted as part of the Higgins Ferry Group. Lithology: schist; phyllite; felsic gneiss; quartzite; calc-silicate rock.

Talladega Group: Miller Mill Quartzite Member of the Lay Dam Formation (Silurian-Devonian) at surface, covers < 0.1 % of this area. Miller Mill Quartzite Member of the Lay Dam Formation - white to medium-gray medium to coarse-grained arkosic quartzite and metaconglomerate. Lithology: quartzite; meta-conglomerate.

Talladega Group: Lay Dam Formation, unnamed diamictite facies (Silurian-Devonian) at surface, covers < 0.1 % of this area. Lay Dam Formation, unnamed diamictite facies - Unnamed diamictite facies of Lay Day Formation in Coosa and Chilton Counties consists of cobbles and boulders of carbonate, pelitic rocks, quartzite, chert, felsic plutonic rocks, and gneiss in a metagraywacke matrix. Lithology: conglomerate; carbonate; mudstone; quartzite; chert; plutonic rock (phaneritic); gneiss; metasedimentary rock.

Talladega Group: Lay Dam Formation (Silurian-Devonian) at surface, covers < 0.1 % of this area Lay Dam Formation - 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. Lithology: phyllite; metasedimentary rock; quartzite; slate; meta-conglomerate.

Talladega Group: Butting Ram Sandstone (Silurian-Devonian) at surface, covers < 0.1 % of this area. Butting Ram Sandstone - white to light-bluish-gray medium to coarse-grained, locally conglomeratic thick-bedded quartzose sandstone. There are possible Devonian fossils. Lithology: sandstone; conglomerate.

Sylacauga Marble Group: Jumbo Dolomite (Cambrian-Ordovician) at surface, covers < 0.1 % of this area. Jumbo Dolomite - light to medium-gray thin to thick-bedded dolomite marble; contains intraclast-bearing dolomite, locally sandy in middle part. Lithology: marble; dolostone (dolomite); sand.

Rockford Granite (Precambrian to Paleozoic) at surface, covers < 0.1 % of this area. Rockford Granite - leucocratic granite, granodiorite, and trondhjemite; locally well foliated, numerous pegmatites. Includes unnamed granitoids in Chilton County. Lithology: granite; granodiorite; trondhjemite; pegmatite.

High terrace deposits (Pleistocene) at surface, covers < 0.1 % of this area. High terrace deposits - Varicolored lenticular beds of poorly sorted sand, ferruginous sand, silt, clay, and gravelly sand. Sand consists primarily of very fine to very coarse poorly sorted quartz grains; gravel composed of quartz, quartzite, and chert pebbles. Lithology: terrace.

Parkwood Formation and Floyd Shale undifferentiated (Pennsylvanian-Mississippian) at surface, covers < 0.1 % of this area. 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. Lithology: shale; sandstone; mudstone; limestone; chert; mixed clastic/coal; clay or mud.

Newala and Longview Limestones undifferentiated (Ordovician) at surface, covers < 0.1 % of this area. Newala and Longview Limestones undifferentiated - light to dark-grey thick-bedded limestone and dolomite, cherty in part. Lithology: limestone; dolostone (dolomite); chert.

Newala Limestone (Ordovician) at surface, covers < 0.1 % of this area. Newala Limestone - light to dark-gray thick-bedded micritic and peloidal limestone and minor dolomite. Lithology: limestone; dolostone (dolomite).

Longview Limestone (Ordovician) at surface, covers < 0.1 % of this area. Longview Limestone - light to medium-gray thick-bedded cherty limestone and dolomite, locally sandy. Lithology: limestone; dolostone (dolomite).

Chepultepec and Copper Ridge Dolomites undifferentiated (Ordovician-Cambrian) at surface, covers < 0.1 % of this area. Chepultepec and Copper Ridge Dolomites undifferentiated - Light-gray to dark-bluish-gray thick-bedded dolomite and interbedded light-gray limestone; includes abundant chert. Lithology: dolostone (dolomite); limestone; chert.

Athens Shale and Lenoir Limestone undifferentiated (Ordovician) at surface, covers < 0.1 % of this area. Athens Shale -- black graptolitic shale, locally contains interbedded dark-gray limestone. Lenoir Limestone -- dark-gray medium to thick-bedded argillaceous limestone; locally contains an interval of fenestral mudstone at the base (Mosheim Limestone Member). Lithology: shale; limestone; mudstone.

Tuscumbia Limestone and Fort Payne Chert undivided (Mississippian) at surface, covers < 0.1 % of this area. 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. Lithology: limestone; chert; siltstone; shale; claystone.

Mitchell Dam Amphibolite (Precambrian to Paleozoic) at surface, covers < 0.1 % of this area. Mitchell Dam Amphibolite - dark-green to black fine to coarse-grained, thin-layered to massive hornblende-actinolite amphibolite; includes all amphibolite associated with the Higgins Ferry and Hatchet Creek Groups. Lithology: amphibolite.

Kahatchee Mountain Group: Waxahatchee Slate (Precambrian-Cambrian) at surface, covers < 0.1 % of this area. Waxahatchee Slate - dark-gray to grayish-green thin-bedded, micaceous metasiltstone, slate, and fine-grained quartzite. Lithology: metasedimentary rock; slate; quartzite.

Kahatchee Mountain Group: Kalona Quartzite Member of Wash Creek Slate (Precambrian-Cambrian) at surface, covers < 0.1 % of this area. 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. Lithology: quartzite; meta-conglomerate.

Kahatchee Mountain Group: Wash Creek Slate (Precambrian-Cambrian) at surface, covers < 0.1 % of this area. 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. Lithology: slate; metasedimentary rock.

Kahatchee Mountain Group: Stumps Creek Formation (Precambrian-Cambrian) at surface, covers < 0.1 % of this area. Stumps Creek Formation - grayish-green micaceous metasiltstone and minor phyllite; grayish-green fine to medium-grained pyritic metasandstone in middle to upper part. Lithology: phyllite; metasedimentary rock.

Eutaw Formation (Cretaceous) at surface, covers < 0.1 % of this area. Eutaw Formation - Light-greenish-gray to yellowish-gray cross-bedded, well-sorted, micaceous, fine to medium quartz sand that is fossiliferous and glauconitic in part and contains beds of greenish-gray micaceous, silty clay and medium-dark-gray carbonaceous clay. Light-gray glauconitic fossiliferous sand, thin beds of sandstone, and massive accumulations of fossil oyster shells occur locally in the upper part of the formation in western AL (Tombigbee Sand Member). In eastern AL thin to thick-bedded accumulations of the fossil oyster Ostrea cretacea Morton occur throughout much of the formation. Lithology: sand; clay or mud; sandstone.

Tuscaloosa Group: Coker Formation (Cretaceous) at surface, covers < 0.1 % of this area. Coker Formation - (Tuscaloosa Group), Light-colored micaceous very fine to medium sand, cross-bedded sand, varicolored micaceous clay, and a few thin gravel beds containing quartz and chert pebbles. Beds of thinly laminated finely glauconitic very fine to fine sand, silt and dark-gray carbonaceous clay (Eoline Member) occur locally in the lower part in western Alabama. Locally quartz and chert gravels at the base of the formation range in size from very fine pebbles to large cobbles. Lithology: sand; clay or mud; silt; gravel; chert.

Kahatchee Mountain Group: Sawyer Limestone Member of Brewer Phyllite (Precambrian-Cambrian) at surface, covers < 0.1 % of this area. Sawyer Limestone Member of Brewer Phyllite - light to medium-gray argillaceous, silty to siliceous calcite and dolomite marble interbedded with phyllite and quartzite, locally cherty. Lithology: marble; phyllite; quartzite.

Kahatchee Mountain Group: Brewer Phyllite (Precambrian-Cambrian) at surface, covers < 0.1 % of this area. Brewer Phyllite - dusky-red micaceous slate and phyllite, locally containing interbedded micaceous arkosic quartzite and metasiltstone; locally at the base is interbedded calcite and dolomite marble. Lithology: slate; phyllite; quartzite; metasedimentary rock; marble.

Hillabee Greenstone (Paleozoic) at surface, covers < 0.1 % of this area. Hillabee Greenstone - pale-green to light-olive-brown massive, fine-grained greenstone interbedded locally with well-foliated mafic phyllite. Lithology: greenstone; phyllite.

Higgins Ferry Group: Garnet quartzite (garnetite) and garnitiferous altered mafic rock (Precambrian to Paleozoic) at surface, covers < 0.1 % of this area. Higgins Ferry Group- Garnet quartzite (garnetite) and garnitiferous altered mafic rock. Lithology: quartzite; metamorphic rock.

Higgins Ferry Group: Roscoelite-graphite-quartz schist and graphitic quartzite (Precambrian to Paleozoic) at surface, covers < 0.1 % of this area. Lithology: schist; quartzite.

Higgins Ferry Group (Precambrian to Paleozoic) at surface, covers < 0.1 % of this area. Higgins

Ferry Group - thinly layered coarse to fine-grained biotite-feldspar-quartz gneiss, sericite-feldspar-muscovite schist, +/- biotite +/- garnet-muscovite schist, and biotite-garnet feldspathic gneiss; locally common pegmatites. Lithology: felsic gneiss; mica schist; pegmatite.

Hatchet Creek Group: Pinchoulee Gneiss (Precambrian to Paleozoic) at surface, covers < 0.1 % of this area. Pinchoulee Gneiss - medium to fine-grained migmatitic, locally garnetiferous biotite-feldspar gneiss, commonly saturated with granitic pods. Lithology: felsic gneiss; granite.

Alluvial, coastal and low terrace deposits (Holocene) at surface, covers < 0.1 % of this area. Alluvial, coastal and low terrace deposits - Varicolored fine to coarse quartz sand containing clay lenses and gravel in places. Gravel composed of quartz and chert pebbles and assorted metmorphic and igneous rock fragments in streams near the Piedmont. In areas of the Valley and Ridge province gravel composed of angular to subrounded chert, quartz, and quartzite pebbles. Coastal deposits include fine to medium quartz sand with shell fragments and accessory heavy minerals along Gulf beaches and fine to medium quartz sand, silt, clay, peat, mud and ooze in the Mississippi Sound, Little Lagoon, bays, lakes, streams, and estuaries. Lithology: beach sand; alluvium.

Talladega Group: No name on map (Silurian-Devonian) at surface, covers < 0.1 % of this area. No name on map - fossiliferous chert facies in vicinity of Jemison, Chilton County, contains marine invertabrate fossils of early to Middle Devonian age. Lithology: chert.

Talladega Group: Jemison Chert and Chulafinnee Schist undifferentiated (Silurian-Devonian) at surface, covers < 0.1 % of this area. 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. Lithology: schist; phyllite; metasedimentary rock.

Ketona Dolomite (Cambrian) at surface, covers < 0.1 % of this area. Ketona Dolomite - Light to medium-gray thick-bedded coarsely crystalline dolomite. Lithology: dolostone (dolomite).

Brierfield Dolomite (Cambrian) at surface, covers < 0.1 % of this area. Brierfield Dolomite - medium to dark-bluish-gray thick-bedded siliceous dolomite; characterized by locally abundant chert with irregular cavities. Lithology: dolostone (dolomite); chert.

Bibb Dolomite (Cambrian) at surface, covers < 0.1 % of this area. Bibb Dolomite - dark-gray thick-bedded siliceous dolomite; characterized by locally abundant chert containing irregular cavities. Lithology: dolostone (dolomite); chert.

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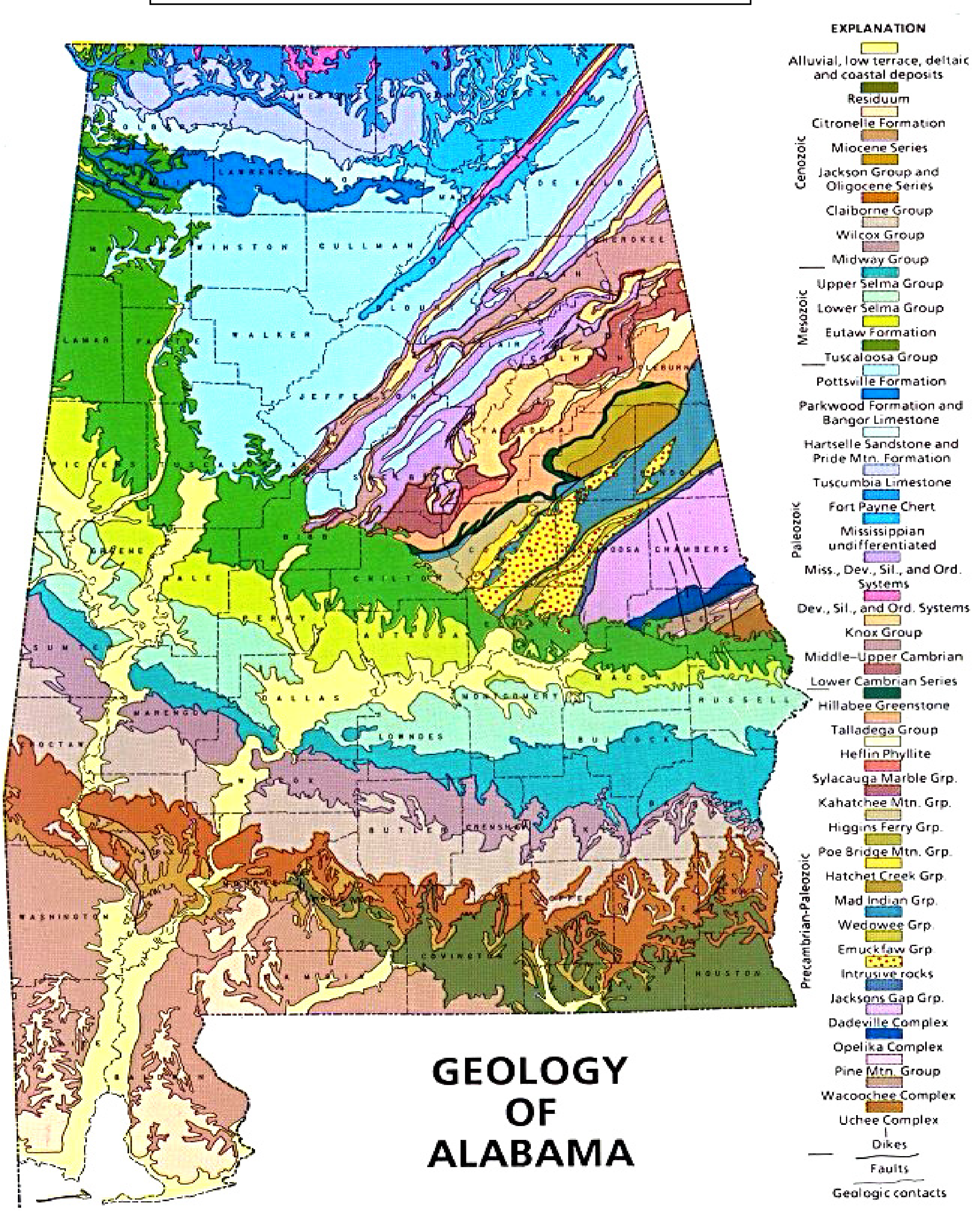
Figure 2-1: Geology of Alabama

(Source: University of AL – Geology Department)



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Section Three: Risk Assessment

The risk assessment process is necessary to identify those natural hazards that pose a threat to Chilton County and its municipal jurisdictions. This process used information provided by members of the Chilton 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. During the 2010 plan update and for subsequent plan updates, tsunami/volcano/typhoon was removed from the plan based on committee consensus that the hazard(s) did not pose a threat to the county or its jurisdictions.

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 highest to least threat designating the hazard with the highest threat of occurrence as number one.

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, 2003 – December 31, 2013. The table shows events for all hazard types and provides the location, date, type, magnitude, deaths and injuries, dollar amounts for property and crop damages, and total damages.

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

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 2003-2013 with 21 of those being reported as damage causing; $172,000/21=$8,190

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Table 3-1: Chilton County Hazard Probability of Future Occurrence			
Natural Hazards	**Number of Occurrences Between 2003-2013**	**Probability of Future Occurrence**	**Area Affected**
Thunderstorm	56	>100%	Countywide
Lightning	4	40%	Countywide
Hail	40	>100%	Countywide
Tornado	9	90%	Countywide
Floods/Flash Floods	6	60%	Countywide
Droughts/Extreme Heat	33	>100%	Countywide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	9	90%	Countywide
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	8	80%	Countywide
Sinkhole/Expansive Soil	2	20%	Countywide
Landslide	0	Unknown	Countywide
Earthquake	2	20%	Countywide
Dam/Levee Failure	0	Unknown	Countywide
Wildfire (3-year study period)	216	>100%	Countywide
Sources: NOAA NCDC Storm Events Database; Alabama Forestry Commission; Alabama Geological Survey, 2014			
Methodology: Probability of Future Occurrences was expressed by dividing the total number of occurrences by the ten-year study period, with the exception of wildfire being a 3-year study period. Zero or unknown denotes no data available to determine the probability of future occurrence or areas affected.			

Table 3-2: Chilton County Hazard Identification by Jurisdiction					
Natural Hazards	**Clanton**	**Jemison**	**Maplesville**	**Thorsby**	**Chilton County**
Thunderstorm	X	X	X	X	X
Lightning	X	X	X	X	X
Hail	X	X	X	X	X
Tornado	X	X	X	X	X
Floods/Flash Floods	X	X	X	X	X
Drought/Extreme Heat	X	X	X	X	X
Winter Storm/Frost Freeze/Heavy Snow/ Ice Storm/Winter Weather/Extreme Cold	X	X	X	X	X
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	X	X	X	X	X
Sinkhole/Expansive Soil	X	X	X	X	X
Landslide	X	X	X	X	X
Earthquake	X	X	X	X	X
Wildfire	X	X	X	X	X
Dam/Levee Failure	X	N/A	N/A	N/A	X
Source: Participating Jurisdictions 2015					

Table 3-3: Chilton County Prioritized Occurrence Threat by Jurisdiction Based on Past Events					
Natural Hazards	**Clanton**	**Jemison**	**Maplesville**	**Thorsby**	**Chilton County**
Thunderstorm	3	5	3	5	2
Lightning	7	7	7	8	8
Hail	4	6	5	6	3
Tornado	8	8	7	8	5
Floods/Flash Floods	7	7	6	7	7
Drought/Extreme Heat	2	2	2	2	4
Winter Weather/ Frost Freeze/Heavy Snow/Ice Storm/ Winter Weather/ Extreme Cold	5	3	3	3	5
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	6	4	4	4	6
Sinkhole/Expansive Soil	9	8	7	8	9
Landslide	9	8	7	8	10
Earthquake	9	8	7	8	9
Wildfire (3-year study period)	1	1	1	1	1
Dam/Levee Failure	9	8	7	8	10
Sources: NOAA NCDC Storm Events Database; Alabama Forestry Commission; National Forestry Service; Alabama Geological Survey, 2014					
Hazards are prioritized with the highest threat of occurrence assigned number one based on hazardous events that have occurred within each jurisdiction over the past ten years, with the exception of wildfires that were based on events that have occurred over 3 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: Chilton County Mitigation Actions Prioritization					
Natural Hazards	**Clanton**	**Jemison**	**Maplesville**	**Thorsby**	**Chilton County**
Thunderstorm	2	1	1	2	2
Lightning	3	3	3	3	4
Hail	3	2	3	3	4
Tornado	2	1	1	2	2
Flood/Flash Flood	1	1	2	1	1
Drought/Extreme Heat	3	4	3	5	5
Winter Storm/Frost Freeze/Heavy Snow/ Ice Storm/Winter Weather/Extreme Cold	3	3	3	4	5
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	2	1	1	2	2
Sinkhole/Expansive Soil	4	4	3	5	6
Landslide	4	4	3	5	6
Earthquake	4	4	3	5	6
Wildfire	3	4	3	5	3
Dam/Levee Failure	3	3	3	4	5
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.

TABLE 3-5: CHILTON COUNTY HAZARD EVENTS

56 Thunderstorm Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
COUNTYWIDE	CHILTON CO.	AL	03/05/2003	19:50	CST	Thunderstorm Wind	55 kts. EG	0	0	12.00K	0.00K
COUNTYWIDE	CHILTON CO.	AL	07/21/2003	17:16	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
STANTON	CHILTON CO.	AL	11/18/2003	12:35	CST	Thunderstorm Wind	55 kts. EG	0	0	4.00K	0.00K
JEMISON	CHILTON CO.	AL	05/31/2004	04:04	CST	Thunderstorm Wind	60 kts. EG	0	0	45.00K	0.00K
THORSBY	CHILTON CO.	AL	06/13/2004	13:50	CST	Thunderstorm Wind	55 kts. EG	0	0	17.00K	0.00K
CLANTON	CHILTON CO.	AL	07/08/2004	15:45	CST	Thunderstorm Wind	55 kts. EG	0	0	5.00K	0.00K
VERBENA	CHILTON CO.	AL	03/22/2005	23:35	CST	Thunderstorm Wind	55 kts. EG	0	0	45.00K	0.00K
CLANTON	CHILTON CO.	AL	03/31/2005	06:12	CST	Thunderstorm Wind	50 kts. EG	0	0	8.00K	0.00K
COUNTYWIDE	CHILTON CO.	AL	04/30/2005	04:14	CST	Thunderstorm Wind	52 kts. EG	0	0	3.00K	0.00K
CLANTON	CHILTON CO.	AL	04/19/2006	20:42	CST	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
VERBENA	CHILTON CO.	AL	06/15/2007	16:43	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
CLANTON	CHILTON CO.	AL	08/24/2007	14:35	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
KINCHEON	CHILTON CO.	AL	10/22/2007	23:38	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
PLEASANT GROVE	CHILTON CO.	AL	10/23/2007	00:00	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.50K	0.00K
CLANTON	CHILTON CO.	AL	01/10/2008	18:33	CST-6	Thunderstorm Wind	50 kts. EG	0	0	25.00K	0.00K
KINCHEON	CHILTON CO.	AL	02/17/2008	12:58	CST-6	Thunderstorm Wind	61 kts. EG	0	0	10.00K	0.00K
VERBENA	CHILTON CO.	AL	02/17/2008	13:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
PLETCHER	CHILTON CO.	AL	04/04/2008	14:00	CST-6	Thunderstorm Wind	61 kts. EG	0	0	10.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	06/01/2008	15:22	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
CLANTON	CHILTON CO.	AL	06/17/2008	16:00	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	07/22/2008	17:10	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	04/19/2009	18:18	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	05/03/2009	13:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	50.00K	0.00K
JEMISON	CHILTON CO.	AL	05/03/2009	13:33	CST-6	Thunderstorm Wind	50 kts. EG	0	0	60.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	05/03/2009	13:33	CST-6	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
THORSBY	CHILTON CO.	AL	05/03/2009	13:37	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	06/12/2009	20:00	CST-6	Thunderstorm Wind	60 kts. EG	0	0	25.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	06/12/2009	20:00	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
HUBBARD	CHILTON CO.	AL	06/28/2009	16:11	CST-6	Thunderstorm Wind	45 kts. EG	0	0	0.50K	0.00K
FALAKTO	CHILTON CO.	AL	07/08/2009	12:43	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
MINERAL SPGS	CHILTON CO.	AL	12/09/2009	01:03	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	12/09/2009	01:06	CST-6	Thunderstorm Wind	65 kts. MG	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	12/09/2009	01:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
LOMAX	CHILTON CO.	AL	01/21/2010	05:41	CST-6	Thunderstorm Wind	39 kts. EG	0	0	5.00K	0.00K
FALAKTO	CHILTON CO.	AL	01/24/2010	09:56	CST-6	Thunderstorm Wind	61 kts. MG	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	03/12/2010	05:55	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
CLANTON	CHILTON CO.	AL	04/04/2011	19:53	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
WESSINGTON	CHILTON CO.	AL	04/11/2011	18:40	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
MOUNTAIN CREEK	CHILTON CO.	AL	05/26/2011	13:35	CST-6	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
CLANTON WARE IS ARPT	CHILTON CO.	AL	05/26/2011	13:50	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	06/10/2011	15:55	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	06/22/2011	14:57	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	06/24/2011	17:55	CST-6	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
KINCHEON	CHILTON CO.	AL	08/21/2011	14:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	12.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	08/21/2011	14:43	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
MINOOKA	CHILTON CO.	AL	05/29/2012	22:34	CST-6	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
JEMISON	CHILTON CO.	AL	05/29/2012	22:43	CST-6	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	06/11/2012	20:06	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	07/10/2012	15:27	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
COOPER	CHILTON CO.	AL	07/31/2012	02:07	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	07/31/2012	04:42	CST-6	Thunderstorm Wind	43 kts. EG	0	0	4.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	01/30/2013	07:48	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
FALAKTO	CHILTON CO.	AL	03/05/2013	14:14	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
COOPER	CHILTON CO.	AL	03/05/2013	14:22	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
COOPER	CHILTON CO.	AL	03/23/2013	22:27	CST-6	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
CLANTON WARE IS ARPT	CHILTON CO.	AL	03/23/2013	22:30	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
Totals:								0	0	422.00K	0.00K

4 Lightning Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
JEMISON	CHILTON CO.	AL	08/27/2003	18:10	CST	Lightning		0	0	2.00K	0.00K
CLANTON	CHILTON CO.	AL	08/27/2003	19:05	CST	Lightning		0	0	3.00K	0.00K
JEMISON	CHILTON CO.	AL	08/27/2003	19:08	CST	Lightning		0	0	1.00K	0.00K
CLANTON	CHILTON CO.	AL	08/27/2003	19:18	CST	Lightning		0	0	2.00K	0.00K
Totals:								0	0	8.00K	0.00K

40 Hail Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
MAPLESVILLE	CHILTON CO.	AL	04/25/2003	13:42	CST	Hail	3.00 in.	0	0	110.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	04/25/2003	14:00	CST	Hail	1.25 in.	0	0	65.00K	0.00K
CLANTON	CHILTON CO.	AL	04/07/2004	19:42	CST	Hail	0.75 in.	0	0	0.00K	0.00K
CLANTON	CHILTON CO.	AL	02/22/2005	16:02	CST	Hail	0.75 in.	0	0	0.00K	0.00K
CLANTON	CHILTON CO.	AL	03/22/2005	23:22	CST	Hail	0.75 in.	0	0	0.00K	0.00K
CLANTON	CHILTON CO.	AL	04/21/2005	14:08	CST	Hail	1.75 in.	0	0	6.00K	0.00K
THORSBY	CHILTON CO.	AL	04/22/2005	13:09	CST	Hail	1.00 in.	0	0	1.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	04/22/2005	13:19	CST	Hail	1.00 in.	0	0	1.00K	0.00K
CLANTON	CHILTON CO.	AL	04/19/2006	20:42	CST	Hail	1.75 in.	0	0	0.00K	0.00K
JEMISON	CHILTON CO.	AL	04/19/2006	21:58	CST	Hail	0.88 in.	0	0	0.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	08/05/2006	13:42	CST	Hail	0.75 in.	0	0	0.00K	0.00K
CLANTON	CHILTON CO.	AL	04/11/2007	18:15	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
MINERAL SPGS	CHILTON CO.	AL	06/01/2008	13:23	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
FALAKTO	CHILTON CO.	AL	06/01/2008	15:22	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
THORSBY	CHILTON CO.	AL	02/18/2009	19:43	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
THORSBY	CHILTON CO.	AL	04/10/2009	17:02	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	05/03/2009	13:20	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
FALAKTO	CHILTON CO.	AL	07/08/2009	12:43	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	03/12/2010	06:05	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	10/24/2010	17:55	CST-6	Hail	1.50 in.	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	10/24/2010	18:00	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
FALAKTO	CHILTON CO.	AL	03/26/2011	12:53	CST-6	Hail	1.50 in.	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	03/26/2011	12:53	CST-6	Hail	1.25 in.	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	03/26/2011	12:55	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	03/26/2011	12:55	CST-6	Hail	1.25 in.	0	0	0.00K	0.00K
FALAKTO	CHILTON CO.	AL	03/27/2011	09:06	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
VERBENA	CHILTON CO.	AL	03/27/2011	09:15	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
VERBENA	CHILTON CO.	AL	05/26/2011	13:34	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	08/21/2011	14:43	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
JEMISON	CHILTON CO.	AL	04/05/2012	17:47	CST-6	Hail	1.25 in.	0	0	0.00K	0.00K
MINERAL SPGS	CHILTON CO.	AL	04/05/2012	17:56	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
FALAKTO	CHILTON CO.	AL	07/05/2012	18:20	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
FALAKTO	CHILTON CO.	AL	03/18/2013	14:48	CST-6	Hail	2.50 in.	0	0	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CLANTON GRAGG ARPT	CHILTON CO.	AL	03/18/2013	14:50	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
FALAKTO	CHILTON CO.	AL	03/18/2013	14:51	CST-6	Hail	3.00 in.	0	0	0.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	03/18/2013	15:45	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	03/23/2013	19:20	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
VERBENA	CHILTON CO.	AL	03/23/2013	19:50	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
JEMISON	CHILTON CO.	AL	03/23/2013	22:10	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	03/23/2013	22:21	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
Totals:								0	0	183.00K	0.00K

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

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
PLETCHER	CHILTON CO.	AL	11/24/2004	05:56	CST	Tornado	F2	0	0	500.00K	0.00K
HUBBARD	CHILTON CO.	AL	04/11/2007	14:49	CST-6	Tornado	EF0	0	0	1.00K	0.00K
FALAKTO	CHILTON CO.	AL	02/17/2008	13:05	CST-6	Tornado	EF1	0	0	150.00K	0.00K
LOMAX	CHILTON CO.	AL	09/16/2009	09:58	CST-6	Tornado	EF0	0	0	10.00K	0.00K
CLANTON	CHILTON CO.	AL	03/25/2010	18:59	CST-6	Tornado	EF1	0	0	35.00K	0.00K
COOPER	CHILTON CO.	AL	04/27/2011	20:48	CST-6	Tornado	EF0	0	1	102.00K	0.00K
STANTON	CHILTON CO.	AL	01/23/2012	04:57	CST-6	Tornado	EF2	0	0	0.00K	0.00K
KINCHEON	CHILTON CO.	AL	01/23/2012	06:36	CST-6	Tornado	EF1	0	0	0.00K	0.00K
VERBENA	CHILTON CO.	AL	03/02/2012	22:01	CST-6	Tornado	EF2	0	0	0.00K	0.00K
Totals:								0	1	798.00K	0.00K

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
JEMISON	CHILTON CO.	AL	02/22/2003	04:00	CST	Flash Flood		0	0	12.00K	0.00K
COUNTYWIDE	CHILTON CO.	AL	09/16/2004	09:56	CST	Flash Flood		0	0	8.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	07/10/2005	18:00	CST	Flash Flood		0	0	3.00K	0.00K
THORSBY	CHILTON CO.	AL	07/14/2005	14:40	CST	Flash Flood		0	0	0.00K	0.00K
JUMBO	CHILTON CO.	AL	09/21/2009	12:00	CST-6	Flash Flood		0	0	50.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	01/24/2010	10:00	CST-6	Flash Flood		0	0	5.00K	0.00K
Totals:								0	0	78.00K	0.00K

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/18/2006	07:00	CST	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/27/2007	06:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/22/2008	06:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/21/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	10/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/02/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	10/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/20/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/01/2013	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/01/2013	00:00	CST-6	Drought		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/07/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/19/2008	06:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/01/2009	03:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/09/2011	19:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/09/2011	13:15	CST-6	Ice Storm		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/12/2010	11:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/15/2010	07:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/24/2003	00:00	CST	Extreme Cold/wind Chill		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/10/2005	15:00	CST	Tropical Storm		0	0	100.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/29/2005	17:00	CST	Tropical Storm		0	0	80.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/23/2008	12:00	CST-6	Tropical Depression		0	0	5.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/09/2009	14:00	CST-6	Tropical Depression		0	0	2.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/16/2004	07:00	CST	High Wind	61 kts. EG	0	0	700.00K	75.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/06/2005	18:17	CST	Strong Wind	40 kts. EG	0	0	8.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	06/11/2005	15:00	CST	Strong Wind	40 kts. EG	0	0	2.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/07/2008	04:54	CST-6	Strong Wind	40 kts. EG	0	0	15.00K	0.00K
Totals:								0	0	912.00K	0.00K

2 Sinkhole Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: Clanton Advertiser)

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
North Chilton County- Glenn Greer's Residence	CHILTON	AL	2/18/2011		CST	Sinkhole		0	0	0.00K	0.00K
Jason and Miranda Hill's Residence	CHILTON	AL	3/18/2013		CST	Sinkhole		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

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

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

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

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

(Source: www.city-data.com)

2 earthquake events occurred or were reported to NOAA NCDC Storm Events Database/U.S. Geological Survey during 01/01/2003 thru 12/31/2013.

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
29.1 miles away from county center	CHILTON	AL	8/19/2004	23:51:49	CST	Earthquake	3.6	0	0	0.00K	0.00K
73.7 miles away from county center	CHILTON	AL	11/7/2004	11:20:21	CST	Earthquake	4.4	0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

419 Wildfire Events – 1997 thru 2012

(Source: Alabama Forestry Commission)

County	Total # of Fires	Average # of Fires	Total Acres Burned	Average Acres Burned	Average Fire Size
Chilton	419	28	3,227	215	7.7

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

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

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

Hazard Profiles

I. Thunderstorms

A thunderstorm is a convective cloud that often produces heavy rain, wind gusts, thunder, lightning, and hail. Chilton 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 Chilton County would include:

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

Hazardous results from significant thunderstorms in Chilton 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 thunderstorms reported, three affected the entire county, twenty-two occurred in an unincorporated county area, and the remaining thirty-one affected only specific municipalities.

On May 3, 2009, a cold front resulting in thunderstorms moved across Chilton County. The wind magnitude for this particular storm was 50 knots or 58 miles per hour winds. In Jemison: Several trees were snapped off along Interstate 65, between mile markers 219 and 212, and several more were blown down within the City of Jemison. An old store front was blown over in downtown Jemison. Four buildings suffered damage. At least 3 vehicles were damaged by fallen trees. The railroad tracks were blocked for several hours. The fence around the baseball field at Jemison High School was blown down. No injuries, deaths, or crop damages occurred. Property damages of $60,000 resulted. In Maplesville: Trees and power lines were blown down around Maplesville. At least three homes and two mobile homes were damaged by the fallen trees. Fallen trees blocked the railroad tracks. Several outbuildings suffered varying degrees of roof damage. No injuries, deaths, or crop damages occurred. Property damages of $50,000 resulted.

On February 2, 2008, a broken squall line, sparked by an advancing cold front and strong upper level storm, caused severe thunderstorms and tornadoes across Central Alabama. Downburst winds, estimated around 61 knots or 70 miles per hour, blew down numerous trees and power lines, near and southwest of the City of Clanton in the unincorporated areas of the county from the Kincheon Community to the Falakto Community. No injuries, deaths, or crop damages occurred. Property damages of $10,000 resulted from this event.

On December 9, 2009, a deepening storm system, and the associated cold front that swept across Alabama, brought widespread showers and thunderstorms to the state. Several storms produced heavy rain that caused flash flooding, along with damaging winds. Even away from the thunderstorms, gusty gradient winds affected a large portion of Central Alabama. A wind gust of 65 knots or 75 miles per hour was measured by unknown measuring equipment near Maplesville. No injuries, deaths, property or crop damages occurred.

Chilton County experienced 56 thunderstorm events in a 10 year period resulting in a greater than 100% (5.60) probability that a thunderstorm event will occur on an annual basis. The total amount of damages for the 56 thunderstorm events was $422,000 with 44 thunderstorm events causing damage resulting in an estimated $9,591 of expected annual damages from future events. The referenced thunderstorm event(s) are the ones that resulted in the most damages, deaths, and injuries during the past ten year period and serves as the extent/range of magnitude or severity that could be experienced by Chilton County due to a thunderstorm event; the ranking is minor to major.

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 four lightning events during the ten-year study period of 2003-2013. **Table 3-5** shows the historical occurrences of lightning during the study period. While the State of Alabama experienced 11-20 deaths as a result of lightning strikes during 2003 – 2013, none of the deaths occurred in Chilton 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 2004-2013, 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, 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 August 27, 2003, lightning apparently struck two houses about 600 yards apart in Clanton on 7th Street North and 10th Street North during a thunderstorm. The Enterprise Fire Department was dispatched to the 2000 block of CR 431 to investigate smoke in a house after it was apparently struck by lightning. Clanton: Property damages of $5,000 resulted from this event. Jemison: Lightning struck a residence in Collins Chapel Community causing a small fire.

The Union Grove Fire Department was dispatched to a residence on Lay Lake on the Chilton-Shelby county line after lightning apparently struck a house on Grand Pointe (CR 147). Property damages of $3,000 resulted from this event. No injuries, deaths, or crop damages occurred in the Jemison or Clanton areas.

Chilton County experienced 4 lightning events in a 10 year period resulting in a 40% (0.40) probability that a lightning event will occur on an annual basis. The total amount of damages for the 4 lightning events was $8,000 with 4 lightning events causing damage resulting in an estimated $2,000 amount of expected annual damages from future events. The extent/range of magnitude or severity that could be experienced by Chilton County due to a lightning event is minimum to minor. According to Vaisala Lightning Detection Network, Chilton County's extent of lightning is approximately 6-8 fl/sq km/yr.

Primary effects from lightning in Chilton County would include:

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

Hazardous results from significant lightning in Chilton County would include:

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

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III. Hail

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.

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
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 40 hail events during the ten-year study period of 2003-2013. An estimated $183,000 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, zero affected the entire county, twelve occurred in an unincorporated county area, and the remaining twenty-eight affected only specific municipalities.

On April 25, 2003, several steady state, rotating thunderstorms, referred to as supercells, cut swaths of damage through Alabama. The supercell continued on an almost eastward path through Chilton County. A swath of hail up to 3 inches in diameter was reported. The hail covered the ground in a few locations. The largest hail fell just northwest of Maplesville while most of the remainder of the county experienced hail up to 1.50 inches in diameter. Many locations reported that the ground was totally covered by hail. Several trees were also blown down near Clanton and near Maplesville. Funnel clouds and a roaring sound were reported as the storm moved across the county. Chilton County experienced hail magnitude of 3 inches (tea cup size) to 1.25 inches (nearly ping pong ball size), resulting in $175,000 property damage across the area. No injuries, deaths, or crop damages occurred.

Chilton County experienced 40 hail events in a 10 year period resulting in a greater than 100% (4.00) probability that a hail event will occur on an annual basis. The total amount of damages for the 40 hail events was $183,000 with 5 hail events causing damage resulting in an estimated $37,200 of expected annual damages from future events. The referenced hail event(s) are the ones that resulted in the most damages, deaths, and injuries during the past ten year period and serves as the extent/range of magnitude or severity that could be experienced by Chilton County due to a hail event; the ranking is minor to major. The extent of hail in Chilton County is the largest recorded of 3 inches which occurred in two events during the study period.

Primary Effects from Hail in Chilton County would include:

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

Hazardous results from significant Hail in Chilton County would include:

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

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IV. 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 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. Chilton 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 nine tornados occurred in Chilton County according to NOAA NCDC during 2003 - 2013. An estimated $798,000 in property damages, no crop damage, and one injury occurred as a result of the reported tornados.

A F2 tornado event occurred on 11/24/2004 in the Pletcher Community, 22.3 miles in length and 1,400 yards wide, affecting mostly rural areas. The tornado traveled on a northeast path into southern Chilton County, between Pletcher and Billingsley. The tornado was fairly weak at this time, blowing down and snapping off several large trees in rural areas. As the tornado approached the west side of Interstate 65, the tornado increased to F2 intensity and caused considerable damage to several structures. Continuing northeast, the tornado weakened a bit as it crossed Interstate 65 in the vicinity of mile marker 202, approximately 3 miles south of the Clanton Exit. The tornado was still strong enough at this time to down several large trees and block the northbound lanes of traffic. After crossing the interstate, the tornado regained F2 intensity moving through the Cooper Community. The tornado produced extensive structural damage in Cooper. Several homes, businesses, mobile homes and out-buildings were damaged or destroyed. Hundreds of trees were blown down or snapped off in this area. The tornado moved across eastern Chilton County and went across Lake Mitchell. At Lake Mitchell, on the Chilton/Coosa County Line, numerous homes and mobile homes were destroyed generally between Blue Creek and Cargile Creek. The tornado crossed Lake Mitchell and moved into the Coosa Wildlife Management Area along Hatchet Creek. Hundreds of trees were splintered in this area. No injuries, deaths, or crop damages occurred. Property damages of $500,000 resulted. (*Source: NCDC NOAA*)

An EF0 tornado event occurred on April 27, 2011 in the Cooper Community, 1.91 miles in length and 50 yards wide, as part of a powerful storm system that crossed the Southeast United States on Wednesday, April 27, 2011, resulting in a large and deadly tornado outbreak. This epic event broke the record for number of tornadoes in a day for the State of Alabama, becoming the most significant tornado outbreak in the state's history. A tornado briefly touched down near the intersection of US Hwy 31 and CR 24, just northwest of Verbena and uprooted a few oak trees. The tornado moved northeast, and crossed CR 597 where it damaged a metal carport of one single family home and the roof of a mobile home. In addition, many trees were knocked down in a 50 yd wide path. The tornado quickly dissipated along CR 59, south of CR 24. Damage along this path was consistent with an EF0 rating and winds of 80 miles per hour. One injury and no deaths or crop damages occurred. Property damages of $102,000 resulted. (*Source: NCDC NOAA*)

An EF1 tornado event occurred, as a result of a broken squall line sparked by an advancing cold front and strong upper level storm, in the unincorporated area of the county, called Falakto on February 17, 2008, 1.18 miles in length and 200 yards wide. Within a larger area of straight line wind damage, a short tornado damage path was found near and northeast of Exit 205 on Interstate 65, southeast of the City of Clanton. The heaviest damage was sustained by a mobile home along County Road 41, where two large oak trees fell on the mobile home and demolished it. Several fast food restaurant signs and a couple of road signs were damaged or destroyed, and a couple hundred trees were also snapped off or uprooted. No injuries, deaths, or crop damages occurred. Property damages of $150,000 resulted. (*Source: NCDC NOAA*)

Each jurisdiction has been affected by tornado activity in the past. The location of Chilton County in Wind Zone IV, past occurrences of tornados, and the potential for future occurrences to cause damage, death, and injuries leaves Chilton County vulnerable to and at risk for tornados.

Chilton County experienced 9 tornado events in a 10 year period resulting in a 90% (0.90) probability that a tornado event will occur on an annual basis. The total amount of damages for the 9 tornado events was $798,000 with 6 tornado events causing damage resulting in an estimated $133,000 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 Chilton County due to a tornado event; the ranking is major.

Primary effects from tornados in Chilton 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 Chilton 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

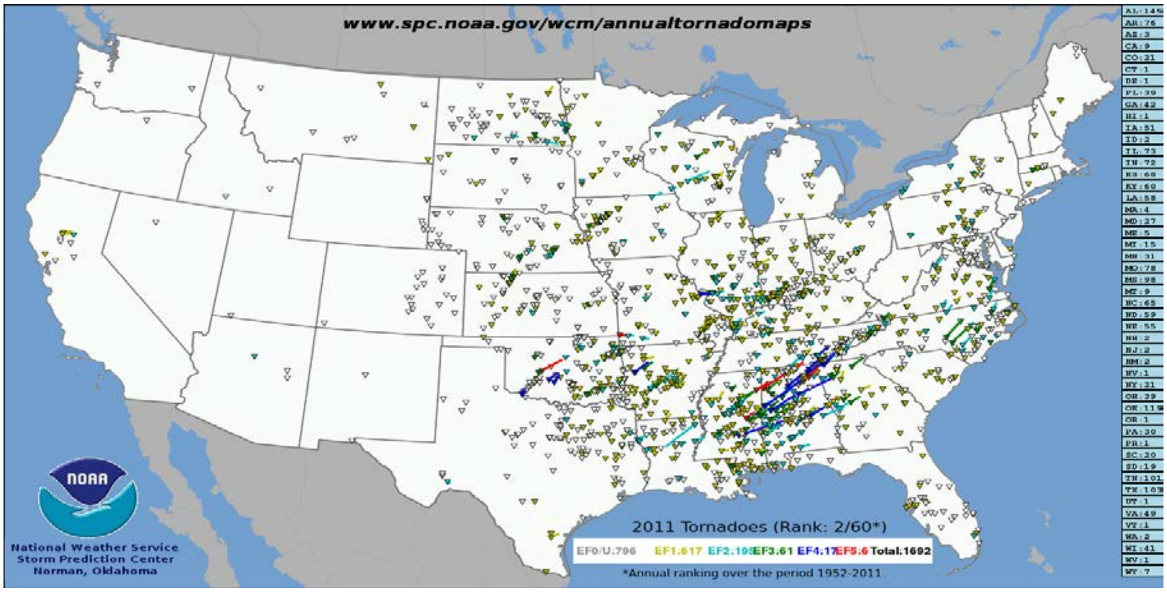

Figure 3-2: Wind Zones in the United States

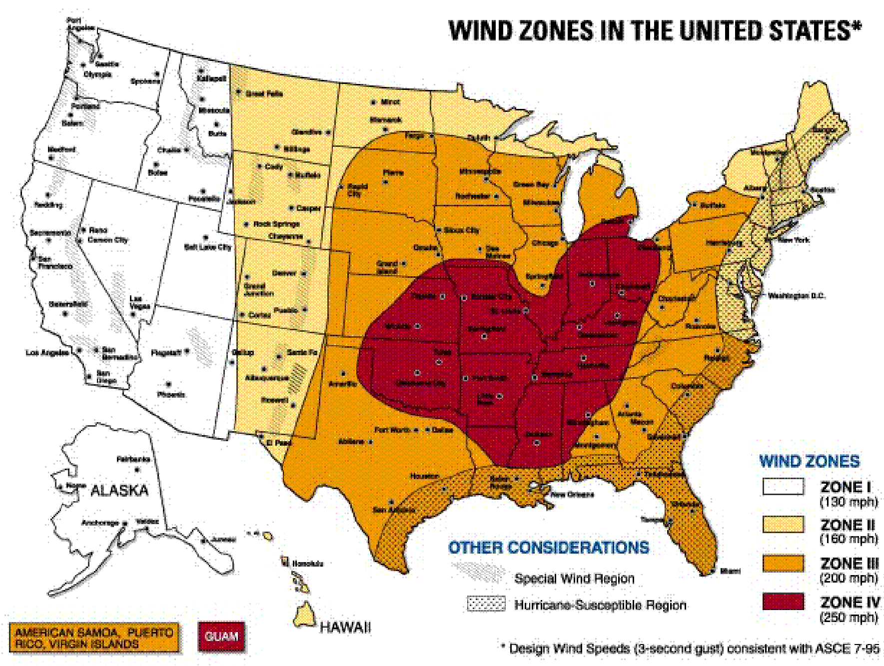

Figure I.2 Wind zones in the United States

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 2003-2013; 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.

V. Floods/Flash Floods

There are three types of flooding that affect Chilton 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 severe flooding events in Chilton County recorded by NOAA NCDC. Between 2003 and 2013 there were 6 occurrences of floods/flash flooding in the county. Damages from these events were only as a result of flash flooding and totaled $78,000 in property damage, no crop damage, no deaths, and no injuries.

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*, Chilton County has 18 High Density Polyethylene Earth (HPDE) Dams, a high hazard dam (Gilbert Lake Dam) in the Sawyer Cove Community located along a tributary of Watson Creek; one High Density Polyethylene Miscellaneous Dam (HPDZ) a significant risk dam, the Demargo Lake Dam in the Mulberry Church Community along Gale Creek; and two High Density Polyethylene Gravity Dams (HPDG), Mitchell Dam and Lay Dam, both high hazard dams owned by Alabama Power Company. In total there are 21 dams in Chilton County – 18 HPDE, 1 HPDZ, and 2 HPDG dams – 3 High Hazard, 13 Significant Hazard, and 5 Low Hazard Dams. The Gilbert Lake Dam has been deemed as a high hazard dam since the last plan update. No historical records are available of dam/levee failures in Chilton County. When a dam fails, a large quantity of water is suddenly released downstream, destroying anything in its path. The area impacted by the water emitted by dam failure would encounter the same risks as those in a flood zone during periods of flooding. The area directly affected by the water released during a dam failure is not county wide.

The 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.

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)	

On September 21, 2009, a flash flood event occurred in the Jumbo Community as a warm and unstable air mass led to the development of slow moving thunderstorms. Many of the storms produced flash flooding, and a few produced large hail. Several county roads around Chilton County became impassable due to flooding. The hardest hit was CR-61, in the Jumbo Community, where floodwater and associated debris caused several large sections of the paved road to wash out. No injuries, deaths, or crop damages occurred or were reported from this event. Property damages of $50,000 resulted.

On February 22, 2003, County Road 46 in the Jemison area was flooded as heavy rain fell in a short period of time. One vehicle was stranded in the high water and two occupants were rescued by the fire department. No injuries, deaths, or crop damages occurred or were reported from this event. Property damages of $12,000 resulted.

Chilton County experienced 6 flood/flash flood events in a 10 year period resulting in a greater than 60% (0.60) probability that a flood/flash flood event will occur on an annual basis. The total amount of damages for the 6 flood/flash flood events was $78,000 with 5 flood/flash flood events causing damage resulting in an estimated $15,600 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 Chilton County due to a flood/flash flood event; the ranking is minor to major. The extent of flooding in Chilton County is approximately 7 inches of water stranding a vehicle in the Town of Jemison on February 22, 2003.

Primary Effects from Floods in Chilton County would include:

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

Hazardous results from significant flood in Chilton 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

Chilton County participates in the ***National Flood Insurance Program (NFIP)***. The *NFIP* allows property owners to purchase federally sponsored flood insurance. The *NFIP* maps communities in order to establish Flood Risk Zones or Special Flood Hazards Areas. These hazard areas are then mapped on the *Flood Insurance Rate Maps (FIRMS)*. *FIRMS* are used to assess the risks of floods and aid in proper floodplain management. Currently, Chilton County and its jurisdictions are participating in the NFIP. The City of Jemison has had no elevation determined. The National Flood Insurance Program (NFIP) requires local participation to receive grant assistance. **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 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, Chilton 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**. In Chilton County, the NFIP is under the direction of the Assistant County Engineer.

Table 3-9: Chilton County National Flood Insurance Program Status by Jurisdiction						
CID	**Community Name**	**Initial FHBM Identified**	**Initial FIRM Identified**	**Current Eff. Map Date**	**Reg-Emer Date**	**Tribal**
010030#	Chilton County	7/28/78	8/15/84	3/16/09	2/7/06	No
010031#	City of Clanton	6/28/74	5/1/84	3/16/09	5/1/84	No
010501#	City of Jemison	--	3/16/09	3/16/09 (M)	9/9/10	No
010032#	Town of Maplesville	9/13/74	2/1/84	3/16/09	2/1/84	No
010344# (The Town of Thorsby has adopted the Chilton County [010030] FIRM dated 8/15/84)	Town of Thorsby	--	3/16/09	3/16/09	11/28/97	No
Key: M = No Elevation Determined – All Zone A, C and X						
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 no Severe Repetitive Loss or Repetitive Loss properties in Chilton County at this time.

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 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, Chilton County experienced D2 Severe to D3 Extreme Drought in 2006, D2 Severe to D4 Exceptional Drought in 2007, D0 Abnormally Dry to D4 Exceptional Drought in 2008, D0 Abnormally Dry to D2 Severe in 2010, D2 Severe to D3 Extreme Drought in 2011, D2 Severe in 2012 and 2013. No deaths, injuries, property or crop damages were reported. 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.

Chilton County experienced 33 drought/extreme heat events in a 10 year period resulting in a greater than 100% (3.30) probability that a drought/extreme heat event will occur on an annual basis. The total amount of damages for the 33 drought/extreme heat events was $0 or unknown with no drought/extreme heat events causing damage resulting in an unknown estimate 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 Chilton County due to a drought event; the ranking is minimum to minor.

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

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

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

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

- Heatstroke is considered a medical emergency and is often fatal. It exists when rectal temperature rises above 105°F as a result of environmental temperatures. Patients may be delirious, stuporous, or comatose. The death to care ratio in reported cases averages about 15%.
- Heat Exhaustion is much less severe than heatstroke. The body temperature may be normal or slightly elevated. A person suffering from heat exhaustion may complain of dizziness, weakness or fatigue. The primary cause of heat exhaustion is fluid and electrolyte imbalance. The normalization of fluids will typically alleviate the situation.
- Heat Syncope is typically associated with exercise by people who are not acclimated to exercise. The symptom is a sudden loss of consciousness. Consciousness returns

promptly when the person lies down. The cause is primarily associated with circulatory instability as a result of heat. The condition typically causes little or no harm to the individual.

- Heat Cramps are typically a problem for individuals who exercise outdoors but are unaccustomed to heat. Similar to heat exhaustion it is thought to be a result of a mild imbalance of fluids and electrolytes.

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

Table 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 33 instances of drought for Chilton County from 2003-2013. No crop or property damages were reported. There were no reports of extreme heat events during this ten year period.

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

Chilton 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 Chilton County from 2003 - 2013.

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.

Chilton County experienced frost freezes on April 7-8, 2007. An unusually cold spring time air mass settled across Central Alabama, bringing record cold temperatures to the entire region. Temperatures in the mid to upper 20s were recorded as far south as Clanton. Fruit crops suffered heavy damage, although dollar loss estimates are not known. No injuries, deaths, crop, or property damages occurred.

On February 9, 2011, heavy snow accumulated in Chilton County. An average of 1.5 inches of snow fell across the county, with locations in and around Clanton receiving up to 2.5 inches. No injuries, deaths, crop, or property damages occurred.

On January 9-10, 2011, an ice storm event occurred. A mixture of freezing rain and sleet fell across the county, with one half inch of ice accumulation across much of the area. One half inch of sleet was also reported. No injuries, deaths, crop, or property damages were reported.

On December 15, 2010, a winter weather event occurred as moisture increased ahead of a weak storm system across Central Alabama. Temperatures near or below freezing at the surface resulted in widespread freezing rain and sleet beginning around sunrise and lasting through most of the day. Although precipitation was light, ice quickly accumulated on area roadways, causing hazardous driving conditions, numerous vehicle accidents, and road closures. Hazardous driving conditions due to ice on the roadway persisted well after precipitation moved out of the area. Numerous single vehicle accidents along Interstate 65 occurred due to icing on the roadway. No injuries, deaths, crop, or property damages were reported.

On January 24-25, 2003, Chilton County experienced an extreme cold event having the coldest temperatures in seven years. Early morning temperatures ranged from 2-10 degrees Fahrenheit. Many area residents reported frozen and broken water pipes as a result of the extended cold. Several lawn sprinkler systems also froze and broke making many areas very icy. Many area farmers lost a large part of their strawberry crops. No injuries, deaths, crop, or property damages were reported.

Chilton County experienced 9 winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather events in a 10 year period resulting in a less than 100% (0.90) probability that a winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather event will occur on an annual basis. The total amount of damages for the 9 winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather events was unknown with no winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather events causing damage resulting in an unknown estimated 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 Chilton County due to a winter storm/extreme cold/frost freeze/heavy snow/ice storm/winter weather event; the ranking is minor to major. Chilton County's extent of snow during this plan's study period is approximately 2.5 inches which occurred on February 9, 2011.

Primary effects from winter storms in Chilton 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 Chilton County would include:

1. Loss of power, communications, and fires are common results of severe winter storms. Widespread power outages close down businesses and impact hospitals, nursing homes, and adult and child care facilities serving special needs populations.
2. Loss of transportation ability will affect emergency response, recovery and supply of food and materials.
3. Numerous vehicle accidents in a winter storm can stretch thin the resources of fire rescue and law enforcement.
4. Stranded motorists and the homeless can create a food and housing shortage within the community.
5. The widespread nature of winter storms usually creates a strain on police, fire and medical providers due to the volume of calls for service.

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

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

According to data from the National Oceanic and Atmospheric Administration's National Hurricane Center, there are three classification levels of storms based on wind speed. The first, a tropical depression, is "an organized system of clouds and thunderstorms with a defined surface cyclonic closed circulation and maximum sustained winds of 38 mph or less." A tropical storm is the second level and is described as "an organized system of strong thunderstorms with a defined surface circulation and maximum sustained winds of 39-73 mph." A "hurricane," which is the third classification level, is "an intense tropical weather system of strong thunderstorms with a well-defined surface circulation and maximum sustained winds of 74 mph or higher." Individual hurricanes vary in intensity and are categorized using the Saffir-Simpson Hurricane Scale.

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.

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

On July 10-11, 2005, numerous trees and power lines were knocked down as Tropical Storm Dennis moved across Chilton County. Several downed trees landed on vehicles and homes. No injuries, deaths, or crop damages occurred. Property damages of $100,000 resulted from this event.

On August 29-30, 2005, extensive tree and power line damage occurred as Tropical Storm Katrina affected the area. Many roadways were impassable due to fallen trees. Power outages were widespread. Several structures were damaged. No injuries, deaths or crop damages occurred. Property damages of $80,000 resulted from this event.

On August 23-25, 2008, Tropical Depression Fay brought high winds, heavy rain, and numerous tornadoes to the Chilton County area. No injuries, deaths, or crop damages occurred. Property damages of $5,000 resulted from this event.

On September 16, 2004, high winds in association with Ivan resulted in thousands of trees and power lines being knocked down. Thousands of trees were blown down across Chilton County. Five structures were heavily damaged and around another 150 suffered minor roof damage. At least 100 agricultural businesses sustained damage. Maximum wind gusts were estimated around 70 miles an hour. Doppler radar and ground observations indicate 6 to 9 inches of rain fell across the county during Ivan. Several roadways were temporarily impassable due to high water but even more roads were affected by fallen trees. No injuries or deaths occurred. Property damages of $700,000 and crop damages of $75,000 resulted from this event.

On March 7, 2008, strong wind gusts estimated around 40 knots or 46 miles per hour downed numerous trees and power lines around the northern part of the county. No injuries, deaths, or crop damages occurred. Property damages of $15,000 resulted from this event.

Chilton County experienced 0 hurricane, 2 tropical storm, 2 tropical depressions 1 high wind, 3 strong wind events in a 10 year period resulting in an 80% (0.80) probability that a hurricane/tropical storm/tropical depression/high wind/strong wind event will occur on an annual basis. The total amount of damages for the 0 hurricane, 2 tropical storm, 2 tropical depressions 1 high wind, 3 strong wind events was $912,000 with 8 hurricane/tropical storm/tropical depression/high wind/strong wind events causing damage resulting in an estimated $114,000 of expected annual damages from future events. The referenced hurricane/tropical storm/tropical depression/high wind/strong wind events are the ones that resulted in the most damages, deaths, and injuries during the past ten year period and serves as the extent/range of magnitude or severity that could be experienced by Chilton County due to a hurricane/tropical storm/tropical depression/high wind/strong wind event; the ranking is minor to major. The extent of the 2 tropical storm, 2 tropical depressions 1 high wind, 3 strong wind events in Chilton County would be the highest documented wind speed of 61 kts occurring on September 16, 2004.

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

Chilton County is at a low risk for a direct hit by a hurricane due to its position several hundred miles inland from the Alabama coastline. Although Chilton County does not feel the effects of storm surges, other effects including heavy rain, flooding, winds, and tornados often have significant impacts on Chilton 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.

The 2010 plan update stated sinkholes did not pose a threat to Chilton County as there were no reports of sinkholes from any source. According to the Geological Survey of Alabama's sinkhole data as of 2010, Chilton County has experienced sinkholes; however, the sinkhole density in Chilton County is low. **Figure 3-3** shows sinkholes and sinkhole density in Chilton County. Two sinkholes occurred in Chilton County during the past five years: On February 18, 2011 a sinkhole occurred in North Chilton County at the residence of Glenn Greer. Another sinkhole occurred on March 18, 2013 at the residence of Jason and Miranda Hill.

Chilton County experienced 2 sinkholes in a 10 year period resulting in 20% 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.

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. Chilton County has Coastal Plains, Major Flood Plains and Alluvial 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.

Figure 3-3

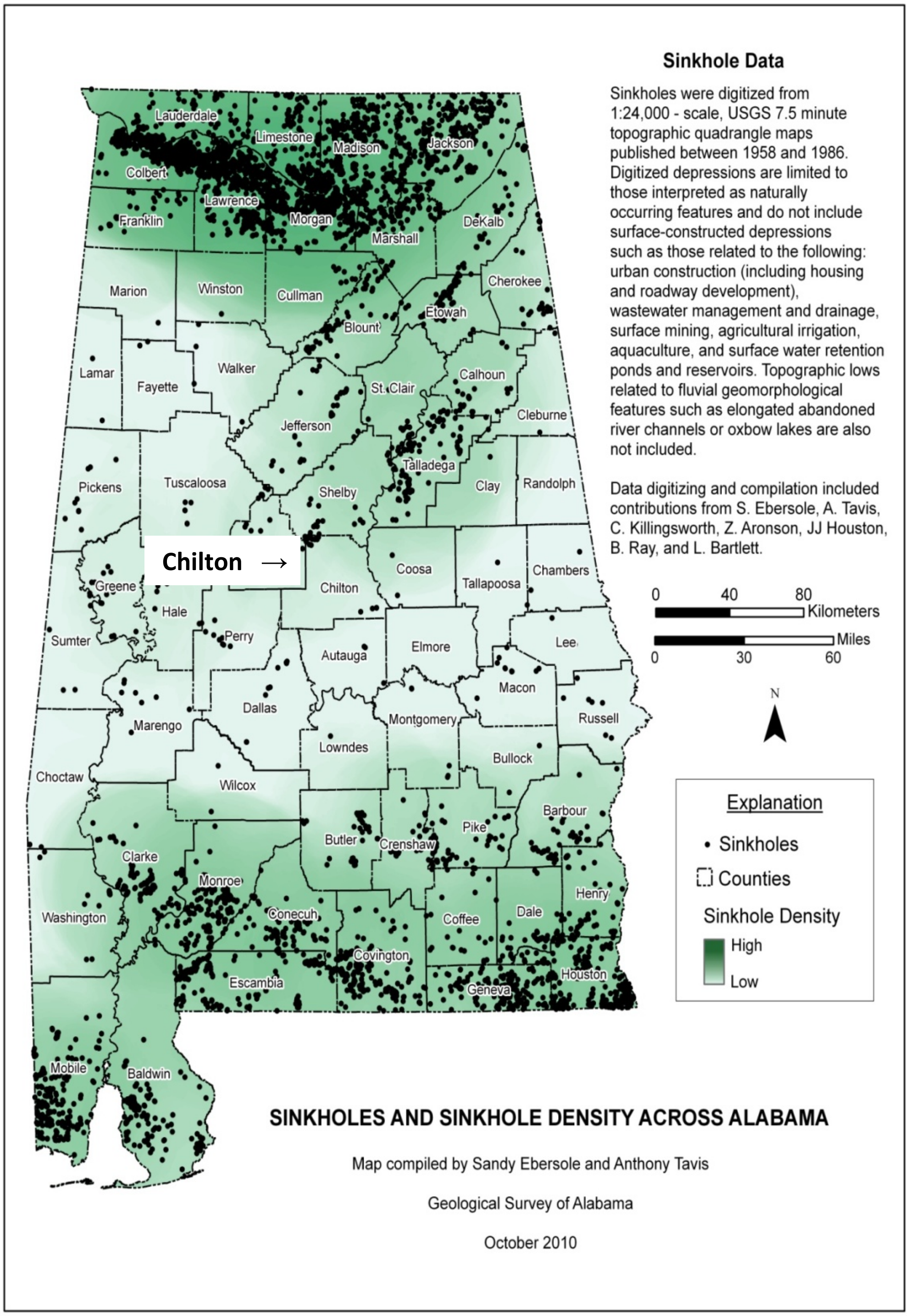
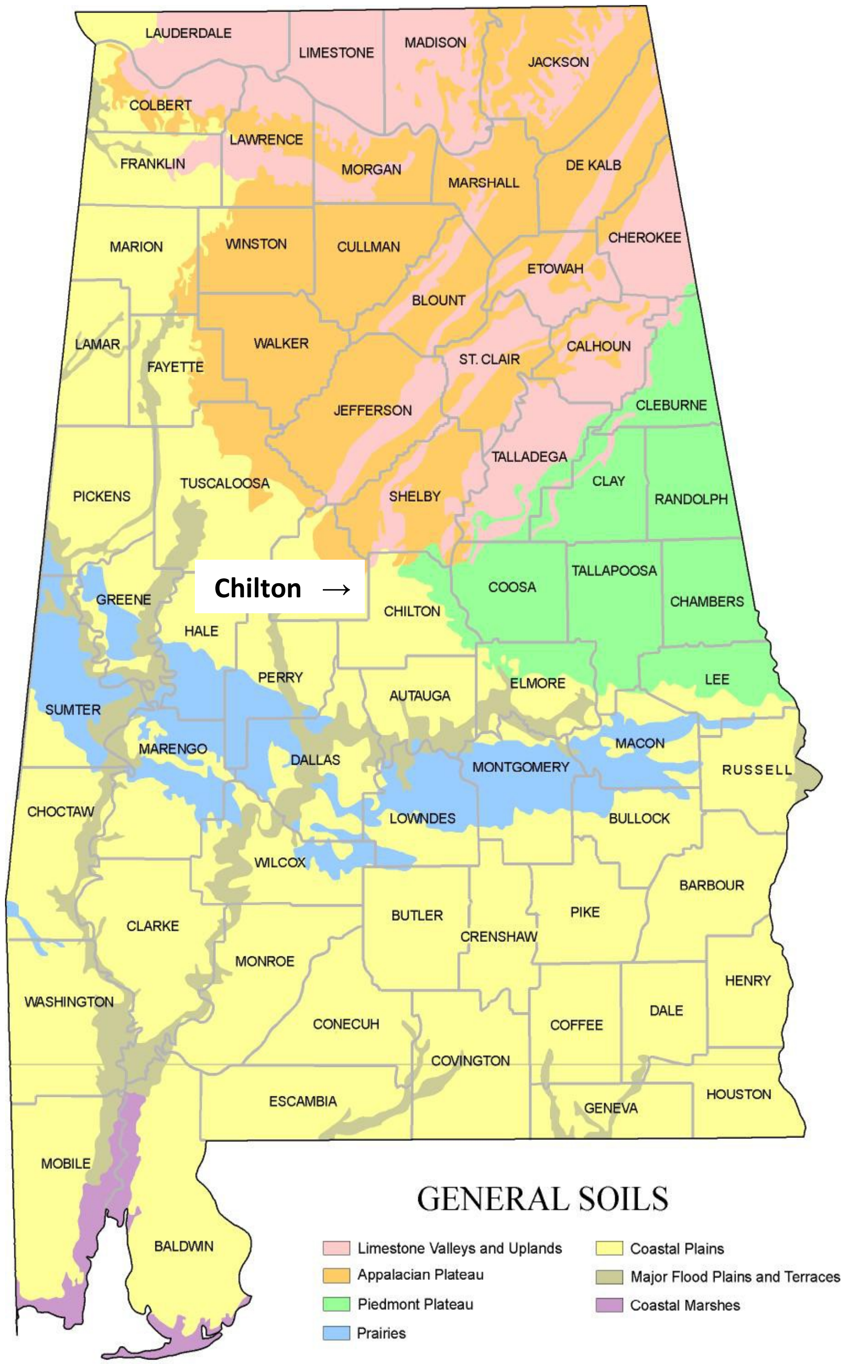

Sinkhole Data
Sinkholes were digitized from 1:24,000 - scale, USGS 7.5 minute topographic quadrangle maps published between 1958 and 1986. Digitized depressions are limited to those interpreted as naturally occurring features and do not include surface-constructed depressions such as those related to 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
Chilton →
Lauderdale
Limestone
Madison
Jackson
Colbert
Lawrence
Franklin
Morgan
Marshall
DeKalb
Marion
Winston
Cullman
Cherokee
Blount
Etowah
Lamar
Fayette
Walker
St. Clair
Calhoun
Jefferson
Cleburne
Talladega
Pickens
Tuscaloosa
Shelby
Clay
Randolph
Greene
Hale
Chilton
Coosa
Tallapoosa
Chambers
Sumter
Perry
Autauga
Elmore
Lee
Dallas
Macon
Marengo
Russell
Montgomery
Lowndes
Bullock
Choctaw
Wilcox
Barbour
Butler
Crenshaw
Pike
Clarke
Monroe
Henry
Washington
Conecuh
Coffee
Dale
Covington
Escambia
Geneva
Houston
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

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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 three underlying geologic formations present within the region are the Coker, Gordo, and Tuscaloosa groups. These groups are classified as having low to moderate susceptibility to slope failure. A 1982 study performed by Karen F. Rheams of the United States Geological Survey indicated 23 landslides had occurred in the county but all of these were man-induced events attributed to roadway construction. **Figure 3-5** shows the landslide incidence and susceptibility and indicates that Chilton County is at a low to no risk of incidence. There were no Chilton County landslides reported from GSA or local sources during the time frame covered by this plan; therefore, plan information remains the same as in the 2010 update.

Primary effects from landslide in Chilton County would include:

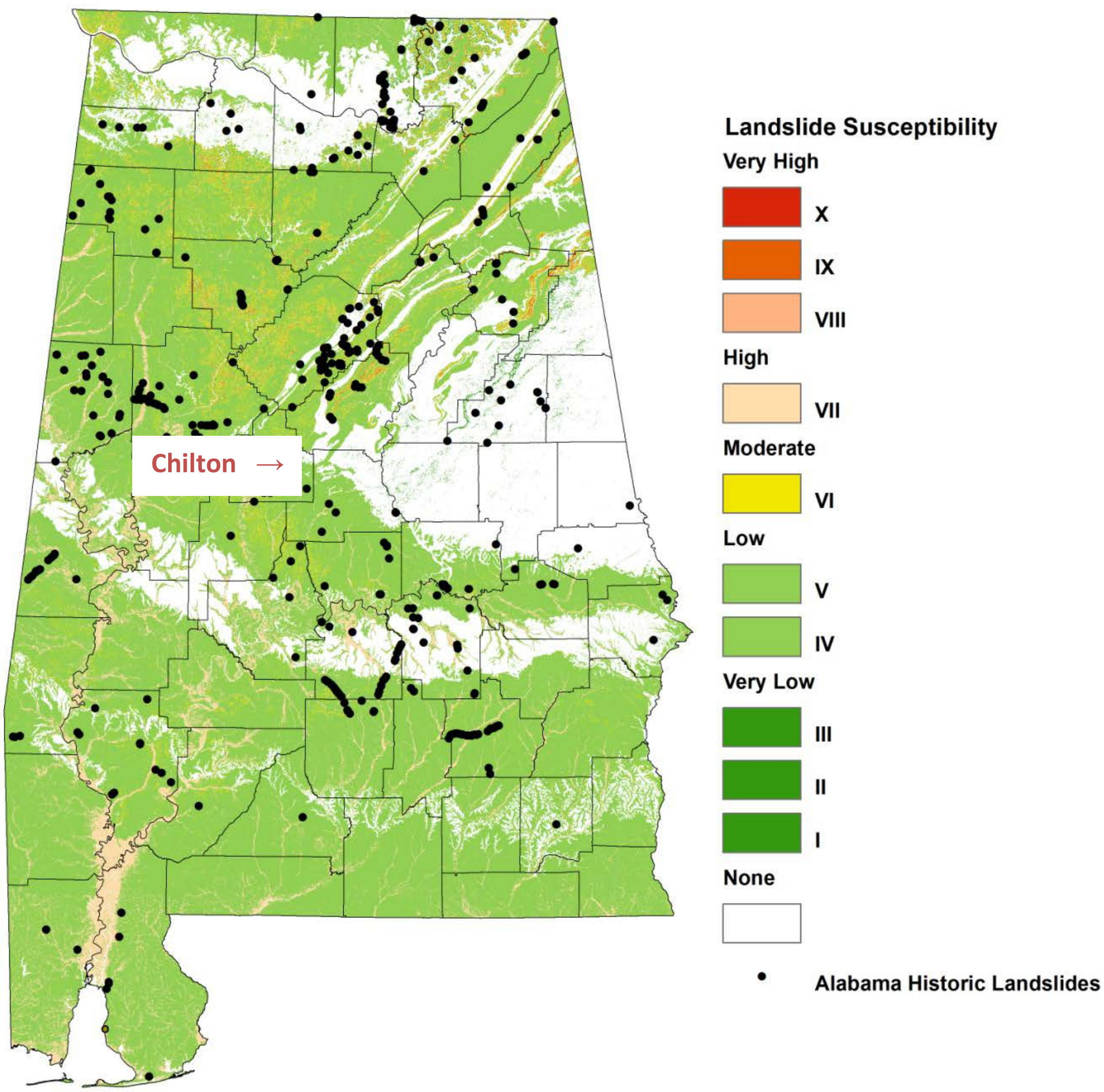
1. Property damage
2. Impassable roads
3. Sediment erosion
4. Underground infrastructure damage

Hazardous results from landslide in Chilton 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.

Chilton 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.

Figure 3-5: Landslide Incidence and Susceptibility in Chilton County



Source: Alabama Emergency Management Agency's State Hazard Mitigation Plan, 2013

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

(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.

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)			

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.

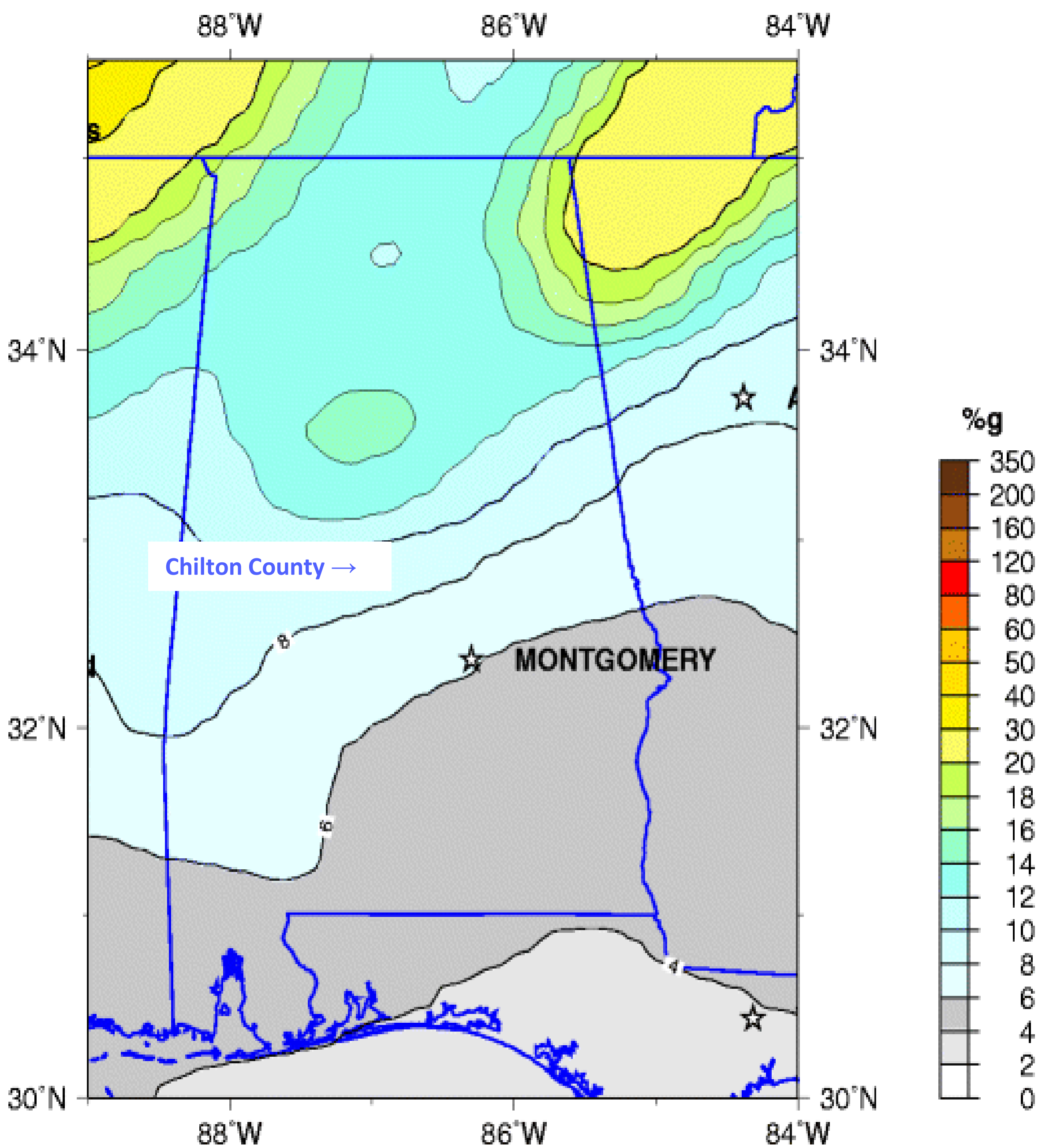
Three zones of frequent earthquake activity affecting Alabama are the New Madrid Seismic Zone (NMSZ), the Southern Appalachian Seismic Zone (SASZ) (also called the Eastern Tennessee Seismic Zone), and the South Carolina Seismic Zone (SCSZ). The NMSZ lies within the central Mississippi Valley, extending 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. Chilton County is at risk for earthquakes.

Earthquakes occurring in Chilton 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. The risk of a significant, damage-causing earthquake in Chilton County is low to moderate. The northeastern portion of the county is at a slightly greater risk than other portions of the county. A 3.6 magnitude earthquake occurred on August 19, 2004, 29.1 miles away from the center of Chilton County. Another earthquake, 4.4 magnitude occurred on November 7, 2004, 73.7 miles away from the center of Chilton County. No injuries, deaths, crop or property damages were reported.

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.

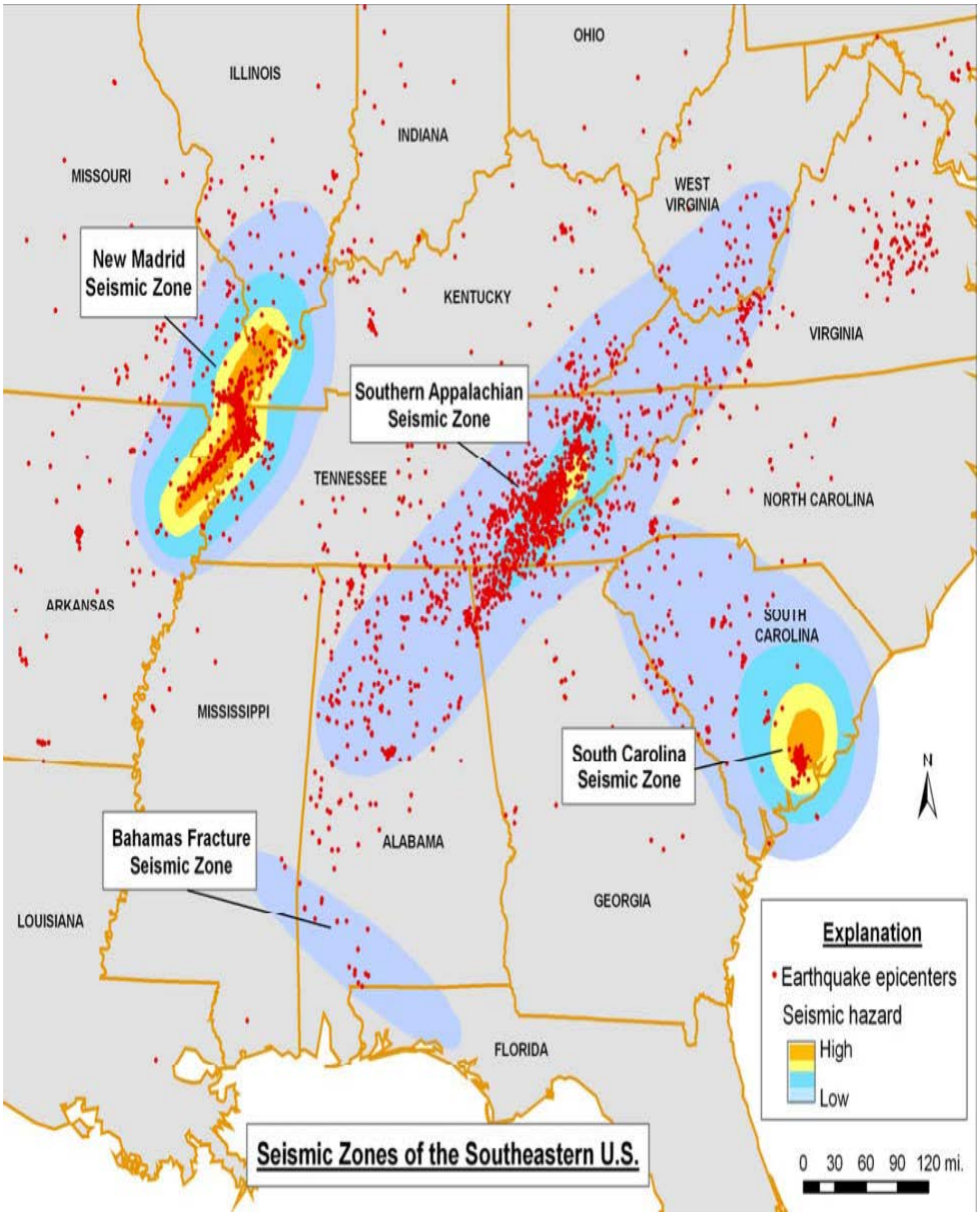
Two zones of frequent earthquake activity that could potentially impact Chilton County are the New Madrid Seismic Zone and the Southern Appalachian Seismic Zone. Damage could be significant in Chilton County if a powerful earthquake were to occur because buildings in this part of the country have not been constructed to withstand such a powerful force. In 1916 on October 18, a strong earthquake occurred on an unnamed fault east of Birmingham. It was apparently most strong at Easonville. Near the epicenter, chimneys were knocked down, windows broken, and frame buildings were greatly shaken. It was noted by residents in seven states and covered 100,000 square miles. The 1895 New Madrid earthquake registered a 6.8 on the Richter scale and was moderately felt throughout the southeastern United States. The New Madrid Fault line runs along the Mississippi River. Geologists agree that another major earthquake along the New Madrid Fault line could cause chimneys to fall, glass to break, and walls to crack in Chilton County.



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.

Chilton County experienced 2 earthquakes in a 10 year period resulting in 20% (0.20) probability that an earthquake event will occur on an annual basis. The total amount of damages for an earthquake event is unknown, as well as the expected annual damages from future events. The ranking is minimum to minor. The risk of a significant, damage causing earthquake in Chilton County is with the strongest magnitude expected to be 4.4.

Primary effects from earthquake in Chilton County would include:

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

Hazardous results from earthquake in Chilton 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 Chilton 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.

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. Chilton County is susceptible to wild/forest fires especially during times of drought. Chilton County has a total of 315,678 acres of forestland. The total acres are made up of 97,945 softwoods, 72,906 oak-pine, and 144,828 hardwoods. (*Source: Alabama Forestry Commission – Forest Resource Report 2012*)

The frequency and severity of wildfires is dependent on weather and on human activity. Nearly all wildfires in Chilton 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 - 2013, as recorded by the Alabama Forestry Commission. Chilton County had a total of 216 fires during this 3 year period, affecting a total of 1,291.15 acres. Chilton 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 Chilton 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. Chilton 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.

Figure 3-8 and **Figure 3-9** from the Alabama Forestry Commission show Alabama Counties' total acres burned by wildfires from 1997-2012 and the average number of wildfires per year per square mile. The total acres burned by wildfires during this time in Chilton County were 3,001 – 5,500 acres. The number of fires per year per square mile in Chilton County were 0.031 – 0.05 wildfires.

Table 3-13: Wildfires in Chilton County 2010-2013					
County	**Total # of Fires**	**Average # of Fires**	**Total Acres Burned**	**Average Acres Burned**	**Average Fire Size**
Chilton	216	72	1,291.15	430	6

Source: Alabama Forestry Commission, 2014

Chilton County experienced 216 wildfire events in a 3 year period resulting in a greater than 100% (72.00) probability that a wildfire event will occur on an annual basis. The total amount of acres burned for the 216 wildfire events was 1,291.15 resulting in an estimated 6 acres burned per wildfire event. The total amount of acres burned was 1,291.15 multiplied by $1,900 (the average market value for an acre of land in Chilton County) equals $2,453,185 damages for the 216 wildfire events with 216 wildfire events causing damage resulting in an estimated $11,357 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 $12,380 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 Chilton County due to a wildfire event is minimum to minor.

Primary effects from wildfire in Chilton County would include:

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

Hazardous results from significant wildfire in Chilton 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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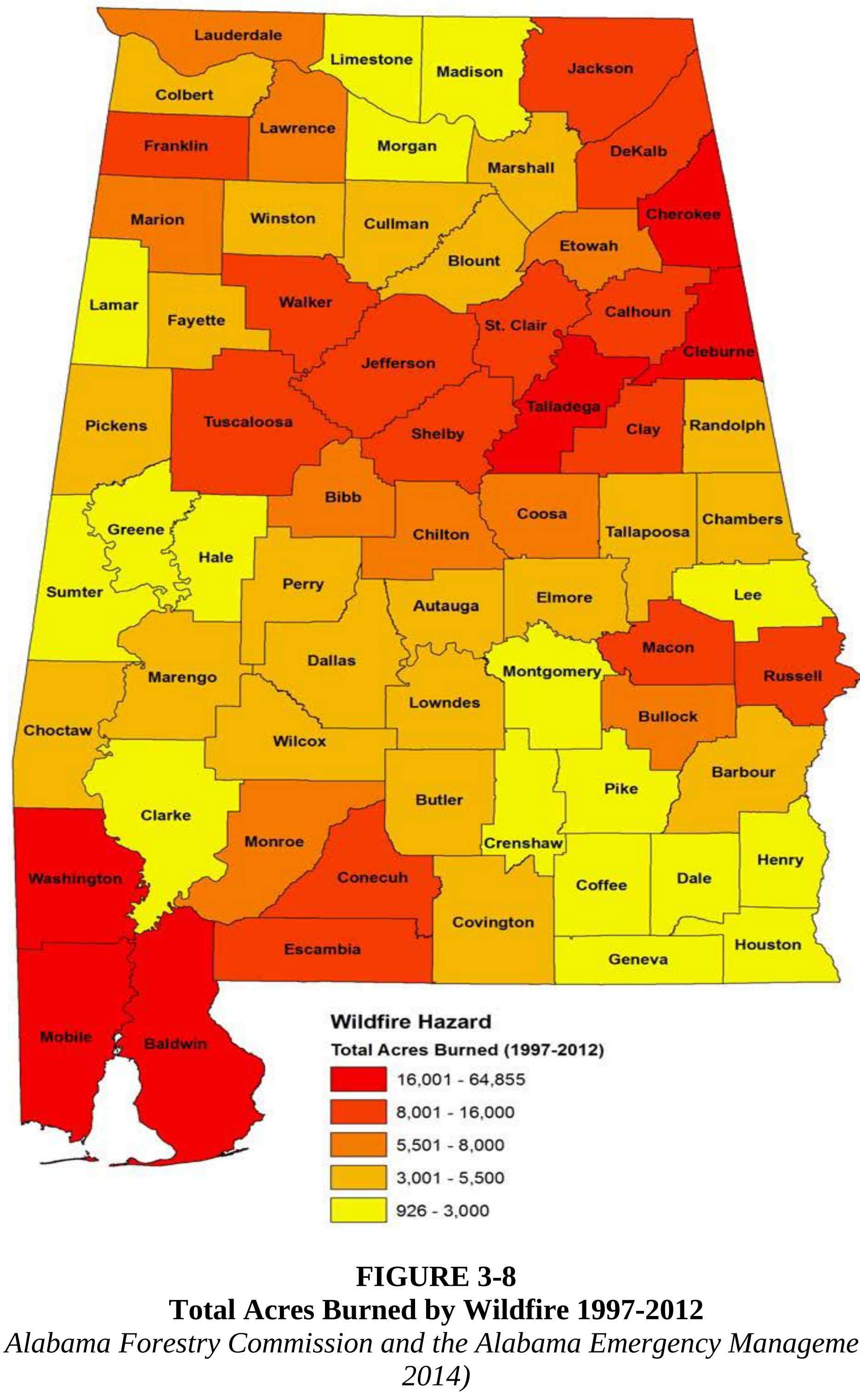

FIGURE 3-8
Total Acres Burned by Wildfire 1997-2012
(Source: Alabama Forestry Commission and the Alabama Emergency Management Agency, 2014)

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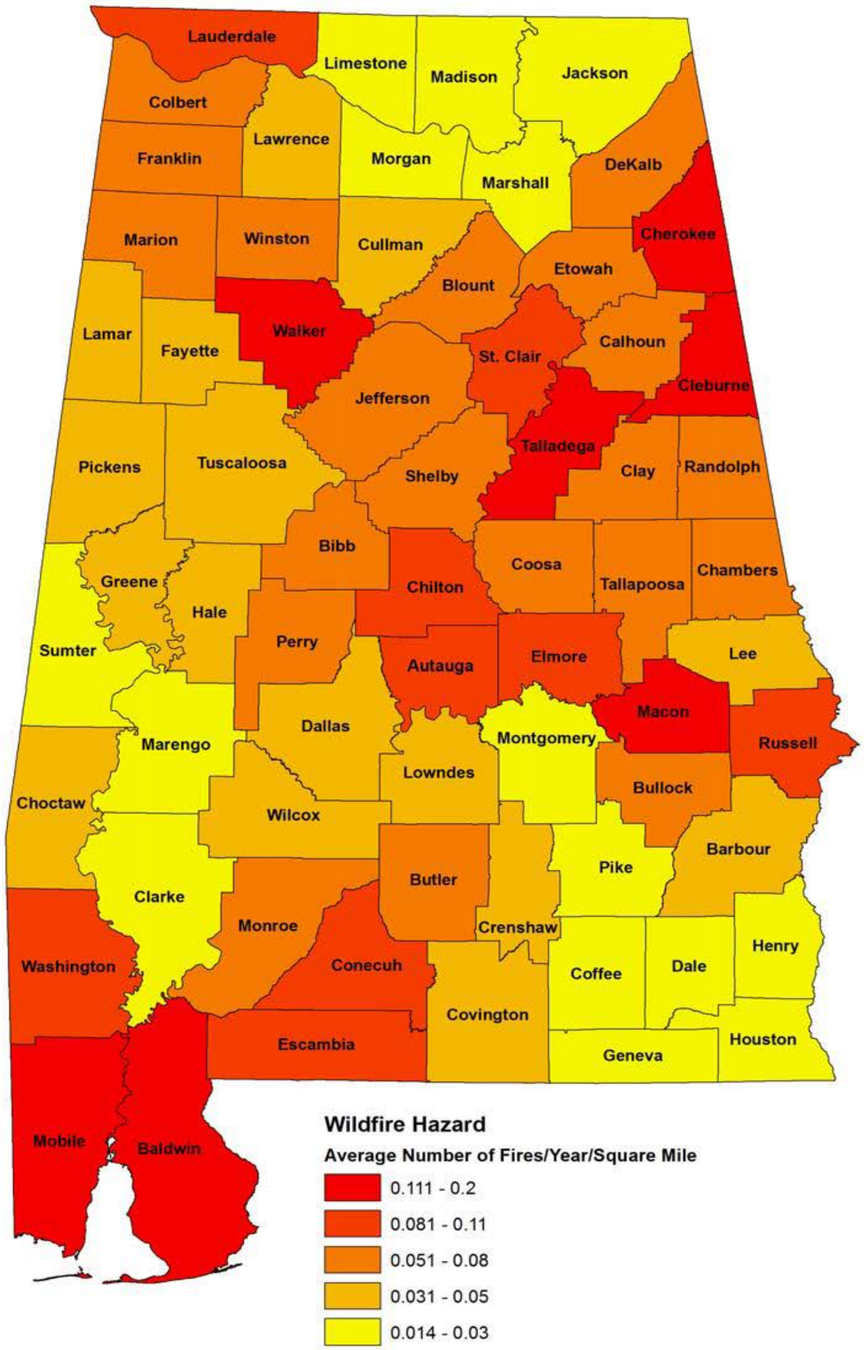

FIGURE 3-9
Number of Fires per Year per Square Mile 1997-2012
(Source: Alabama Forestry Commission and the Alabama Emergency Management Agency, 2014)

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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 Chilton 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 Chilton County during 2003 - 2013.

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 Chilton 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*, Chilton County has 18 High Density Polyethylene Earth (HPDE) Dams, a high hazard dam (Gilbert Lake Dam) in the Sawyer Cove Community located along a tributary of Watson Creek; one High Density Polyethylene Miscellaneous Dam (HPDZ) a significant risk dam, the Demargo Lake Dam in the Mulberry Church Community along Gale Creek; and two High Density Polyethylene Gravity Dams (HPDG), Mitchell Dam and Lay Dam, both high hazard dams owned by Alabama Power Company. In total there are 21 dams in Chilton County – 18 HPDE, 1 HPDZ, and 2 HPDG dams – 3 High Hazard (failure or poor operation would likely result in the loss of human life), 13 Significant Hazard (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 5 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). The Gilbert Lake Dam has been deemed as a high hazard dam since the last plan update. None of the dams is located within a municipality. All dams are located in sparsely populated areas scattered throughout the unincorporated jurisdiction. **Table 3-14** shows risk categories of dams. **Table 3-15** provides an inventory listing of all the dams in Chilton 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.

Primary effects from Dam failure in Chilton 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 Chilton 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: Chilton County Dams Risk Categories	
Risk Categories	**Number of Dams**
High - loss of one human life is likely if the dam fails	3
Significant - possible loss of human life and likely significant property or environmental destruction if the dam fails if the dam fails	13
Low	5
Total	**21**
(Source: HAZUS MH 2.1, 2014)	

Table 3-15: Chilton County Dam Inventory										
	Dam Name	**NID ID**	**River**	**NID Height**	**NID Storage**	**Year Completed**	**Drainage Area**	**Hazard**	**Longitude**	**Latitude**
1.	Lake Fountain Head	AL00952	Pig Pen Creek Offstream	0	96	1960	0	S	-86.696669	32.959999
2.	Livingston Lake	AL00951	TR-Coosa River	0	118	1963	O	S	-86.469999	32.815
3.	Brantley Lake	AL00957		0	0	0	O	S	-86.80167	
4.	Shechi Lake	AL00954	TR-Mahan Creek	0	152	1965	O	S	-86.81667	33.014999
5.	Shelton Barkley	AL00961		0	0	0	O	S	-86.584999	32.79
6.	Demargo Lake	AL00955	Gale Creek	0	256	1965	O	S	-86.754999	32.88333
7.	Gilbert Lake	AL00959	TR-Watson Creek	0	69	1968	O	H	-86.743329	33.04333
8.	J. H. Oliver Lake	AL01675	TR-Mahan Creek	0	92	1979	O	L	-86.87167	33.01833
9.	Gulf States Columbiana SW Dam	AL01674		0	0	0	O	S	-86.729999	33.02167
10.	Luby Gore	AL01672		0	0	0	O	S	-86.68	32.905
11.	Calfee Lake	AL01671	TR-Benson creek	0	76	1975	O	S	-86.778329	32.83833
12.	T. J. Stewart Lake	AL01670	Chestnut Creek	0	321	1960	O	S	-86.581669	32.808329
13.	Lightfoot	AL01668	TR-Mountain Creek	0	62	1970	O	S	-86.45333	32.71333
14.	Mitchell	AL01424	Coosa	106	172000	1923	9827	H	-86.446659	32.805
15.	Lay	AL01418	Coosa	130	265000	1914	9087	H	-86.51833	32.965
16.	Lee Brown	AL02004	TR-E Branch Mulberry Creek	20	120	1978	0.625	S	-86.783059	32.85
17.	Brantley Dam #2	AL02001	TR-Mahan Creek	20	126	1976	0.625	L	-86.78333	32.983329
18.	Harris Saunders	AL02003	TR-Mahan Creek	41	138	1974	0.1875	L	-86.76667	33.01667
19.	Fisher	AL02002	TR-Waxahatche Creek	15	83	1974	0.2656	L	-86.63333	33.049999
20.	C. C. Gilbert	AL00958	TR-Watson Creek	18	45	1968	0.125	S	-86.76667	33.01667
21.	Jim Oliver	AL00953	TR-Dry Creek	20	188	1969	0.3125	L	-86.833329	33.01667

(Source: HAZUS-MH 2.1, Accessed 2015)

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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. On May 3, 2009, a thunderstorm event occurred and Chilton County experienced 58 miles per hour winds. An old store front was blown over in the downtown area of the City of Jemison. Four buildings suffered damage. No injuries, deaths, or crop damages occurred. Property damages of $60,000 resulted. At least three homes and two mobile homes were damaged by fallen trees. Several outbuildings suffered varying degrees of roof damage. No injuries, deaths, or crop damages occurred. Property damages of $50,000 resulted.

On February 2, 2008, a thunderstorm event having 70 miles per hour winds occurred southwest of the City of Clanton in the unincorporated areas of the county from the Kincheon Community to the Falakto Community. No injuries, deaths, or crop damages occurred. Property damages of $10,000 resulted from this event.

Lightning *(Source: NCDC NOAA)*

Lightning can cause substantial property damage and loss of human lives. All jurisdictions are vulnerable to lightning events. On August 27, 2003, lightning apparently struck two houses about 600 yards apart in Clanton on 7th Street North and 10th Street North during a thunderstorm. The Enterprise Fire Department was dispatched to the 2000 block of CR 431 to investigate smoke in a house after it was apparently struck by lightning. Clanton: Property damages of $5,000 resulted from this event. Jemison: Lightning struck a residence in Collins Chapel Community causing a small fire. The Union Grove Fire Department was dispatched to a residence on Lay Lake on the Chilton-Shelby county line after lightning apparently struck a house on Grand Pointe (CR 147). Property damages of $3,000 resulted from this event. No injuries, deaths, or crop damages occurred in the Jemison or Clanton areas.

Hail *(Source: NCDC NOAA)*

Severe thunderstorms have produced hailstones 0.75 inch in diameter (dime/penny size) to 3 inches (teacup size) in diameter in Chilton County during 2003-2013. On April 25, 2003, a swath of hail up to 3 inches in diameter was reported. The hail covered the ground in a few locations. The largest hail fell just northwest of Maplesville while most of the remainder of the county experienced hail up to 1.50 inches in diameter. Many locations reported that the ground was totally covered by hail. Chilton County experienced hail magnitude of 3 inches (tea cup size) to 1.25 inches (nearly ping pong ball size), resulting in $175,000 property damage across the area. No injuries, deaths, or crop damages occurred.

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. **Table 4-1** provides community safe room information. **Figure 4-1** provides a view of Chilton County and maps the locations of community safe rooms.

Areas with higher population densities pose the greatest potential for property damage, injury, and death. The Cities of Clanton and Jemison are the most densely populated areas in the county. Communities with a high concentration of mobile homes are extremely vulnerable to tornados. Mobile homes are not capable of withstanding the strong winds associated with tornados. Chilton County has a total of 6,080 mobile homes countywide, 32% of the total housing stock. The greatest concentration of mobile homes in a municipality is in the Town of Maplesville where 31% of the units are mobile homes. *(Sources: U.S. Census Bureau, 2010-2012 American Community Survey and Easidemographics.com)*

A F2 tornado event occurred on 11/24/2004. As the tornado approached the west side of Interstate 65, the tornado increased to F2 intensity and caused considerable damage to several structures. The tornado produced extensive structural damage in Cooper. Several homes, businesses, mobile homes and out-buildings were damaged or destroyed. The tornado moved across eastern Chilton County and went across Lake Mitchell. At Lake Mitchell, on the Chilton/Coosa County Line, numerous homes and mobile homes were destroyed generally between Blue Creek and Cargile Creek. No injuries, deaths, or crop damages occurred. Property damages of $500,000 resulted. (*Source: NCDC NOAA*)

An EF1 tornado event occurred in the unincorporated area of the county, called Falakto on February 17, 2008. The heaviest damage was sustained by a mobile home along County Road 41, where two large oak trees fell on the mobile home and demolished it. Several fast food restaurant signs and a couple of road signs were damaged or destroyed, and a couple hundred trees were also snapped off or uprooted. No injuries, deaths, or crop damages occurred. Property damages of $150,000 resulted. (*Source: NCDC NOAA*)

A powerful storm system crossed the Southeast United States on Wednesday, April 27, 2011, resulting in a large and deadly tornado outbreak. This epic event broke the record for number of tornadoes in a day for the state of Alabama, becoming the most significant tornado outbreak in the state's history. An EF0 tornado moved northeast, and crossed CR 597 where it damaged a metal carport of one single family home and the roof of a mobile home. This event resulted in one injury and $102,000 in property damages. Most of the violent tornadoes from this day were captured on video by a number of people, including storm spotters and chasers, as well as numerous television news crews and remotely controlled web-enabled video cameras. This allowed unprecedented coverage and viewing of this historic event in real time from people worldwide.

TABLE 4-1: COMMUNITY SAFE ROOMS IN CHILTON COUNTY				
	Location	**POC**	**Status**	**Disaster**
1	East Chilton, 5640 Co. Rd. 28, Clanton	George Fannings	Complete	1605
2	Enterprise, 6162 Co. Rd. 24, Verbena	Raymond Hudman	Complete	
3	Maplesville, 120 Railroad St., Maplesville	Christine Epperson	Complete	
4	Union Grove, 10896 Co. Rd. 51, Jemison	Robin Ellison	Complete	
5	West Chilton Fire & Rescue, 2678 Co. Rd. 42 West, Jemison		Complete	
6	Gap of the Mountain #1, 768 Co. Rd. 55, Clanton	Sam Mathis	Complete	1971
7	Isabella, 1960 Co. Rd. 29, Maplesville 36750	Curtis Smith	Complete	1971
8	Collins Chapel, 13274 Co. Rd. 29, Clanton		Proposed	1971
9	Enterprise/Fairview, 9597 Co. Rd. 37, Clanton		Proposed	1971
10	Enterprise #2, 3178 Co. Rd. 49, Clanton		Proposed	1971
11	Verbena, 3885 U.S. Highway 31, Verbena	Allen Goree	Complete	1971
12	West Chilton, 950 Co. Rd. 213, Jemison		Proposed	1971
13	Cedar Grove, 2245 Co. Rd. 37, Clanton		Proposed	1971
14	Higgins Ferry, 11019 Co. Rd. 28, Clanton	Frank Atchison	Complete	1971
15	Gap of the Mountain #2, 1297 Co. Rd. 607, Clanton		Proposed	1971
16	Union Grove, 18050 Co. Rd. 42, Jemison		Proposed	1971
*****	Town of Thorsby, 641 Dakota Rd., Thorsby		Proposed	1971
(Source: Chilton County EMA, 2014)				

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 Clanton 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.

During 2003-2013, flash flood damages included: Jemison- $12,000 of property damages; Maplesville- $3,000 of property damages; Jumbo Community- $50,000 of property damages; and the Clanton Airport- $5,000 of property damages. No injuries, deaths, or crop damages occurred or were reported.

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, Chilton County experienced D2 Severe to D3 Extreme Drought in 2006, D2 Severe to D4 Exceptional Drought in 2007, D0 Abnormally Dry to D4 Exceptional Drought in 2008, D0 Abnormally Dry to D2 Severe in 2010, D2 Severe to D3 Extreme Drought in 2011, D2 Severe in 2012 and 2013. Crops became highly stressed due to the lack of rainfall, with losses ranging from 50 to nearly 100 percent in some Central Alabama counties. Around 80 percent of the corn and soybean crop, 70 percent of the cotton crop, and 40 percent of the peanut crop, was considered to be in poor or very poor condition by month's end along with livestock and hay production. In addition, about 60 percent of the livestock, and 75 percent of pasture lands, were also considered to be poor or very poor, and hay yields for the summer were less than half of normal. Stream flows on area rivers and waterways remained near record low levels, and most reservoir levels were well below normal. Navigation on major rivers became significantly impacted, and many boat landings on major lakes became unusable due to extremely low lake levels. The number of mandatory water restrictions continued to increase, with fines and surcharges being enforced for excessive water usage. Many residential lawns, shrubbery, and gardens became severely stressed by the very dry conditions. Statewide, 31 counties were declared a disaster area. Alabama farmers received one million dollars in federal disaster aid along with other grant assistance. It was during this time that the State implemented its Drought Monitoring System. An initial five wells were selected to track water levels around the state, with plans to increase the number of monitoring wells to 25. Drought conditions continued to escalate into 2007 and by August all 67 Alabama counties were declared Natural Disaster areas by the Federal Government. West-Central Alabama reported a rainfall deficit that reached nearly 30 inches by 2007. Impacts were felt by farmers of all crops, including timber, livestock producers, and the forestry service. Additionally, electricity providers were affected as river and lake levels dropped and some municipalities were forced to place restrictions on water consumption as supplies became strained. The State Agriculture Commissioner (at the time) Ron Sparks referred to this event as the worst drought in 30-40 years. (*Source: NOAA NCDC*)

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

Chilton 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 Chilton County are vulnerable to severe winter storms.

During 2003-2013, Chilton County experienced up to 2.5 inches of snow, a half inch of sleet and ice, and extreme cold temperatures of 2-10 degrees causing hazardous driving conditions, numerous vehicle accidents, and road closures. Many area residents reported frozen and broken water pipes as a result of the extended cold. Several lawn sprinkler systems also froze and broke making many areas very icy. Many area farmers lost a large part of their strawberry crops. No injuries, deaths, crop, or property damages were reported.

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

Tropical Storms and Tropical Depressions such as Dennis, Ivan, Fay and Katrina have affected Chilton 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 32% 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 Chilton County. Several downed trees landed on vehicles and homes. Property damages of $100,000 resulted from this event. On August 29-30, 2005, extensive tree and power line damage occurred as Tropical Storm Katrina affected the area. Many roadways were impassable due to fallen trees. Power outages were widespread. Several structures were damaged. Property damages of $80,000 resulted from this event. On August 23-25, 2008, Tropical Depression Fay brought high winds, heavy rain, and numerous tornadoes to the Chilton County area. Property damages of $5,000 resulted from this event. On September 16, 2004, high winds in association with Ivan resulted in thousands of trees and power lines being knocked down. Thousands of trees were blown down across Chilton County. Five structures were heavily damaged and around another 150 suffered minor roof damage. At least 100 agricultural businesses sustained damage. Property damages of $700,000 and crop damages of $75,000 resulted from this event. Finally, on March 7, 2008, strong wind gusts estimated around 40 knots or 46 miles per hour downed numerous trees and power lines around the northern part of the county. Property damages of $15,000 resulted from this event. No injuries, deaths, or crop damages occurred as a result of these events.

Sinkholes/Expansive Soils

During the risk assessment, it was determined that Chilton County has a very limited area of outcrops of carbonate rocks, and no active areas of sinkholes in the county. Though the soils present in the county do have some shrink-swell potential, the risk assessment determined that a profile was not necessary. No expansive soil issues were reported from NOAA NCDC or other sources. Two sinkholes occurred in Chilton County during the past five years: On February 18, 2011 a sinkhole occurred in North Chilton County at the residence of Glenn Greer. Another sinkhole occurred on March 18, 2013 at the residence of Jason and Miranda Hill.

Landslides *(Source: Local Input)*

Chilton County identified this hazard however the absence of occurrences indicate a low vulnerability to landslides at this time.

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

A major earthquake in Chilton 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. A 3.6 magnitude earthquake occurred on August 19, 2004, 29.1 miles away from the center of Chilton County. Another earthquake, 4.4 magnitude occurred on November 7, 2004, 73.7 miles away from the center of Chilton County. No injuries, deaths, crop or property damages were reported.

Wildfires *(Source: Alabama Forestry Commission)*

Chilton 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. Chilton County experienced 216 wildfires during the three year period from 2010-2013 resulting in 1,291.15 acres burned. The total expected annual damages from future events is $12,380 per event.

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

According to *HAZUS MH 2.1*, Chilton County has 18 High Density Polyethylene Earth (HPDE) Dams, a high hazard dam (Gilbert Lake Dam) in the Sawyer Cove Community located along a tributary of Watson Creek; one High Density Polyethylene Miscellaneous Dam (HPDZ) a significant risk dam, the Demargo Lake Dam in the Mulberry Church Community along Gale Creek; and two High Density Polyethylene Gravity Dams (HPDG), Mitchell Dam and Lay Dam, both high hazard dams owned by Alabama Power Company. In total there are 21 dams in Chilton County – 18 HPDE, 1 HPDZ, and 2 HPDG dams – 3 High Hazard (failure or poor operation would likely result in the loss of human life), 13 Significant Hazard (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 5 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). The Gilbert Lake Dam has been deemed as a high hazard dam since the last plan update. None of the dams is located within a municipality. All dams are located in sparsely populated areas scattered throughout the unincorporated jurisdiction. 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 Chilton County during 2003 - 2013.

Socially Vulnerable Populations

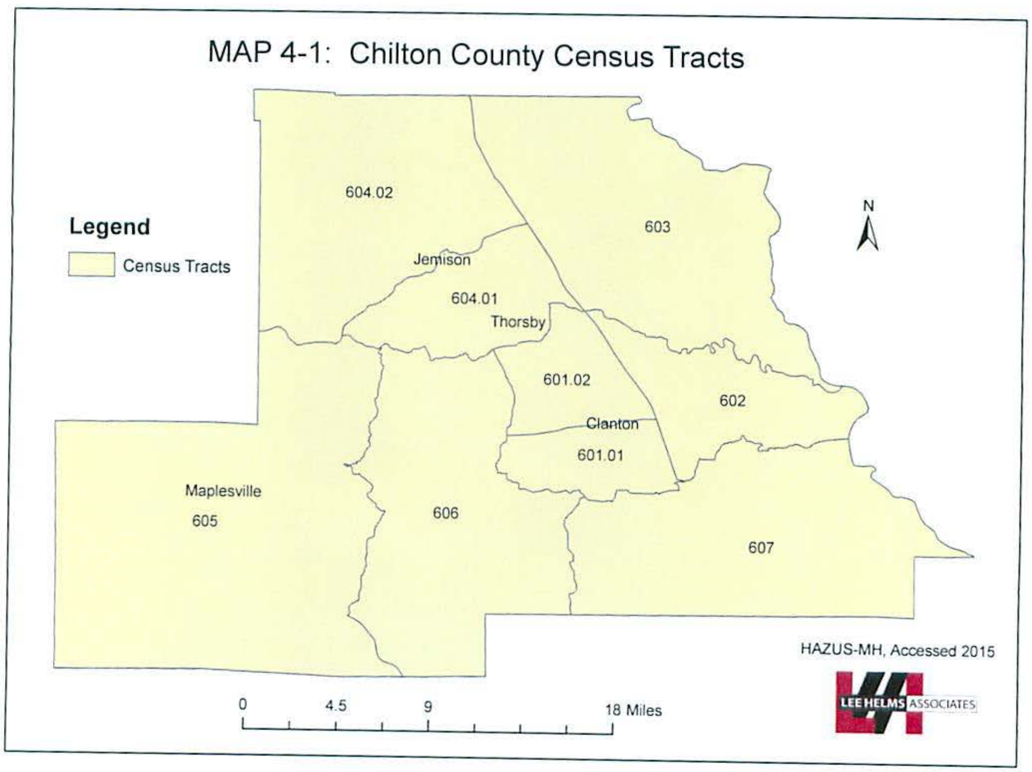
Certain populations are generally more affected by hazard events. These populations can be defined in terms of social, racial, and economic characteristics. Data provided in the section was obtained from 2010 Census using breakouts for entire municipalities and census tracts. According to the 2010 Census, Chilton County has 692.85 square miles of land/443,424 acres and 62.28 persons per square mile.

Table 4-2 shows the county's population characteristics by jurisdiction and by census tract. The City of Clanton is the most populated jurisdiction, followed by the City of Jemison, the Town of Thorsby and the Town of Maplesville. The county has nine census tracts (See **Map 4-1**); however for charting purposes, Census Tracts 601-01 and 601-02 are combined and Census Tracts 604-01 and 604-02 are combined. In terms of vulnerability, the larger the population of an area the more people and structures that could possibly be damaged or destroyed. Tract 604 is the most populated tract. Tract 604 contains the City of Jemison and the Town of Thorsby and portions of Clanton. Tract 601 is the second most populated tract and includes portions of the City of Clanton. Tract 602 is the least populated tract and contains a small portion of the City of Clanton.

Table 4-2: Chilton County Population Characteristics

Geographic Area	Population	Race-White	Race-Black	Race-Other*	Under 19 years	Age 20-64 years	Age 65 and Over
Chilton County	43,643	36,713	4,230	2,700	12,052	25,670	5,921
Clanton	8,619	6,454	1,642	523	2,214	4,973	1,432
Jemison	2,585	2,010	458	117	715	1,506	364
Maplesville	708	488	202	18	224	395	89
Thorsby	1,980	1,777	112	910	554	1,191	235
Census Tracts 601	11,522	8,747	1,919	856	3,083	6,631	1,808
602	2,807	2,732	14	61	731	1,648	428
603	3,808	3,551	25	232	988	2,301	519
604	14,242	12,259	984	999	4,069	8,451	1,722
605	2,902	2,169	656	77	781	1,705	416
606	3,261	2,964	127	170	931	1,942	388
607	5,101	4,291	505	305	1,469	2,992	640

(Source: 2010 Census)


MAP 4-1: Chilton County Census Tracts
Legend
Census Tracts
604.02
603
Jemison
604.01
Thorsby
601.02
602
Clanton
601.01
Maplesville
605
606
607
N
HAZUS-MH, Accessed 2015
0
4.5
9
18 Miles
LEE HELMS ASSOCIATES

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 4-3** shows the median household income, per capita income, and poverty level data for the jurisdictions and census tracts in Chilton County.

The median household income for the State of Alabama is $43,160. The median household income for the United States is $53,046. No tract exceeds the national average. Tracts 603 and 604 exceed the state average, while remaining tracts are less than the state average. Two municipalities (Maplesville and Thorsby) have median household incomes that exceed the state average, but are less than the national average. All other municipalities do not have a median household income that equals or exceeds either the state or national average. *(Source: 2010 Census)*

Per capita income is the average obtained by dividing aggregate income by the total population of an area. The per capita income for the State of Alabama is $23,587. The per capita income for the United States is $28,051. Tract 604 is the only tract that exceeds the state and national averages. Tract 602 exceeds the state average, but is less than the national average. No municipality has a per capita income that exceeds the state and national averages. All other municipalities do not have a per capita income that equals or exceeds either the state or national average. *(Source: 2010 Census)*

The percent of persons below the poverty level in the State of Alabama is 18.1%. The corresponding rate for the United States is 14.9%. Tracts 601 and 607 are the only tracts that exceed both the state and national averages. Tracts 602, 603 and 605 are below the state and national rates. Tracts 604 and 606 are below the state average, yet higher than the national average. The City of Jemison and Towns of Maplesville and Thorsby have rates that are below the state and national rates. The City of Clanton has the highest poverty rate in the county at 23.38%. *(Source: 2010 Census)*

Table 4-3: Chilton County Income Data

Geographic Area	Median Household Income	Per Capita Income	Persons Below Poverty Level	Percent Below Poverty Level
Chilton County	$40,834	$21,132	8,020	18.57%
Clanton	$36,830	$21,395	1,946	23.38%
Jemison	$42,500	$17,378	402	13.06%
Maplesville	$47,375	$19,709	103	14.71%
Thorsby	$48,000	$21,223	252	10.43%
Census Tracts 601	$38,564	$22,516	1,188	23%
602	$39,583	$24,889	385	13.42%
603	$50,610	$21,838	498	12.50%
604	$46,528	$40,186	2,746	17.25%
605	$40,745	$22,420	335	11.02%
606	$38,103	$18,736	510	15.95%
607	$35,758	$19,963	1,171	23.57%

(Sources: 2010 Census; www.usa.com, Accessed 2015 – average calculations made by LHA for Census Tracts 601 and 604)

Vulnerable Structures

Housing is an important consideration of mitigation planning. The concentration and the type of housing are two primary factors. In Chilton County there are a total of 19,240 housing units. **Table 4-4** shows the housing characteristics of the county by jurisdiction.

The City of Clanton has the greatest concentration of housing units, followed by the Town of Thorsby, The City of Jemison and the Town of Maplesville. The City of Clanton has the highest number of mobile home units within a municipality; while, the Town of Maplesville 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 4-4: Chilton County Housing Characteristics

Geographic Area	Total Housing Units	Mobile Home Units	Mobile Home %
Chilton County	19,240	6,080	31.60%
Clanton	4,014	284	7.08%
Jemison	950	218	22.95%
Maplesville	319	98	30.72%
Thorsby	994	123	12.37%

(Source: 2010 Census)

Table 4-5 shows the building stock in Chilton 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 504 has the highest number of structures in the county. Complementing this information is **Table 4-6** that provides the value totals for these building types and **Table 4-7** that provides the content value for these building types, each table is shown by Census Tract. Tract 504 also has the highest total value for structures in the county.

Table 4-5: Chilton County Building Stock by General Occupancy								
Tract	**Residential**	**Commercial**	**Industrial**	**Agriculture**	**Religious**	**Government**	**Education**	**Building Count**
500	2,374	78	19	13	11	3	3	**2,501**
501	2,262	72	13	7	9	4	3	**2,370**
502	1,130	19	6	5	6	2	0	**1,168**
503	1,965	52	9	9	14	15	4	**2,068**
504	3,052	06	34	12	19	5	6	**3,134**
Total	**10,783**	**227**	**81**	**46**	**59**	**29**	**16**	**11,241**
(Source: HAZUS-MH 2.1, 2014)								

Table 4-6: Chilton County Building Exposure *(Numbers shown in thousands of dollars)*								
Tract	**Residential**	**Commercial**	**Industrial**	**Agriculture**	**Religious**	**Government**	**Education**	**Total Exposure**
500	$174,843	$16,251	$6,005	$1,511	$5,436	$2,886	$2,284	**$209,216**
501	$145,262	$20,515	$5,613	$645	$4,524	$1,359	$2,360	**$180,278**
502	$66,289	$2,883	$1,828	$334	$1,904	$916	$0	**$74,154**
503	$117,061	$24,276	$1,221	$1,275	$6,199	$8,313	$2,837	**$161,182**
504	$204,109	$30,726	$9,624	$1,821	$7,951	$1,114	$4,869	**$260,214**
Total	**$707,564**	**$94,651**	**$24,291**	**$5,586**	**$26,014**	**$14,588**	**$12,350**	**$885,044**
(Source: HAZUS-MH 2.1, 2014)								

Table 4-7: Chilton County Building Contents Exposure *(Numbers shown in thousands of dollars)*								
Tract	**Residential**	**Commercial**	**Industrial**	**Agriculture**	**Religious**	**Government**	**Education**	**Total Exposure**
500	$87,677	$17,233	$8,580	$1,511	$5,436	$4,059	$2,284	**$126,780**
501	$72,834	$21,169	$5,366	$645	$4,524	$1,359	$2,360	**$108,257**
502	$33,204	$2,980	$2,454	$389	$1,904	$1,291	$0	**$42,222**
503	$58,657	$29,832	$1,688	$1,224	$6,199	$8,313	$2,837	**$108,750**
504	$102,310	$31,377	$11,776	$1,821	$7,951	$1,466	$4,869	**$161,570**
Total	**$354,682**	**$102,591**	**$29,864**	**$5,590**	**$26,014**	**$16,488**	**$12,350**	**$547,579**
(Source: HAZUS-MH 2.1, 2014)								

Critical Facility Inventory

Critical facilities are crucial to the daily operation of Chilton 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 4-8** is vulnerable to each of the hazards identified in the risk assessment. Critical facilities include but are not limited to the following:

- Governmental services
- Police and Fire Departments
- Public Works
- Education
- Industrial
- Medical

Each jurisdiction listed facilities based on the location of the facility without regard to ownership or function. The county's list will show only what is located in the unincorporated areas. Each jurisdiction also provided addresses and approximate values for the facilities listed, using replacement values from their insurance policies when available. *HAZUS-MH 2.1* was also utilized for building and content values.

TABLE 4-8: CRITICAL FACILITIES – CHILTON COUNTY	
FACILITY TYPE	**FACILITY VALUE**
Chilton County Courthouse/911	$3,466,156
Chilton County Road Department	$9,476
Chilton County Airport	$125,866
Chilton County Health Department	$72,390
Enterprise Community Shelter (Tornado Shelter)	$79,600
West Chilton Community Shelter (Tornado Shelter)	$102,600
Collins Chapel Baptist Church (Red Cross Shelter)	$282,500
Verbena First Baptist (Red Cross Shelter)	$339,700 (2nd Church - $183,700)
Providence #2 Baptist Church (Red Cross Shelter)	$694,900
Union Grove Baptist Church (Red Cross Shelter)	$241,226
Chilton County Baptist Association (Red Cross Shelter)	$96,346
Chilton Medical Center (Hospital)	$412,515
Total	**$6,106,975**
(Source: Local and HAZUS-MH 2.1, Accessed 2015)	

Development Trends

The 2010 Census for Chilton County, Alabama shows a countywide population of 43,643. Current population projection numbers show that the population in Chilton County will continue increasing within the next 20 years. There is a population change of 7,241 from 2015 to 2035, which is a 16% population increase. **Table 4-9** provides the population projections for Chilton County.

Table 4-9: Chilton County Population Projections	
YEAR	**POPULATION PROJECTION**
2015	45,718
2020	47,706
2025	49,531
2030	51,246
2035	52,959
(Sources: Center for Business and Economic Research, University of Alabama; Alabama Hazard Mitigation Plan, 2014)	

Impacts of Development Trends on Vulnerability

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

The county government relies on the Birmingham Regional Planning Commission for assistance in land use development. The following is acreage usage in order of most use to least use in Chilton County: Agriculture; Forest; Public; Residential; Commercial; Industrial; and Transportation.

Impacts of development trends on vulnerability for each jurisdiction are as follows:

Chilton County:

Area of State: Central

Location Latitude/Longitude: 32.8398 / -86.6282

Transportation

Highways:

Interstates in county: I-65

Federal highways in county: 31

Distance from city to nearest interstate: 0 miles

Aviation

Commercial Air Service:

Nearest commercial air service: Birmingham-Shuttlesworth International Airport

Location: Birmingham, AL

Distance from city to: 55 miles

Runway length: 12,002 feet

Number of daily flights: 77

Major carriers: Continental, Northwest, Southwest, American, Delta Comair, US Airways, Delta Express Jet

General Aviation Service:

The airport is extending the runway length and making other improvements.

Nearest general aviation facility: Gragg-Wade Field Airport

Location: Clanton

Distance from city to: 2 miles

Runway length: 4,008 feet

Lighted: Yes

Tiedowns: Yes

Hangars: Yes

ILS: No

Repair Service: No

Source: EDPA Survey of Commercial Airports; Alabama Department of Transportation Aeronautics Bureau; www.dot.state.al.us; Airnav.com;

Accessed 2014

Rail:

Railroads serving county: CSX Transportation, Norfolk Southern

Source: Alabama Department of Transportation Intermodal Division,
www.dot.state.al.us, 2014

Economic Development Partnership of Alabama; www.advantagealabama.com, 2014

Labor Force Characteristics *(Source: Census 2010)***:**

Employment Potential Population (16+): 33,906

Employment, Civilian Total Population (16+): 17,828

Employment, Civilian Male Population (16+): 10,089

Employment, Civilian Female Population (16+): 7,739

Unemployed Males: 906

Unemployed Females: 692

Not in the Labor Force, Males: 5,615

Not in the Labor Force, Females: 8,864

County Employment by Industry *(Source: Census 2010)*:

Total Civilian Employment: 17,828

Employment, Agriculture, Forestry, Fishing and Hunting: 418

Employment, Mining, Quarrying and Oil and Gas Extraction: 55

Employment, Construction: 2,363

Employment, Manufacturing: 2,399

Employment, Wholesale Trade: 695

Employment Retail Trade (Pop 16+): 2,368

Employment, Transportation and Warehousing: 898

Employment, Utilities: 663

Employment, Information: 176

Employment, Finance and Insurance: 892

Employment, Real Estate and Rental and Leasing: 170

Employment, Professional, Scientific, and Technical Services: 476

Employment, Management of Companies and Enterprises: 0

Employment, Administrative and Support and Waste Mgt. Services: 476

Employment, Educational Services: 1,249

Employment, Health Care and Social Assistance: 1,299

Employment, Arts, Entertainment, and Recreation: 61

Employment, Accommodation and Food Services, etc.: 993

Employment, Other Services: 836

Employment, Public Administration: 1,341

Employment, Local Government: 1,603

Employment, State Government: 1,052

Employment, Federal Government: 554

Travel Time to Work (Employees 16+) *(Source: Census 2010)*:

Less than 15 minutes: 3,738

15-29 minutes: 4,953

30-59 minutes: 6,124

60-89 minutes: 2,019

90+ minutes: 776

Work at Home: 218

Educational Attainment (Population 25+) *(Source: Census 2010)*:

Less than High School: 7, 121

High School: 11,311

Some College: 4,989

Associate’s Degree: 1,988

Bachelor’s Degree: 2,283

Master's Degree: 1,108

Professional Degree: 155

Doctorate Degree: 63

Major Employers in County:

Company	**Product**	**# Employees**
Chilton Co. BOE	Government-Education	775
CRH	Auto Seat Adjuster Systems	490
International Paper Corp	Laminated Veneer, Wood Joists	389
Merchants Food	Food Services	360
Wal-Mart Super Center	Retail	320
Alabama Power Company	Utility	298
Chilton County Commission	Government - County	182
Kumi Manufacturing	Auto Plastic Parts	175
Hatley Health Care	Health Care - Nursing Home	175
Ward's Cabinetry	Kitchen and Bath Cabinets	130
City of Clanton	Government - City	120

Source: Local economic development contacts

Utilities:

Electricity

Supplier(s) to City: Alabama Power Company

Distributor(s) to City: Alabama Power Company

Sewer

Provider to City: City of Clanton

Natural Gas

Supplier(s) to City: Alabama Gas Corporation

Distributor(s) to City: Alabama Gas Corporation

Telecommunications

Provider(s) to City: AT&T

Water

Provider to City: City of Clanton

Source type: Surface Water

Source: Alabama Department of Environmental Management

http://www.adem.state.al.us; EDPA survey of utilities.

Note: Capacities vary from station to station.

Chilton County holds the advantages of having highly available access to Interstate 65, close proximity to automakers, and a low cost of living.

Alabama Power Company is a major controlling force over the region's water resources. It controls the water on the Black Warrior River with a hydropower dam on the Sipsey Fork. It also owns four major reservoirs on the Coosa River. Electric power is provided throughout the region predominately by Alabama Power Company and the Central

Sand and gravel deposits which are ideal for construction and industrial use occur in Chilton County.

The region has abundant surface water and ground water resources. The greatest supply of surface water for the region comes from the Coosa. Gordo and Coker Aquifers, located in Chilton County, are in the Coastal Plain groundwater province and are moderate to high yielding.

Civic and Community Centers Infrastructure includes a new Chilton County Civic/Community Center located at the new Jefferson State Community College in Clanton on Lay Dam Road.

Chilton County is blessed with a very strategic location. First, it is located between the sprawling Birmingham and Montgomery metropolitan areas. Secondly, it is located in the center of the "automotive triangle" formed by Mercedes, Honda and Hyundai. Future commercial and industrial development can be expected and will continue to occur along U.S. 31, U.S. 82, State Highway 145 and I-65 in Chilton County. In particular, I-65 splits the "automotive triangle" and development will most likely occur more rapidly at the interchanges where U.S. 31 and State Highway 145 intersect the interstate.

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

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

Methods of Warning

Chilton 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 each Wednesday, between 11 am and noon, weather permitting.

Outdoor Warning Sirens

Chilton County EMA has 26 in-place outdoor warning sirens. Although these sirens cover most of the populated areas, there are many places without an outdoor siren. **Table 4-10** lists the existing sirens. The existing sirens have an effective radiated coverage area of one mile around the siren. The sirens are activated for Severe Thunderstorm Warnings and Tornado Warnings. There is no ALL CLEAR siren sounding due to the possibility of public confusion. Weather Warnings sound like a long wail. The siren blasts run three to five minutes. The sirens are activated from the Chilton County E-911 Office.

TABLE 4-10: Chilton County Outdoor Warning Sirens		
Number	**Jurisdiction**	**Address**
1	County	Ebenezer Baptist Church, 5349 AL Hwy. 22, Stanton
2	Maplesville	South Chilton Fire Dept., 15172 Co. Rd. 16, Maplesville
3	County	Issac Campbell Store, 52 Co. Rd. 105
4	Maplesville	Isabella Fire Dept., 1960 Co. Rd. 29, Maplesville
5	Clanton	Fairview Fire Dept., 9597 Co. Rd. 37, Clanton (Enterprise)
6	County	Enterprise Fire Dept., 6162 Co. Rd. 24, Verbena
7	County	West Chilton Fire Dept., 2678 Co. Rd. 42
8	Thorsby	Pleasant Grove Baptist Church, 4270 Co. Rd. 50, Thorsby
9	County	Verbena Fire Dept., 3885 U.S. Hwy. 31, Verbena
10	County	North Chilton Fire Dept., 250 Co. Rd. 46
11	County	Collins Chapel Fire Dept., 13274 Co. Rd. 29, Clanton
12	Clanton	East Chilton Fire Dept., 5640 Co. Rd. 28, Clanton
13	County	Rock Springs Baptist Church, 31424 U.S. Hwy 31, Calera
14	Jemison	Union Grove Fire Dept., 11638 Co. Rd. 51, Jemison
15	County	Intersection of Hwy. 145 North and Co. Rd. 8
16	Clanton	Gap of the Mountain Fire Dept. #1, 768 Co. Rd. 55, Clanton
17	County	Higgins Ferry Park, 11161 Co. Rd. 28, Clanton
18	County	O'Neal Tractor, 2189 AL Hwy. 22, Plantersville
19	County	Old East View Cemetary, 89 Co. Rd. 435
20	County	Tim Jones, 10415 Co. Rd. 73
21	Maplesville	Edward Spigner, 243 Co. Rd. 348, Maplesville
22	County	Midway Church, U. S. Hwy. 31 and Co. Rd. 23
23	County	Cargile Creek
24	County	Cove Branch, 583 Co. Rd. 370, O. C. Jones
25	Thorsby	City of Thorsby
26	Jemison	Jemison Fire Station #1
*All sirens have a one mile audible radius		
(Source: Chilton County EMA, 2015)		

The entire countywide Outdoor Siren Warning System is periodically tested. Notification of testing is usually posted in the newspapers and announced on the local radio station 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 Chilton County residents are dedicated to informing their audiences of impending emergencies. These broadcasters have partnered with the Chilton 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 Chilton County market (ABC 33/40, NBC 13, CBS 42 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, and NOAA radios also assist in informing the public of risks, threats, watches, warnings, evacuations, shelters, etc. The Chilton 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 4-12 provides a summary of Chilton 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 4-11 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 4-13 shows the estimated loss projections for each hazard. The average number of occurrences per year is shown along with total number of deaths and injuries. The average amount of loss per event was determined by combining crop and property loss damages for each event type and then dividing by the corresponding total number of events reported during the ten-year study period. This amount is shown under the column heading Average Crop and Property Loss. There are instances where the Average Crop and Property Loss (per event) and Projected Loss (per Event) for an identified hazard could not be determined due to the absence of historical event data. This is a data limitation beyond the control of an affected jurisdiction.

Table 4-11: 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)*

Table 4-12: Chilton County Vulnerability Summary					
Natural Hazards	**Clanton**	**Jemison**	**Maplesville**	**Thorsby**	**Un- incorporated County**
Thunderstorm	H	H	H	H	H
Lightning	L	L	L	L	L
Hail	L	L	M	L	L
Tornado	M	L	M	L	H
Flood/Flash Flood	M	M	L	L	M
Drought/ Extreme Heat	M	M	M	M	M
Winter Storm/ Frost Freeze/ Heavy Snow/ Ice Storm/Winter Weather/Extreme Cold	M	M	M	M	M
Hurricane/Tropical Storm/Tropical Depression/ High Wind/Strong Wind	M	M	M	M	M
Sinkhole/Expansive Soil	L	L	L	L	L
Landslide	L	L	L	L	L
Earthquake	L	L	L	L	L
Wildfire	L	L	L	L	L
Dam/Levee Failure	L	L	L	L	M

KEY: Based on occurrences from 2003-2013 and potential risk
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)

Table 4-13: Chilton 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	5.6	0	0	Unknown	$9,591	$10,455
Lightning	0.4	0	0	Unknown	$2,000	$2,180
Hail	4.0	0	0	Unknown	$37,200	$40,548
Tornado	0.9	0	1	$23,175	$133,000	$170,231
Flood/Flash Flood	0.6	0	0	Unknown	$15,600	$17,004
Drought/Extreme Heat	3.3	0	0	Unknown	Unknown	Unknown
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	0.9	0	0	Unknown	Unknown	Unknown
Hurricane/Tropical Storm/ Tropical Depression/High Wind/Strong Wind	0.8	0	0	Unknown	$114,000	$124,260
Sinkhole/Expansive Soil	0.2	0	0	Unknown	Unknown	Unknown
Landslide	Unknown	0	0	Unknown	Unknown	Unknown
Earthquake	0.2	0	0	Unknown	Unknown	Unknown
Wildfire (3 year study period)	72.0	0	0	Unknown	$11,357	$12,380
Dam/Levee Failure	Unknown	0	0	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, 2014

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences 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 or Unknown denotes no data available to determine the average occurrences, average loss or projected loss per event.

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. The overall goals in the implementation of the Chilton County Hazard Mitigation Plan, which did not change during this planning period, are:

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

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; 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, if any. **Table 4-14** shows Chilton County’s updated mitigation actions for the 2015 plan revision. 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. The 2015 status of previous mitigation action items can be found in the Benchmark row of **Table 4-14**.

Table 4-14: Chilton County Mitigation Actions	
Mitigation Action	Adopt and update a comprehensive plan, subdivision regulations, floodplain management regulations, building-related codes, fire prevention codes, wetlands protection regulations, water quality regulations, stream-dumping regulations, and the preservation of open space as preventative measures that protect existing and future buildings, infrastructure and critical facilities.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing and New
Local Planning Mechanism	EMA, Flood Plain Manager/Assistant County Engineer
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	No zoning ordinances or building and technical codes have been adopted. There is no comprehensive plan to guide the community's long-term growth and development. There is no mid-range capital improvement plan or guides for the county's annual budget. There is no full time professional planner or building inspector on staff. This is due to lack of funding during the planning period.
Mitigation Action	Continue to participate in the NFIP
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Flood Plain Manager/Assistant County Engineer
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	Chilton County is a participating member of the NFIP and plans to continue its membership; therefore, wants to keep this action in the plan.

Mitigation Action	Protect property by relocating the structure out of harm's way, acquiring, and clearing the property, elevating the structure above flood levels, placing barriers between property and hazards (e.g. low flood walls, firebreaks, and sewer backup valves), retrofitting a structure and carrying property insurance.
Type	Property Protection
Goal	Reduce the county's risk from natural hazards
Hazard(s) Addressed	Flood/Flash Floods, Fires
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Flood Plain Manager/Assistant County Engineer
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	Due to lack of funding the county has been unable to complete this project. The county wants to keep this action in the plan.
Mitigation Action	Adopt and update a comprehensive plan, subdivision regulations, floodplain management regulations, building-related codes, fire prevention codes, wetlands protection regulations, water quality regulations, stream-dumping regulations, and the preservation of open space as preventative measures that protect existing and future buildings, infrastructure and critical facilities.
Type	Public Education and Awareness
Goal	Reduce vulnerability of new and future development
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing and New
Local Planning Mechanism	County Commission
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	Local and Grants
Priority	Medium
Benchmark	This project has not been completed due to lack of funding. The county wants to keep this action in the plan.
Mitigation Action	Increase community awareness of hazard mitigation and preparedness for natural hazards according to the county's vulnerability.
Type	Public Education and Awareness

Goal	Reduce the county’s vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2018
Estimated Cost	TBD
Funding Sources	HMGP, General Funds
Priority	Medium
Benchmark	The county wants to keep this action in the plan. The county has been unable to complete this project due to lack of funds.
Mitigation Action	Provide public involvement activities and publish public information brochures on natural hazards.
Type	Public Education and Awareness
Goal	Foster public support and acceptance of hazard mitigation
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2019
Estimated Cost	TBD
Funding Sources	HMGP
Priority	Medium
Benchmark	The county wants to keep this action in the plan. The county was able to provide information to the public and municipalities on the hazard mitigation program, however little response was given. They plan to continue the efforts during this planning period.
Mitigation Action	Purchase emergency generators for post-disaster mitigation, as needed.
Type	Emergency Services Protection
Goal	Reduce the county’s vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP, ADECA
Priority	High
Benchmark	Some generators have been purchased and installed during the past five years. Some generators are still in

	need of repair or replacing; therefore, the county wants this action to remain in plan.
Mitigation Action	Purchase and install emergency warning sirens, as needed
Type	Emergency Services Protection
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2018
Estimated Cost	TBD
Funding Sources	HMGP, ADECA
Priority	High
Benchmark	The siren system is in process of being upgraded and placed on the EMA frequency. The county wants this action to remain in the plan in order to purchase new sirens and keep existing sirens working properly.
Mitigation Action	Pursue grant opportunities to implement the siren plan.
Type	Emergency Services Protection
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP, ADECA
Priority	High
Benchmark	The county wants to keep this action in the plan. The county has discussed searching for grants to provide additional sirens or upgrade current sirens within the county.
Mitigation Action DELETED	Explore grant opportunities for joint training center (EMA, EMS, VFD's, and Law Enforcement) and a 911 communication center at the old Chilton County Training Center site.
Type	Structural Projects
Goal	Reduce the county's risk from natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New

Local Planning Mechanism	EMA, Fire Chief, Chief Law Enforcement
Estimated Time Frame for Completion	Ongoing
Estimated Cost	TBD
Funding Sources	HMGP, Fire Grants, Law Enforcement Grants, ADECA
Priority	High
Benchmark	**DELETED** The Chilton County Fire Association has an agreement for this action and plans have been developed. This action will be deleted from the plan.
Mitigation Action	Continue to provide structural projects such as wind retrofits, drainage improvements, reservoirs and retention or detention basins which store excess waters, levees and floodwalls which place barriers between the source of flooding and damage-prone properties, channeling modifications: widening, straightening, or removing bridge and culvert restrictions so the channel can convey more water or carry it faster, diversions that redirect high flows to another location and channel maintenance: keeping streams, ditches, and storage basins clear. This is to include the following projects in priority number: 1) Replacing bridge on CR 455; 2) Replacing bridge on CR151; 3) Replacing bridge on CR 46; 4) Road improvement on CR 109; 5) Road improvement on CR 231; 6) Bridge replacement on CR 251; 7) Bridge replacement on CR 354; 8) Road improvement on CR 173; and 9) Road improvement on CR 494.
Type	Structural Projects
Goal	Reduce vulnerability of new and future development
Hazard(s) Addressed	Flood
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	County Engineer, Flood Plain Manager/Assistant County Engineer
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	Replacing bridge on CR 151 – no action due to lack of funds Replacing bridge on CR 46 – bridge has been replaced and height increased during a 2013 project

	Road improvement on CR 109 – new pipes have been installed and road raised during a 2014 project Road improvement on CR 231 – new pipe culvert has been installed and road raised and paved during a 2012 project Bridge replacement on CR 251 – no action due to lack of funds Bridge replacement on CR 354 – bridge has been replaced with pipe culvert during a 2010 project Road improvement on CR 173 – no action due to lack of funds Road improvement on CR 494 – replaced pipe culvert with larger culvert and added second culvert to help control flooding The county wants to continue this action.
Mitigation Action	Continue to provide adequate safe rooms and community shelters, to include generators. This includes all new construction of fire stations must be built with a community safe room that will hold at least 98 people on-site.
Type	Structural Projects
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	Thunderstorms, Tornadoes, High/Strong Winds
Applies to new/existing asset(s)	Existing and New
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2020
Estimated Cost	$125,000 each
Funding Sources	HMGP
Priority	High
Benchmark	During the past five years, the county received 11 hazard mitigation grants for community safe rooms. Thus far, 4 safe rooms are completed. The county received funds from the Governor's Emergency Relief program to help with their in-kind contribution. The county wishes to keep this mitigation action in the plan.

Mitigation Action	Pursue grant opportunities to implement the safe room plan
Type	Structural Projects
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	Thunderstorms, Tornadoes, High/Strong Winds
Applies to new/existing asset(s)	New
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2020
Estimated Cost	$125,000 each
Funding Sources	HMGP
Priority	High
Benchmark	The county received funds from the Governor's Emergency Relief program to help with their in-kind contribution towards their Hazard Mitigation Community Safe Room Grant. The county wishes to keep this mitigation action in the plan.
Mitigation Action	Explore grant opportunities with rural water authorities for additional fire hydrants in the county.
Type	Structural Projects
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	Fire
Applies to new/existing asset(s)	New
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2019
Estimated Cost	TBD
Funding Sources	ADECA, ARWA
Priority	High
Benchmark	Due to the lack of funds the county was unable to secure the resources to search for such grants. The county wants to keep this action in the plan.
Mitigation Action	Construct a Fire Training Tower and a Firing Range for police use, in addition to pursuing grant funds for training in natural disaster response for fire and police department.
Type	Structural Projects
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New
Local Planning Mechanism	EMA, Fire, Law Enforcement

Estimated Time Frame for Completion	2019
Estimated Cost	TBD
Funding Sources	Fire, Law, Local, Federal Grants
Priority	High
Benchmark	The county wants to keep this action in the plan. They have been unable to secure the funds and resources for this project.

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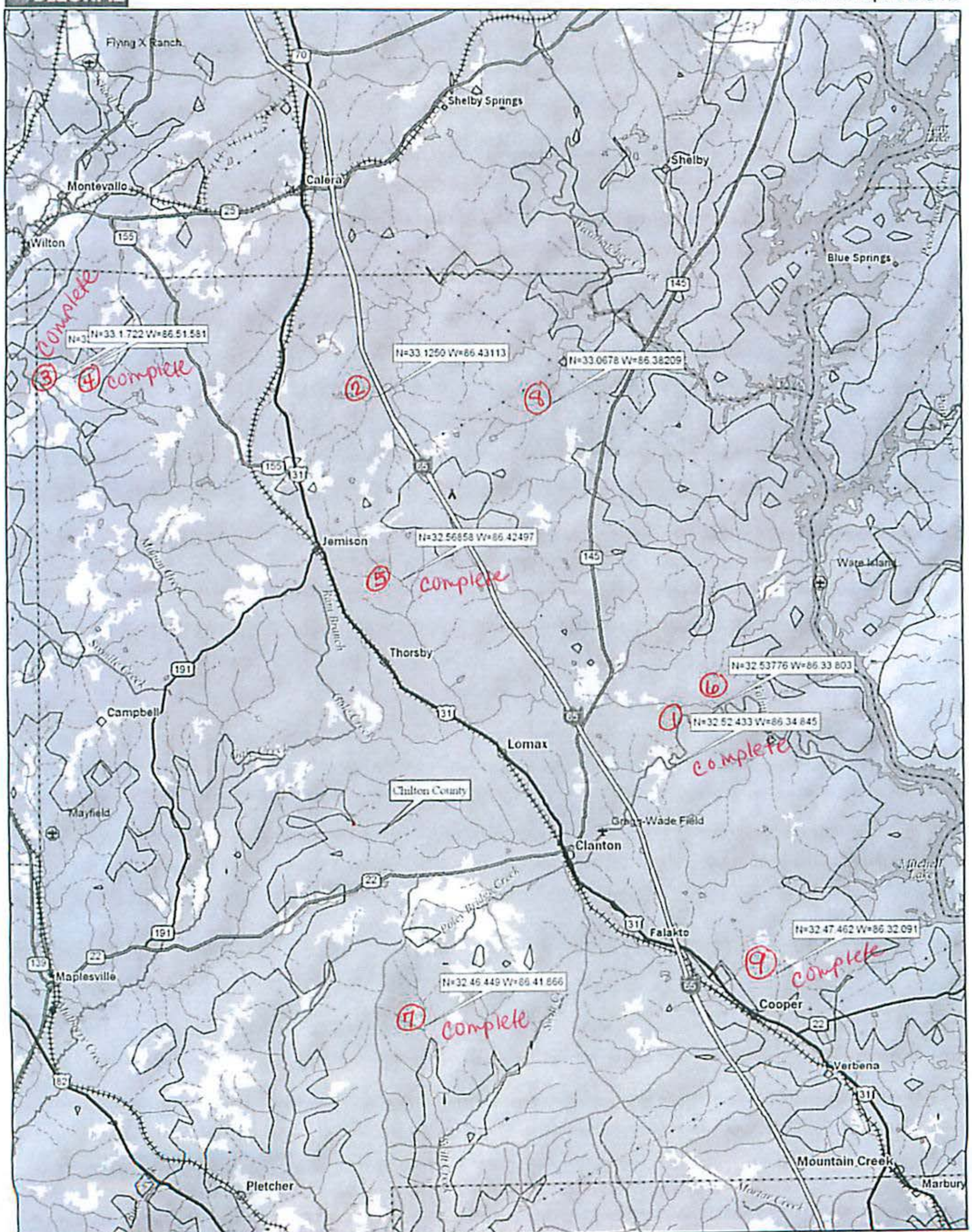

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Section Five: Jurisdiction Assessments

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CITY OF CLANTON

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

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

KEY

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

Priority: Hazards are prioritized with the highest threat of occurrence assigned number one based on hazardous events that have occurred within each jurisdiction over the past ten years, with the exception of wildfires that were based on events that have occurred over a three year period. 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: CITY OF CLANTON HAZARD EVENTS

24 Thunderstorms Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
COUNTYWIDE	CHILTON CO.	AL	03/05/2003	19:50	CST	Thunderstorm Wind	55 kts. EG	0	0	12.00K	0.00K
COUNTYWIDE	CHILTON CO.	AL	07/21/2003	17:16	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
CLANTON	CHILTON CO.	AL	07/08/2004	15:45	CST	Thunderstorm Wind	55 kts. EG	0	0	5.00K	0.00K
CLANTON	CHILTON CO.	AL	03/31/2005	06:12	CST	Thunderstorm Wind	50 kts. EG	0	0	8.00K	0.00K
COUNTYWIDE	CHILTON CO.	AL	04/30/2005	04:14	CST	Thunderstorm Wind	52 kts. EG	0	0	3.00K	0.00K
CLANTON	CHILTON CO.	AL	04/19/2006	20:42	CST	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
CLANTON	CHILTON CO.	AL	08/24/2007	14:35	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
CLANTON	CHILTON CO.	AL	01/10/2008	18:33	CST-6	Thunderstorm Wind	50 kts. EG	0	0	25.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	06/01/2008	15:22	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
CLANTON	CHILTON CO.	AL	06/17/2008	16:00	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	07/22/2008	17:10	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	05/03/2009	13:33	CST-6	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	06/12/2009	20:00	CST-6	Thunderstorm Wind	60 kts. EG	0	0	25.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CLANTON GRAGG ARPT	CHILTON CO.	AL	06/12/2009	20:00	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	12/09/2009	01:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	03/12/2010	05:55	CST-6	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
CLANTON	CHILTON CO.	AL	04/04/2011	19:53	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CLANTON ARPT	CHILTON CO.	AL	05/26/2011	13:50	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	06/10/2011	15:55	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	06/24/2011	17:55	CST-6	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	08/21/2011	14:43	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	07/10/2012	15:27	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	01/30/2013	07:48	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
CLANTON ARPT	CHILTON CO.	AL	03/23/2013	22:30	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
Totals:								0	0	131.00K	0.00K

2 Lightning Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CLANTON	CHILTON CO.	AL	08/27/2003	19:05	CST	Lightning		0	0	3.00K	0.00K
CLANTON	CHILTON CO.	AL	08/27/2003	19:18	CST	Lightning		0	0	2.00K	0.00K
Totals:								0	0	5.00K	0.00K

15 Hail Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CLANTON	CHILTON CO.	AL	04/07/2004	19:42	CST	Hail	0.75 in.	0	0	0.00K	0.00K
CLANTON	CHILTON CO.	AL	02/22/2005	16:02	CST	Hail	0.75 in.	0	0	0.00K	0.00K
CLANTON	CHILTON CO.	AL	03/22/2005	23:22	CST	Hail	0.75 in.	0	0	0.00K	0.00K
CLANTON	CHILTON CO.	AL	04/21/2005	14:08	CST	Hail	1.75 in.	0	0	6.00K	0.00K
CLANTON	CHILTON CO.	AL	04/19/2006	20:42	CST	Hail	1.75 in.	0	0	0.00K	0.00K
CLANTON	CHILTON CO.	AL	04/11/2007	18:15	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	03/12/2010	06:05	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	10/24/2010	17:55	CST-6	Hail	1.50 in.	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	10/24/2010	18:00	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	03/26/2011	12:53	CST-6	Hail	1.25 in.	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	03/26/2011	12:55	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	03/26/2011	12:55	CST-6	Hail	1.25 in.	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	08/21/2011	14:43	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CLANTON GRAGG ARPT	CHILTON CO.	AL	03/18/2013	14:50	CST-6	Hail	1.75 in.	0	0	0.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	03/23/2013	22:21	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
Totals:								0	0	6.00K	0.00K

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CLANTON	CHILTON CO.	AL	03/25/2010	18:59	CST-6	Tornado	EF1	0	0	35.00K	0.00K
Totals:								0	0	35.00K	0.00K

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
COUNTYWIDE	CHILTON CO.	AL	09/16/2004	09:56	CST	Flash Flood		0	0	8.00K	0.00K
CLANTON GRAGG ARPT	CHILTON CO.	AL	01/24/2010	10:00	CST-6	Flash Flood		0	0	5.00K	0.00K
Totals:								0	0	13.00K	0.00K

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/18/2006	07:00	CST	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/27/2007	06:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/22/2008	06:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/21/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	10/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/02/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	10/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/20/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/01/2013	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/01/2013	00:00	CST-6	Drought		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

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

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/07/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/19/2008	06:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/01/2009	03:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/09/2011	19:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/09/2011	13:15	CST-6	Ice Storm		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/12/2010	11:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/15/2010	07:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/24/2003	00:00	CST	Extreme Cold/wind Chill		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/10/2005	15:00	CST	Tropical Storm		0	0	100.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/29/2005	17:00	CST	Tropical Storm		0	0	80.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/23/2008	12:00	CST-6	Tropical Depression		0	0	5.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/09/2009	14:00	CST-6	Tropical Depression		0	0	2.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/16/2004	07:00	CST	High Wind	61 kts. EG	0	0	700.00K	75.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/06/2005	18:17	CST	Strong Wind	40 kts. EG	0	0	8.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	06/11/2005	15:00	CST	Strong Wind	40 kts. EG	0	0	2.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/07/2008	04:54	CST-6	Strong Wind	40 kts. EG	0	0	15.00K	0.00K
Totals:								0	0	912.00K	0.00K

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

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

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

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

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

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

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

216 Wildfire Events – 2010 thru 2013

(Source: Alabama Forestry Commission)

County	Total # of Fires	Average # of Fires	Total Acres Burned	Average Acres Burned	Average Fire Size
Chilton	216	72	1,291.15	432	6

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

(Source: NOAA NCDC Storm Events Database)

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

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Table 5-3: City of Clanton Hazard Probability Assessment				
Natural Hazards	**Number of Historical Occurrences**	**Probability of Future Occurrence**	**Extent**	**Area Affected**
Thunderstorm	24	>100%	>10%	Citywide
Lightning	2	20%	5-10%	Citywide
Hail	15	>100%	<5%	Citywide
Tornado	1	10%	>10%	Citywide
Flood/Flash Flood	2	20%	<5%	Citywide
Drought/Extreme Heat	33	>100%	>10%	Citywide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	9	90%	5-10%	Citywide
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	8	80%	5-10%	Citywide
Sinkhole/Expansive Soil	0	Unknown	<5%	Citywide
Landslide	0	Unknown	<5%	Citywide
Earthquake	0	Unknown	<5%	Citywide
Wildfire (2010-2013 – 3 year study period)	216	72	<5%	Citywide
Dam/Levee Failure	0	Unknown	5-10%	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 4-12). Zero denotes no data available to determine the probability, extent, or affected area.

TABLE 5-4: CRITICAL FACILITIES – CLANTON	
FACILITY TYPE	**FACILITY VALUE**
Clanton City Hall/EMA	Building: $5,000,000 Contents: $800,000
Clanton Police Department (Red Cross Shelter)	Building: $2,400,000 Contents: $800,000
Clanton Fire Department No. 1	Building: $1,700,000 Contents: $2,000,000
Clanton Fire Department No. 2	Building: $2,000,000 Contents: $1,200,000
Clanton Fire Department No. 3	Building: $1,700,000 Contents: $800,000
Clanton Street Department	$212,000
Water Plant	Building: $6,500,000 Contents: $1,500,000
Sewer Plant	Building: $6,500,000 Contents: $1,500,000
Water Tanks	$7,000,000
Total	**$41,612,000**

Table 5-5: City of Clanton Estimated Loss Projections from Specified Hazards						
Natural Hazards	**Average Occurrences** (per year)	**Total Deaths**	**Total Injuries**	**Average Death and Injury Loss** (per event)	**Average Crop and Property Loss** (per event)	**Projected Loss** (per event)
Thunderstorm	2.4	0	0	Unknown	$6,238	$6,800
Lightning	0.2	0	0	Unknown	$2,500	$2,725
Hail	1.5	0	0	Unknown	$6,000	$6,540
Tornado	0.1	0	0	Unknown	$35,000	$38,150
Flood/Flash Flood	0.2	0	0	Unknown	$6,500	$7,085
Drought/Extreme Heat	3.3	0	0	Unknown	Unknown	Unknown
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	0.9	0	0	Unknown	Unknown	Unknown
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	0.8	0	0	Unknown	$204,000	$222,360
Sinkhole/Expansive Soils	Unknown	0	0	Unknown	Unknown	Unknown
Landslide	Unknown	0	0	Unknown	Unknown	Unknown
Earthquake	Unknown	0	0	Unknown	Unknown	Unknown
Wildfire (3 year study period)	72.0	0	0	Unknown	$11,357	$12,380
Dam/Levee Failure	Unknown	0	0	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, 2014

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences 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 Clanton Mitigation Action Plan

The City of Clanton 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 Clanton's updated mitigation actions. The status of mitigation actions can be found under Benchmark.

Table 5-6: Clanton Mitigation Actions	
Mitigation Action	Adopt and update a comprehensive plan, zoning regulations, subdivision regulations, floodplain management regulations, storm water management regulations, building-related codes, fire prevention codes, wetlands protection regulations, water quality regulations, stream-dumping regulations, and the preservation of open space as preventative measures that protect existing and future buildings, infrastructure and critical facilities.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system.
Hazard(s) Addressed	Floods/Flash Floods, Fires
Applies to new/existing asset(s)	Existing and New
Local Planning Mechanism	EMA, Flood Plain Manager/Assistant County Engineer
Estimated Time Frame for Completion	2019
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	The city has a comprehensive plan, zoning ordinances, and a floodplain management plan. They plan to continue with this action.
Mitigation Action	Continue to participate in the NFIP
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system.
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Flood Plain Manager/Assistant County Engineer
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	The City of Clanton is a participating member of the NFIP and plans to continue its membership; therefore, wants to keep this action in the plan.
Mitigation Action	Protect property by relocating the structure out of harm's way, acquiring and clearing the property, elevating the structure above flood levels, placing barriers between

	property and hazards (e.g. low floodwalls, firebreaks, and sewer backup valves), retrofitting a structure and carrying property insurance.
Type	Property Protection
Goal	Reduce the county's risk from natural hazards
Hazard(s) Addressed	Flood/Flash Floods, Fires
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Flood Plain Manager/Assistant County Engineer, City Council
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	The city plans to keep this action in their plan. They have been unable to complete this action due to lack of funds.
Mitigation Action *DELETE	Provide public involvement activities and publish public information brochures on natural hazards.
Type	Public Education and Awareness
Goal	Foster public support and acceptance of hazard mitigation.
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2019
Estimated Cost	TBD
Funding Sources	HMGP, General Funds
Priority	Medium
Benchmark	DELETE The city was unable to produce brochures and information due to lack of funds. Since information is available through Emergency Management Agencies as well as other resources, the city would like to delete this from the plan.
Mitigation Action	Purchase emergency generators for post-disaster mitigation as needed.
Type	Emergency Services Protection
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing

Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2019
Estimated Cost	TBD
Funding Sources	HMGP, ADECA
Priority	High
Benchmark	The city has not completed these items due to funding. They want to keep this action in the plan.
Mitigation Action	Purchase and install emergency warning sirens, as needed
Type	Emergency Services Protection
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2018
Estimated Cost	TBD
Funding Sources	HMGP, ADECA
Priority	High
Benchmark	The city has not purchased new sirens due to lack of funds for this project. They want to keep this action in their plan.
Mitigation Action	Continue to provide structural projects such as wind retrofits, drainage improvements, reservoirs and retention or detention basins which store excess waters, levees and floodwalls which place barriers between the source of flooding and damage-prone properties, channeling modifications: widening, straightening, or removing bridge and culvert restrictions so the channel can convey more water or carry it faster, diversions that redirect high flows to another location and channel maintenance: keeping streams, ditches, and storage basins clear.
Type	Structural Projects
Goal	Reduce vulnerability of new and future development
Hazard(s) Addressed	Flood
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	County Engineer, Flood Plain Manager/Assistant County Engineer, EMA
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP

Priority	High
Benchmark	The city wants to keep this action in the plan. They have been unable to completed these projects, however they plan to do so in the near future.
Mitigation Action	Continue to provide adequate safe rooms and community safe rooms. This includes all construction of fire stations must be built with a community safe rooms that will hold at least 98 people on-site.
Type	Structural Projects
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	Thunderstorms, Tornadoes, High/Strong Winds
Applies to new/existing asset(s)	Existing and New
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2020
Estimated Cost	$125,000 each
Funding Sources	HMGP, ADECA
Priority	High
Benchmark	During the past five years, the City of Clanton applied for and received funding for some community safe rooms. They are currently in the process of installing those safe rooms. They plan to continue to pursue grants for community safe rooms.

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City of Jemison

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Table 5-7: City of Jemison Risk and Vulnerability Overview				
Natural Hazards	**Hazard Identification**	**Mitigation Actions Prioritization**	**Prioritized Occurrence Threat**	**Vulnerability**
Thunderstorm	X	1	5	H
Lightning	X	3	7	L
Hail	X	2	6	L
Tornado	X	1	8	L
Flood	X	1	7	M
Drought/Extreme Heat	X	4	2	M
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	X	3	3	M
Hurricane/Tropical Storm/ Tropical Depression/ High Wind/ Strong Wind	X	1	4	M
Sinkhole/Expansive Soil	X	4	8	L
Landslide	X	4	8	L
Earthquake	X	4	8	L
Wildfire	X	4	1	L
Dam/Levee Failure	X	3	8	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 a three year period. 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, 2014)

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TABLE 5-8: CITY OF JEMISON HAZARD EVENTS

6 Thunderstorm Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
COUNTYWIDE	CHILTON CO.	AL	03/05/2003	19:50	CST	Thunderstorm Wind	55 kts. EG	0	0	12.00K	0.00K
COUNTYWIDE	CHILTON CO.	AL	07/21/2003	17:16	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
JEMISON	CHILTON CO.	AL	05/31/2004	04:04	CST	Thunderstorm Wind	60 kts. EG	0	0	45.00K	0.00K
COUNTYWIDE	CHILTON CO.	AL	04/30/2005	04:14	CST	Thunderstorm Wind	52 kts. EG	0	0	3.00K	0.00K
JEMISON	CHILTON CO.	AL	05/03/2009	13:33	CST-6	Thunderstorm Wind	50 kts. EG	0	0	60.00K	0.00K
JEMISON	CHILTON CO.	AL	05/29/2012	22:43	CST-6	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
Totals:								0	0	130.00K	0.00K

2 Lightning Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
JEMISON	CHILTON CO.	AL	08/27/2003	18:10	CST	Lightning		0	0	2.00K	0.00K
JEMISON	CHILTON CO.	AL	08/27/2003	19:08	CST	Lightning		0	0	1.00K	0.00K
Totals:								0	0	3.00K	0.00K

3 Hail Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
JEMISON	CHILTON CO.	AL	04/19/2006	21:58	CST	Hail	0.88 in.	0	0	0.00K	0.00K
JEMISON	CHILTON CO.	AL	04/05/2012	17:47	CST-6	Hail	1.25 in.	0	0	0.00K	0.00K
JEMISON	CHILTON CO.	AL	03/23/2013	22:10	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

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

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

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
JEMISON	CHILTON CO.	AL	02/22/2003	04:00	CST	Flash Flood		0	0	12.00K	0.00K
COUNTYWIDE	CHILTON CO.	AL	09/16/2004	09:56	CST	Flash Flood		0	0	8.00K	0.00K
Totals:								0	0	20.00K	0.00K

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/18/2006	07:00	CST	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/27/2007	06:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/22/2008	06:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/21/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	10/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/02/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	10/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/20/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/01/2013	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/01/2013	00:00	CST-6	Drought		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/07/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/19/2008	06:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/01/2009	03:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/09/2011	19:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/09/2011	13:15	CST-6	Ice Storm		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/12/2010	11:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/15/2010	07:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/24/2003	00:00	CST	Extreme Cold/wind Chill		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/10/2005	15:00	CST	Tropical Storm		0	0	100.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/29/2005	17:00	CST	Tropical Storm		0	0	80.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/23/2008	12:00	CST-6	Tropical Depression		0	0	5.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/09/2009	14:00	CST-6	Tropical Depression		0	0	2.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/16/2004	07:00	CST	High Wind	61 kts. EG	0	0	700.00K	75.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/06/2005	18:17	CST	Strong Wind	40 kts. EG	0	0	8.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	06/11/2005	15:00	CST	Strong Wind	40 kts. EG	0	0	2.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/07/2008	04:54	CST-6	Strong Wind	40 kts. EG	0	0	15.00K	0.00K
Totals:								0	0	912.00K	0.00K

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

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

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

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

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

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

(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey/city-data.com)

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

216 Wildfire Events – 2010 thru 2013

(Source: Alabama Forestry Commission)

County	Total # of Fires	Average # of Fires	Total Acres Burned	Average Acres Burned	Average Fire Size
Chilton	216	72	1,291.15	432	6

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

(Source: NOAA NCDC Storm Events Database)

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

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Table 5-9: Town of Jemison
Hazard Probability Assessment

Natural Hazards	Number of Historical Occurrences	Probability of Future Occurrence	Extent	Area Affected
Thunderstorm	6	60%	>10%	Town wide
Lightning	2	20%	<5%	Town wide
Hail	3	30%	<5%	Town wide
Tornado	0	Unknown	<5%	Town wide
Flood/Flash Flood	2	20%	5-10%	Town wide
Drought/Extreme Heat	33	>100%	5-10%	Town wide
Winter Storm/Frost Freeze/Heavy Snow/ Ice Storm/Winter Weather/ Extreme Cold	9	90%	5-10%	Town wide
Hurricane/High Wind/ Strong Wind/ Tropical Storm/ Tropical Depression	8	80%	5-10%	Town wide
Sinkhole/Expansive Soil	0	Unknown	<5%	Town wide
Landslide	0	Unknown	<5%	Town wide
Earthquake	0	Unknown	<5%	Town wide
Wildfire (2010-2013 – 3 year study period)	216	>100%	<5%	Town wide
Dam/Levee Failure	0	Unknown	<5%	Town wide

Source: NOAA NCDC; U. S. Inflation Calculator/Consumer Price Index; USGS ; Local Input; USDA Census of Agriculture; Alabama Forestry Commission; and National Forestry Service; Participating Jurisdictions, 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 4-12). Zero denotes no data available to determine the probability, extent, or affected area.

TABLE 5-10: CRITICAL FACILITIES – JEMISON	
FACILITY TYPE	**FACILITY VALUE**
City Hall/Police Department	$216,300
Jemison Fire Department	$61,800
Total	**$278,100**

Table 5-11: Town of Jemison 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	0.6	0	0	Unknown	$26,000	$28,340
Lightning	0.2	0	0	Unknown	$1,500	$1,635
Hail	0.3	0	0	Unknown	Unknown	Unknown
Tornado	Unknown	0	0	Unknown	Unknown	Unknown
Flood/Flash Flood	0.2	0	0	Unknown	$10,000	$10,900
Drought/Extreme Heat	3.3	0	0	Unknown	Unknown	Unknown
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	0.9	0	0	Unknown	Unknown	Unknown
Hurricane/Tropical Storm/ Tropical Depression/High Wind/ Strong Wind	0.8	0	0	Unknown	$114,000	$124,260
Sinkhole/Expansive Soil	Unknown	0	0	Unknown	Unknown	Unknown
Landslide	Unknown	0	0	Unknown	Unknown	Unknown
Earthquake	Unknown	0	0	Unknown	Unknown	Unknown
Wildfire (3 year study period)	72.0	0	0	Unknown	$11,357	$12,380
Dam/Levee Failure	Unknown	0	0	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, 2014

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences 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 Jemison Mitigation Action Plan

The Town of Jemison 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 5-12** shows the Town of Jemison's mitigation actions. The status of mitigation actions can be found under Benchmark.

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Table 5-12: Jemison Mitigation Actions	
Mitigation Action	Adopt and update storm water management regulations, building-related codes, fire prevention codes, wetlands protection regulations, water quality regulations, stream-dumping regulations, and the preservation of open space as preventative measures that protect existing and future buildings, infrastructure and critical facilities.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Floods/Flash Floods, Fire
Applies to new/existing asset(s)	Existing and New
Local Planning Mechanism	EMA, Flood Plain Manager/Assistant County Engineer
Estimated Time Frame for Completion	2019
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	The City of Jemison has a comprehensive plan, zoning regulations, subdivision regulations, floodplain management regulations, and fire codes; therefore, these have been deleted from this action. The city wants the remainder of this action to remain in plan.
Mitigation Action	Make application and commit to participate in the NFIP.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	
Local Planning Mechanism	Flood Plain Manager/Assistant County Engineer
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	The City of Jemison is a participating member of the NFIP. The city wishes to keep this mitigation action in the plan.

Mitigation Action DELETE	Protect property by relocating the structure out of harm's way, acquiring and clearing the property, elevating the structure above flood levels, placing barriers between property and hazards (e.g. low flood walls, firebreaks, and sewer backup valves), retrofitting a structure and carrying property insurance.
Type	Property Protection
Goal	Reduce the county's risk from natural hazards.
Hazard(s) Addressed	Flood/Flash Floods, Fires
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Flood Plain Manager/Assistant County Engineer
Estimated Time Frame for Completion	2010 – 2015
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	DELETED – The City of Jemison did not identify any properties for this action during the past five years and do not wish to do so in the next five years; therefore, the city wants this action deleted from the plan.
Mitigation Action	Provide public involvement activities and publish public information brochures on natural hazards.
Type	Public Education and Awareness
Goal	Foster public support and acceptance of hazard mitigation.
Hazard(s) Addressed	All
Applies to new/existing asset(s)	
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2019
Estimated Cost	TBD
Funding Sources	General Funds
Priority	Medium
Benchmark	The city did not have any public functions during the past five years; however, functions are being planned for the next five years and information will be available. The city wants this action to remain in the plan.
Mitigation Action	Purchase emergency generators for post-disaster mitigation, as needed.
Type	Emergency Services Protection
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	All

Applies to new/existing asset(s)	Existing
Local Planning Mechanism	EMA, City Council
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP, ADECA
Priority	High
Benchmark	The city did not purchase any generators during the past five years as none were needed. The sewer treatment plant is now in need of a generator. The city wants this action to remain.
Mitigation Action DELETED	Purchase and install emergency warning sirens, as needed.
Type	Emergency Services Protection
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2015
Estimated Cost	$30,000 each
Funding Sources	HMGP, ADECA
Priority	High
Benchmark	DELETED – No emergency warning sirens were purchased during the past five years, as none were needed. The cost to maintain outdoor warning sirens has become too expensive. The county is exploring new warning systems; therefore, the city wants to delete this action from the plan.
Mitigation Action	Continue to provide structural projects such as wind retrofits, drainage improvements, reservoirs and retention or detention basins which stores excess waters, levees and floodwalls which place barriers between the source of flooding and damage-prone properties, channeling modifications: widening, straightening, or removing bridge and culvert restrictions so the channel can convey more water or carry it faster, diversions that redirect high flows to another location and channel maintenance: keeping streams, ditches, and storage basins clear. This includes improvement to drainage ditches located on Patton Street, Sycamore Street, and Highway 31 in front of the City Hall, as well as, replacing bridge located on County Road 42 East.
Type	Structural Projects

Goal	Reduce vulnerability of new and future development
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	County Engineer, Flood Plain Manager/Assistant County Engineer
Estimated Time Frame for Completion	2019
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	No action has been taken during the past five years due to lack of funding. The county is now in process of replacing the bridge and culvert on County Road 42. The city wants this action to remain in the plan.
Mitigation Action	Continue to provide adequate community safe rooms. This includes a community safe room at the City Park in the City of Jemison.
Type	Structural Projects
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	Thunderstorms, Tornadoes, High/Strong Winds
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	EMA, City Council
Estimated Time Frame for Completion	2020
Estimated Cost	$125,000 each
Funding Sources	HMGP, ADECA
Priority	High
Benchmark	No action has been taken during the past five years due to lack of funds. The city wants this action to remain in plan.

Town of Maplesville

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Table 5-13: Town of Maplesville Risk and Vulnerability Overview				
Natural Hazards	**Hazard Identification**	**Mitigation Actions Prioritization**	**Prioritized Occurrence Threat**	**Vulnerability**
Thunderstorm	X	1	3	H
Lightning	X	3	7	L
Hail	X	3	5	M
Tornado	X	1	7	M
Flood	X	2	6	L
Drought/Extreme Heat	X	3	2	M
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/Winter Weather/Extreme Cold	X	3	3	M
Hurricane/Tropical Storm/ Tropical Depression/ High Wind/ Strong Wind	X	1	4	M
Sinkhole/Expansive Soil	X	3	7	L
Landslide	X	3	7	L
Earthquake	X	3	7	L
Wildfire	X	3	1	L
Dam/Levee Failure	X	3	7	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 a three year period. 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, 2014)

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TABLE 5-14: TOWN OF MAPLESVILLE HAZARD EVENTS

9 Thunderstorm Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
COUNTYWIDE	CHILTON CO.	AL	03/05/2003	19:50	CST	Thunderstorm Wind	55 kts. EG	0	0	12.00K	0.00K
COUNTYWIDE	CHILTON CO.	AL	07/21/2003	17:16	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
COUNTYWIDE	CHILTON CO.	AL	04/30/2005	04:14	CST	Thunderstorm Wind	52 kts. EG	0	0	3.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	04/19/2009	18:18	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	05/03/2009	13:20	CST-6	Thunderstorm Wind	50 kts. EG	0	0	50.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	12/09/2009	01:06	CST-6	Thunderstorm Wind	65 kts. MG	0	0	0.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	06/22/2011	14:57	CST-6	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	06/11/2012	20:06	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	07/31/2012	04:42	CST-6	Thunderstorm Wind	43 kts. EG	0	0	4.00K	0.00K
Totals:								0	0	83.00K	0.00K

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

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

7 Hail Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
MAPLESVILLE	CHILTON CO.	AL	04/25/2003	13:42	CST	Hail	3.00 in.	0	0	110.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	04/25/2003	14:00	CST	Hail	1.25 in.	0	0	65.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	04/22/2005	13:19	CST	Hail	1.00 in.	0	0	1.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	08/05/2006	13:42	CST	Hail	0.75 in.	0	0	0.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	05/03/2009	13:20	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	03/18/2013	15:45	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	03/23/2013	19:20	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
Totals:								0	0	176.00K	0.00K

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

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

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
COUNTYWIDE	CHILTON CO.	AL	09/16/2004	09:56	CST	Flash Flood		0	0	8.00K	0.00K
MAPLESVILLE	CHILTON CO.	AL	07/10/2005	18:00	CST	Flash Flood		0	0	3.00K	0.00K
Totals:								0	0	11.00K	0.00K

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/18/2006	07:00	CST	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/27/2007	06:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/22/2008	06:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/21/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	10/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/02/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	10/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/20/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/01/2013	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/01/2013	00:00	CST-6	Drought		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

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

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/07/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/19/2008	06:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/01/2009	03:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/09/2011	19:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/09/2011	13:15	CST-6	Ice Storm		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/12/2010	11:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/15/2010	07:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/24/2003	00:00	CST	Extreme Cold/wind Chill		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/10/2005	15:00	CST	Tropical Storm		0	0	100.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/29/2005	17:00	CST	Tropical Storm		0	0	80.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/23/2008	12:00	CST-6	Tropical Depression		0	0	5.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/09/2009	14:00	CST-6	Tropical Depression		0	0	2.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/16/2004	07:00	CST	High Wind	61 kts. EG	0	0	700.00K	75.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/06/2005	18:17	CST	Strong Wind	40 kts. EG	0	0	8.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	06/11/2005	15:00	CST	Strong Wind	40 kts. EG	0	0	2.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/07/2008	04:54	CST-6	Strong Wind	40 kts. EG	0	0	15.00K	0.00K
Totals:								0	0	912.00K	0.00K

0 Sinkhole/Expansive Soil Events - 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)
No events occurred or were reported during 01/01/2003 thru 12/31/2013.

0 Landslide Events - 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey)
No events occurred or were reported during 01/01/2003 thru 12/31/2013.

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

(Source: NOAA NCDC Storm Events Database/U.S. Geological Survey/city-data.com)

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

216 Wildfire Events – 2010 thru 2013

(Source: Alabama Forestry Commission)

County	Total # of Fires	Average # of Fires	Total Acres Burned	Average Acres Burned	Average Fire Size
Chilton	216	72	1,291.15	432	6

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

(Source: NOAA NCDC Storm Events Database)

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

Table 5-15: Town of Maplesville Hazard Probability Assessment				
Natural Hazards	**Number of Historical Occurrences**	**Probability of Future Occurrence**	**Extent**	**Area Affected**
Thunderstorm	9	90%	>10%	Town-wide
Lightning	0	Unknown	<5%	Town-wide
Hail	7	70%	5-10%	Town-wide
Tornado	0	Unknown	5-10%	Town-wide
Flood/Flash Flood	2	20%	<5%	Town-wide
Drought/Extreme Heat	33	>100%	5-10%	Town-wide
Winter Storm/Frost Freeze/ Heavy Snow/Ice Storm/ Winter Weather/Extreme Cold	9	90%	5-10%	Town-wide
Hurricane/Tropical Storm/ Tropical Depression/High Wind/Strong Wind	8	80%	5-10%	Town-wide
Sinkhole/Expansive Soil	0	Unknown	<5%	Town-wide
Landslide	0	Unknown	<5%	Town-wide
Earthquake	0	Unknown	<5%	Town-wide
Wildfire (2010-2013 – 3 year period)	216	>100%	<5%	Town-wide
Dam/Levee Failure	0	Unknown	<5%	Town-wide

Source: NOAA NCDC; U. S. Inflation Calculator/Consumer Price Index; USGS; Local Input; USDA Census of Agriculture; Alabama Forestry Commission; and National Forestry Service; Participating Jurisdictions, 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 4-12). Zero denotes no data available to determine the probability, extent, or affected area.

TABLE 5-16: CRITICAL FACILITIES – MAPLESVILLE	
FACILITY TYPE	**FACILITY VALUE**
Town Hall/Police Department	$154,500
Maplesville Fire Department	$51,500
Maplesville Baptist Church (Red Cross Shelter)	$206,000
Total	**$412,000**

Table 5-17: Town of Maplesville 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	0.9	0	0	Unknown	$11,857	$12,924
Lightning	Unknown	0	0	Unknown	Unknown	Unknown
Hail	0.7	0	0	Unknown	$58,667	$63,947
Tornado	Unknown	0	0	Unknown	Unknown	Unknown
Flood/Flash Flood	0.2	0	0	Unknown	$5,500	$5,995
Drought/Extreme Heat	3.3	0	0	Unknown	Unknown	Unknown
Winter Weather/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	0.9	0	0	Unknown	Unknown	Unknown
Hurricane/Tropical Storm/ Tropical Depression/High Wind/ Strong Wind	0.8	0	0	Unknown	$114,000	$124,260
Sinkhole/Expansive Soil	Unknown	0	0	Unknown	Unknown	Unknown
Landslide	Unknown	0	0	Unknown	Unknown	Unknown
Earthquake	Unknown	0	0	Unknown	Unknown	Unknown
Wildfire (3 year study period)	72	0	0	Unknown	$11,357	$12,380
Dam/Levee Failure	Unknown	0	0	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, 2014

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

Town of Maplesville Mitigation Action Plan

The Town of Maplesville 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, if any. **Table 5-18** shows the Town of Maplesville's mitigation actions. The status of mitigation actions can be found under Benchmark.

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Table 5-18: Maplesville Mitigation Actions	
Mitigation Action	Adopt and update a comprehensive plan, zoning regulations, subdivision regulations, floodplain management regulations, building-related codes, fire preventions codes, wetlands protection regulations, water quality regulations, stream-dumping regulations, and the preservation of open space as preventive measures that protect existing and future buildings, infrastructure and critical facilities.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing and New
Local Planning Mechanism	EMA, Flood Plain Manager/Assistant County Engineer
Estimated Time Frame for Completion	2019
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	The Town has not been able to complete this action due to a lack of funding and plans to continue to pursue this action in the future if funding becomes available.
Mitigation Action	Continue to participate in the NFIP
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Flood Plain Manager/Assistant County Engineer
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	Maplesville is a participating member of the NFIP and plans to continue its membership; therefore, wants to keep this action in the plan.
Mitigation Action	Protect property by relocating the structure out of harm’s way, acquiring and clearing the property, elevating the structure above flood levels, placing barriers between property and hazards (e.g. low floodwalls, firebreaks,

	and sewer backup valves), retrofitting a structure and carrying property insurance. This includes acquiring property for a Fire Training Tower and a Firing Range for the police.
Type	Property Protection
Goal	Reduce the county's risk from natural hazards
Hazard(s) Addressed	Floods/Flash Floods, Fire
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Flood Plain Manager/Assistant County Engineer
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	The Town has been unable to complete this action due to lack of funding. They are still interested in completing this action should funding become available.
Mitigation Action *Delete	Provide public involvement activities and publish public information brochures on natural hazards.
Type	Public Education & Awareness
Goal	Foster public support and acceptance of hazard mitigation.
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2015
Estimated Cost	TBD
Funding Sources	HMGP, General Funds
Priority	Medium
Benchmark	***Delete** The Town has not completed this action and would like to delete it from their plan.
Mitigation Action	Purchase emergency generators for post-disaster mitigation, as needed. This includes a generator for the sewer treatment plant and a portable generator fixed to a trailer for emergency response use.
Type	Emergency Services Protection
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2020
Estimated Cost	TBD

Funding Sources	HMGP, ADECA
Priority	High
Benchmark	The Town has not been able to purchase generators due to funding issues. They plan to complete this action if funding becomes available.
Mitigation Action	Purchase and install emergency warning sirens, as needed.
Type	Emergency Services Protection
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2018
Estimated Cost	TBD
Funding Sources	HMGP, ADECA
Priority	High
Benchmark	The Town has not completed this action and purchased warning sirens due to lack of funding. They wish to continue pursuing this action should funding become available in the future.
Mitigation Action	Continue to provide structural projects such as wind retrofits, drainage improvements, reservoirs and retention or detention basins which store excess waters, levees and floodwalls which place barriers between the source of flooding and damage-prone properties, channeling modifications: widening, straightening, or removing bridge and culvert restrictions so the channel can convey more water or care it faster, diversions that redirect high flows to another location and channel maintenance: keeping streams, ditches, and storage basins clear. This includes drainage work on Graham Avenue.
Type	Structural Projects
Goal	Reduce vulnerability of new and future development
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	County Engineer, Flood Plain Manager/Assistant County Engineer
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP

Priority	High
Benchmark	Due to lack of funding this action has not been completed. The Town still has interest to complete the items if funding becomes available in the future.
Mitigation Action	Continue to provide adequate community safe rooms, to include generators. This includes the construction of a safe room at the Maplesville High School and a community safe room for the park area.
Type	Structural Projects
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	Thunderstorms, Tornadoes, High/Strong Winds
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Town Council, EMA
Estimated Time Frame for Completion	2020
Estimated Cost	$125,000 each
Funding Sources	HMPG, ADECA
Priority	High
Benchmark	Due to budgetary constraints the Town has been unable to complete this action item. They would like to leave it in the plan as an action should they obtain the funding needed for this project.
Mitigation Action	Construct a Fire Training Tower and a Firing Range for police use, in addition to pursuing grant funds for training in natural disaster response for fire and police departments.
Type	Structural Projects
Goal	Public Education & Awareness
Hazard(s) Addressed	All
Applies to new/existing asset(s)	New
Local Planning Mechanism	EMA, Fire
Estimated Time Frame for Completion	2021
Estimated Cost	TBD
Funding Sources	HMGP, Fire Grants
Priority	High
Benchmark	The Town has not completed this action item. They plan to complete the projects should funding become available in the future.

Town of Thorsby

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Table 5-19: Town of Thorsby Risk and Vulnerability Overview				
Natural Hazards	**Hazard Identification**	**Mitigation Actions Prioritization**	**Prioritized Occurrence Threat**	**Vulnerability**
Thunderstorm	X	2	5	H
Lightning	X	3	8	L
Hail	X	3	6	L
Tornado	X	2	8	L
Flood	X	1	7	L
Drought/Extreme Heat	X	5	2	M
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	X	4	3	M
Hurricane/Tropical Storm/Tropical Depression/High Wind/Strong Wind	X	2	4	M
Sinkhole/Expansive Soil	X	5	8	L
Landslide	X	5	8	L
Earthquake	X	5	8	L
Wildfire	X	5	1	L
Dam/Levee Failure	X	4	8	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 a three year period. 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, 2014)

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TABLE 5-20: TOWN OF THORSBY HAZARD EVENTS

5 Thunderstorms Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
COUNTYWIDE	CHILTON CO.	AL	03/05/2003	19:50	CST	Thunderstorm Wind	55 kts. EG	0	0	12.00K	0.00K
COUNTYWIDE	CHILTON CO.	AL	07/21/2003	17:16	CST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
THORSBY	CHILTON CO.	AL	06/13/2004	13:50	CST	Thunderstorm Wind	55 kts. EG	0	0	17.00K	0.00K
COUNTYWIDE	CHILTON CO.	AL	04/30/2005	04:14	CST	Thunderstorm Wind	52 kts. EG	0	0	3.00K	0.00K
THORSBY	CHILTON CO.	AL	05/03/2009	13:37	CST-6	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
Totals:								0	0	43.00K	0.00K

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

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

3 Hail Events – 01/01/2003 thru 12/31/2013 (4018 days)
(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
THORSBY	CHILTON CO.	AL	04/22/2005	13:09	CST	Hail	1.00 in.	0	0	1.00K	0.00K
THORSBY	CHILTON CO.	AL	02/18/2009	19:43	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
THORSBY	CHILTON CO.	AL	04/10/2009	17:02	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
Totals:								0	0	1.00K	0.00K

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

(Source: NOAA NCDC Storm Events Database)

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

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

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
COUNTYWIDE	CHILTON CO.	AL	09/16/2004	09:56	CST	Flash Flood		0	0	8.00K	0.00K
THORSBY	CHILTON CO.	AL	07/14/2005	14:40	CST	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	8.00K	0.00K

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

(Source: NOAA NCDC Storm Events Database)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/18/2006	07:00	CST	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/27/2007	06:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	05/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	06/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	10/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/01/2007	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	05/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	06/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/22/2008	06:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/21/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	10/01/2010	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/02/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	10/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/01/2011	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/20/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/01/2013	00:00	CST-6	Drought		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/01/2013	00:00	CST-6	Drought		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/07/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/08/2007	00:00	CST-6	Frost/freeze		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/19/2008	06:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/01/2009	03:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/09/2011	19:00	CST-6	Heavy Snow		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/09/2011	13:15	CST-6	Ice Storm		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	02/12/2010	11:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	12/15/2010	07:00	CST-6	Winter Weather		0	0	0.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	01/24/2003	00:00	CST	Extreme Cold/wind Chill		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

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

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
CHILTON (ZONE)	CHILTON (ZONE)	AL	07/10/2005	15:00	CST	Tropical Storm		0	0	100.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/29/2005	17:00	CST	Tropical Storm		0	0	80.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	08/23/2008	12:00	CST-6	Tropical Depression		0	0	5.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	11/09/2009	14:00	CST-6	Tropical Depression		0	0	2.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	09/16/2004	07:00	CST	High Wind	61 kts. EG	0	0	700.00K	75.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	04/06/2005	18:17	CST	Strong Wind	40 kts. EG	0	0	8.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	06/11/2005	15:00	CST	Strong Wind	40 kts. EG	0	0	2.00K	0.00K
CHILTON (ZONE)	CHILTON (ZONE)	AL	03/07/2008	04:54	CST-6	Strong Wind	40 kts. EG	0	0	15.00K	0.00K
Totals:								0	0	912.00K	0.00K

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

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

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

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

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

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

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

216 Wildfire Events – 2010 thru 2013

(Source: Alabama Forestry Commission)

County	Total # of Fires	Average # of Fires	Total Acres Burned	Average Acres Burned	Average Fire Size
Chilton	216	72	1,291.15	432	6

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

(Source: NOAA NCDC Storm Events Database)

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

Table 5-21: Town of Thorsby Hazard Probability Assessment				
Natural Hazards	**Number of Historical Occurrences**	**Probability of Future Occurrence**	**Extent**	**Area Affected**
Thunderstorm	5	50%	5-10%	Town-wide
Lightning	Unknown	Unknown	5-10%	Town-wide
Hail	3	30%	<5%	Town-wide
Tornado	Unknown	Unknown	5-10%	Town-wide
Flood/Flash Flood	2	20%	<5%	Town-wide
Drought/Extreme Heat	33	>100%	5-10%	Town-wide
Winter Storm/Frost Freeze/Heavy Snow/Ice Storm/Winter Weather/ Extreme Cold	9	90%	<5%	Town-wide
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	8	80%	<5%	Town-wide
Sinkhole/Expansive Soil	Unknown	Unknown	<5%	Town-wide
Landslide	Unknown	Unknown	<5%	Town-wide
Earthquake	Unknown	Unknown	<5%	Town-wide
Wildfire (2010-2013 – 3 year study period)	216	>100%	5-10%	Town-wide
Dam/Levee Failure	Unknown	Unknown	<5%	Town-wide
Source: NOAA NCDC; U. S. Inflation Calculator/Consumer Price Index; USGS; Local Input; USDA Census of Agriculture; Alabama Forestry Commission; and National Forestry Service; Participating Jurisdictions, 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 4-12). Zero denotes no data available to determine the probability, extent, or affected area.				

TABLE 5-22: CRITICAL FACILITIES – THORSBY	
FACILITY TYPE	**FACILITY VALUE**
Town Hall/Police Department	$618,000
Thorsby Fire Department/Municipal Annex	$463,500
Total	**$1,081,500**

Table 5-23: Town of Thorsby 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	0.5	0	0	Unknown	$8,600	$9,374
Lightning	Unknown	0	0	Unknown	Unknown	Unknown
Hail	0.3	0	0	Unknown	$333	$363
Tornado	Unknown	0	0	Unknown	Unknown	Unknown
Flood/Flash Flood	0.2	0	0	Unknown	$8,000	$8,720
Drought/Extreme Heat	3.3	0	0	Unknown	Unknown	Unknown
Winter Storm/Frost Freeze/Heavy Snow/ Ice Storm/Winter Weather/ Extreme Cold	0.9	0	0	Unknown	Unknown	Unknown
Hurricane/Tropical Storm/Tropical Depression/High Wind/ Strong Wind	0.8	0	0	Unknown	$114,000	$124,260
Sinkhole/Expansive Soil	Unknown	0	0	Unknown	Unknown	Unknown
Landslide	Unknown	0	0	Unknown	Unknown	Unknown
Earthquake	Unknown	0	0	Unknown	Unknown	Unknown
Wildfire (3 year study period)	72	0	0	Unknown	$11,357	$12,380
Dam/Levee Failure	Unknown	0	0	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, 2014

Methodology: Average occurrences were expressed annually by dividing the total number of occurrences by the ten-year period. Deaths and injuries were taken from the hazard event data. Average losses were calculated by dividing the total amount of all damages by the total number of occurrences 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 Thorsby Mitigation Action Plan

The Town of Thorsby 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, if any. **Table 5-18** shows the Town of Thorsby's mitigation actions. The status of mitigation actions can be found under Benchmark.

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Table 5-24: Thorsby Mitigation Actions	
Mitigation Action	Adopt and update a comprehensive plan, zoning regulations, subdivision regulations, floodplain management regulations, building-related codes, fire preventions codes, wetlands protection regulations, water quality regulations, stream-dumping regulations, and the preservation of open space as preventive measures that protect existing and future buildings, infrastructure and critical facilities.
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing and New
Local Planning Mechanism	EMA, Flood Plain Manager/Assistant County Engineer
Estimated Time Frame for Completion	2018
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	A comprehensive plan has been adopted for zoning regulations, subdivisions, building codes, fire prevention codes, and water quality regulations. Wetlands protection regulations, stream dumping and preservation of open space measures have not been completed because of lack of funding; however, these are problems the town has not faced but could do so in the future. The town wants to continue this mitigation action.
Mitigation Action	Continue to participate in the NFIP
Type	Prevention
Goal	Establish a comprehensive countywide hazard mitigation system
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Flood Plain Manager/Assistant County Engineer
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	The Town of Thorsby is an active participant in the NFIP. The town wants to continue this mitigation action.

Mitigation Action	Protect property by relocating the structure out of harm's way, acquiring and clearing the property, elevating the structure above flood levels, placing barriers between property and hazards (e.g. low floodwalls, firebreaks, and sewer backup valves), retrofitting a structure and carrying property insurance.
Type	Property Protection
Goal	Reduce the county's risk from natural hazards
Hazard(s) Addressed	Flood
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Flood Plain Manager/Assistant County Engineer
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	The Town of Thorsby is insured for properties of which belongs to the town and has acquired and cleared property. In reference to elevating structures above flood levels, placing barriers between property, and hazards (e.g. low floodwalls, firebreaks, etc.) and retrofitting a structure, the town has not been faced with the need to implement these actions in addition to lack of funding to do so. The town wants to continue this action due to potential happenings in the future.
Mitigation Action	Provide public involvement activities and publish public information brochures on natural hazards.
Type	Public Education & Awareness
Goal	Foster public support and acceptance of hazard mitigation.
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing and New
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2019
Estimated Cost	TBD
Funding Sources	HMGP, General Funds
Priority	Medium
Benchmark	The Thorsby Police Department has hosted local events such as Safety Day at Richard Wood Park where Transcontinental Gas Company, Pipelines, County EMA, and others participated where disaster safety information was made available to the public. Brochures on natural disasters have not been provided at the Town Hall due to lack of support staff to maintain the

	inventory. The town will continue to invite various agencies and businesses to come and educate the public on issues involving public safety at all hosted events.
Mitigation Action	Purchase emergency generators for post-disaster mitigation, as needed.
Type	Emergency Services Protection
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2019
Estimated Cost	TBD
Funding Sources	HMGP, ADECA
Priority	High
Benchmark	The town has purchased emergency generators for post-disaster mitigation as needed. The town wishes to continue this action due to the fact that there may be a need for additional generators in the near future and currently, lack of funding has halted the purchases.
Mitigation Action DELETED	Purchase and install emergency warning sirens, as needed
Type	Emergency Services Protection
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2015
Estimated Cost	$30,000
Funding Sources	HMGP, ADECA
Priority	High
Benchmark	DELETED - The town has an emergency warning siren that is activated by Chilton County 911 in the event of dangerous weather conditions, such as tornadoes. The cost to maintain outdoor warning sirens has been an issue for the town; therefore, they do not wish to purchase new sirens.
Mitigation Action - REVISED	Continue to provide structural projects such as wind retrofits, drainage improvements, channeling modifications: widening,

	straightening, or removing bridge and culvert restrictions so the channel can convey more water or carry it faster, diversions that redirect high flows to another location and channel maintenance: keeping streams, ditches, and storage basins clear. This includes additional drainage on U. S. Highway 31 at Medical Center Drive, both outside lanes going north and south bound and replacing drain pipe located under South Dakota Road at Thorsby Villa Apartments.
Type	Structural Projects
Goal	Reduce vulnerability of new and future development
Hazard(s) Addressed	Floods/Flash Floods
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	County Engineer, Flood Plain Manager/Assistant County Engineer, EMA
Estimated Time Frame for Completion	2020
Estimated Cost	TBD
Funding Sources	HMGP
Priority	High
Benchmark	Completed this portion of the mitigation action during the past five years: Replacing the storm drain on U. S. Highway 31 at Oak Street that serves the outside northbound lane of U. S. Highway 31 with a larger drain. Deleted from this plan revision: Reservoirs and retention or detention basins which store excess waters, levees and floodwalls which place barriers between the source of flooding and damage-prone properties. Structural projects such as wind retrofits, reservoirs and retention or detention basins which store excess waters, levees and flood walls which place barriers between the source of flooding and damage prone properties have not been necessary in the past. The town cleans and maintains ditches, streams, and storage basins as needed. Within the last two years the bridge on Medical Center Drive was replaced. The town has made drainage improvements. The state worked on US 31 and Cherokee; however, there are still drainage problems in this area as well as US 31 and Medical Center Drive. Lack of funding has prevented all issues of being resolved. The town would like to keep this action in the plan as revised.

Mitigation Action	Continue to provide adequate safe rooms and community shelters. This includes all new construction of fire stations must be built with a community shelter that will hold at least 98 people on-site.
Type	Structural Projects
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing and New
Local Planning Mechanism	EMA
Estimated Time Frame for Completion	2020
Estimated Cost	$125,000 each
Funding Sources	HMGP, ADECA
Priority	High
Benchmark	The town has received a hazard mitigation grant for a community safe room. This safe room is on school property and has been held up with the Alabama Building Commission for two years; hopefully, project will soon begin. The town wishes to add more community safe rooms in the future, to include one on Rebel Street.
Mitigation Action NEW	Purchase and distribute NOAA Weather Radios to all Thorsby citizens and businesses
Type	Emergency Services Protection
Goal	Reduce the county's vulnerability to natural hazards
Hazard(s) Addressed	All
Applies to new/existing asset(s)	Existing
Local Planning Mechanism	Local Police/Fire
Estimated Time Frame for Completion	2020
Estimated Cost	$25-$30 each
Funding Sources	HMGP, ADECA
Priority	High
Benchmark	NEW – This action is new to replace the purchase of outdoor warning sirens; no benchmark can be made.

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Chilton County
Board of Education

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Chilton County Board of Education Action Plan

The Chilton County Board of Education recognizes the importance of Mitigation Planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

Mitigation Status

The Chilton County Board of Education's Mitigation Plan has been added to this plan update. **Table 5-50** shows the Chilton County Board of Education's mitigation actions. Prior to this plan revision, no actions were listed for this organization; therefore, no benchmarking can be made.

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Table 5-25: Chilton County BOE Mitigation Actions	
Mitigation Action NEW	Construct storm retrofits to educational buildings
Hazard(s) Addressed	Thunderstorms, Tornados, High/Strong Winds
Applies to new/existing asset	Existing
Local Planning Mechanism	Chilton County BOE
Time frame for Completion	2020
Estimated Cost	$400,000 each
Funding Sources	HMGP, ADECA, Governor's Emergency Relief Fund, Local
Priority	Low
Benchmark	New action item – no benchmark can be made
Mitigation Action NEW	Construct/install community safe rooms to educational buildings to include generators
Hazard(s) Addressed	Thunderstorms, Tornadoes, High/Strong Winds
Applies to new/existing asset	New and Existing
Local Planning Mechanism	Chilton County BOE
Time frame for Completion	2020
Estimated Cost	$125,000 each
Funding Sources	HMGP, ADECA, Governor's Emergency Relief Fund, Local
Priority	High
Benchmark	New action item – no benchmark can be made
Mitigation Action NEW	Construct/install individual storm shelters to educational buildings
Hazard(s) Addressed	Thunderstorms, Tornadoes, High/Strong Winds
Applies to new/existing asset	New and Existing
Local Planning Mechanism	Chilton County BOE
Time frame for Completion	2019
Estimated Cost	$5,000 each
Funding Sources	HMGP, ADECA, Governor's Emergency Relief Fund, Local
Priority	Low
Benchmark	New action item – no benchmark can be made
Mitigation Action NEW	Provide generators for educational buildings
Hazard(s) Addressed	All
Applies to new/existing asset	Existing
Local Planning Mechanism	Chilton County BOE
Time frame for Completion	2019

Estimated Cost	$1,500 - $25,000 ea
Funding Sources	HMGP, ADECA, Local
Priority	High
Benchmark	New action item – no benchmark can be made

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Enterprise Volunteer Fire and Rescue Department

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Enterprise Volunteer Fire and Rescue Department Action Plan

The Enterprise Volunteer Fire and Rescue Department recognizes the importance of Mitigation Planning and will incorporate mitigation planning in planning documents as they are revised or initiated.

Mitigation Status

The Enterprise Volunteer Fire and Rescue Department's Mitigation Plan has been added to this plan update. **Table 5-50** shows the Enterprise Volunteer Fire and Rescue Department's mitigation actions. Prior to this plan revision, no actions were listed for this organization; therefore, no benchmarking can be made.

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Table 5-25: Enterprise Volunteer Fire & Rescue Mitigation Actions	
Mitigation Action NEW	Construct/install a community safe room
Hazard(s) Addressed	Thunderstorms, Tornadoes, High/Strong Winds
Applies to new/existing asset	New and Existing
Local Planning Mechanism	Chilton County BOE
Time frame for Completion	2020
Estimated Cost	$125,000 each
Funding Sources	HMGP, ADECA, Governor's Emergency Relief Fund, Local
Priority	High
Benchmark	New action item – no benchmark can be made
Mitigation Action NEW	Provide generators with underground propane tanks for fire stations and community safe rooms
Hazard(s) Addressed	All
Applies to new/existing asset	Existing
Local Planning Mechanism	Chilton County BOE
Time frame for Completion	2019
Estimated Cost	$28,000
Funding Sources	HMGP, ADECA, Local
Priority	High
Benchmark	New action item – no benchmark can be made

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Section Six: Mitigation Plan Maintenance

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

During the past five years, the Chilton County EMA sent out an annual review form to all HMPC members during the month of June. No revisions to the plan were returned. Regular plan monitoring will continue to be achieved through the County EMA's efforts to track mitigation activities. The Director of the Chilton County EMA is the responsible person for the review of the plan to include monitoring, evaluating, and updating of the plan, reconvening the committee only if additional information is available or the EMA Director requires assistance. The annual review of the plan will continue taking 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 emailing a survey form to the HMPC members asking them for their input and giving them a two-week deadline on returning the information to the EMA Director. Following the two-week deadline, the EMA Director 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 requires assistance. The EMA Director 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 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 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 Chilton County Hazard Mitigation Plan is a stand-alone plan; however, will be placed alongside the current Chilton County Emergency Operations Plan that is administered by the Chilton County Emergency Management Agency. The Chilton County Hazard Mitigation Plan update has also been incorporated into the Regional Planning Commission of Greater Birmingham's (RPCGB) Comprehensive Economic Development Strategy (CEDS) and other planning initiatives. The RPCGB covers the Alabama counties of Blount, Chilton, Jefferson, St. Clair, Shelby, and Walker.

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.

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 Chilton County Commission or Director of the Chilton County Emergency Management Agency.

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

Chilton 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. Chilton 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 Chilton 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 Chilton 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 Chilton County, Alabama.

Date	Derrick Wright, Director Chilton County Emergency Management Agency

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County of Chilton

2015 Chilton County Hazard Mitigation Plan Update

Resolution of Adoption

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

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

WHEREAS, the County of Chilton 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 Chilton 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 Chilton County Commission that the County of Chilton adopts the 2015 Chilton County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _______ day of _____________, 2016 at the meeting of the County Commission.

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Chairman, Chilton County Commission

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City of Clanton

2015 Chilton County Hazard Mitigation Plan Update

Resolution of Adoption

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

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

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

ADOPTED, this _______ day of _____________, 2016 at the meeting of the City Council.

____

President, Clanton City Council

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City of Jemison

2015 Chilton County Hazard Mitigation Plan Update

Resolution of Adoption

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

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

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

ADOPTED, this _______ day of _____________, 2016 at the meeting of the City Council.

____

President, Jemison City Council

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Town of Maplesville

2015 Chilton County Hazard Mitigation Plan Update

Resolution of Adoption

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

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

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

ADOPTED, this _______ day of _____________, 2016 at the meeting of the Town Council.

____

President, Maplesville Town Council

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Town of Thorsby

2015 Chilton County Hazard Mitigation Plan Update

Resolution of Adoption

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

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

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

ADOPTED, this _______ day of _____________, 2016 at the meeting of the Town Council.

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President, Thorsby Town Council

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Chilton County Board of Education

2015 Chilton County Hazard Mitigation Plan Update

Resolution of Adoption

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

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

WHEREAS, the Chilton County Board of Education 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 Chilton County Board of Education 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 Board that the Chilton County Board of Education adopts the 2015 Chilton County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _______ day of _____________, 2016 at the meeting of the Chilton County Board of Education.

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Superintendent, Chilton County Board of Education

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Enterprise Volunteer Fire and Rescue Department

2015 Chilton County Hazard Mitigation Plan Update

Resolution of Adoption

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

WHEREAS, the Enterprise Volunteer Fire and Rescue Department participated in the updating of a multi-jurisdictional plan, Chilton County Hazard Mitigation Plan; and

WHEREAS, the Enterprise Volunteer Fire and Rescue Department is a local special district that has afforded the citizens an opportunity to comment and provide input in the plan and the actions in the plan; and

WHEREAS, the Enterprise Volunteer Fire and Rescue Department has reviewed the plan and affirms that the plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by the department that the Enterprise Volunteer Fire and Rescue Department adopts the 2015 Chilton County Hazard Mitigation Plan Update, and resolves to execute the actions in the plan.

ADOPTED, this _______ day of _____________, 2016 at the meeting of the Enterprise Volunteer Fire and Rescue Department.

____

Fire Chief, Enterprise Volunteer Fire and Rescue Department