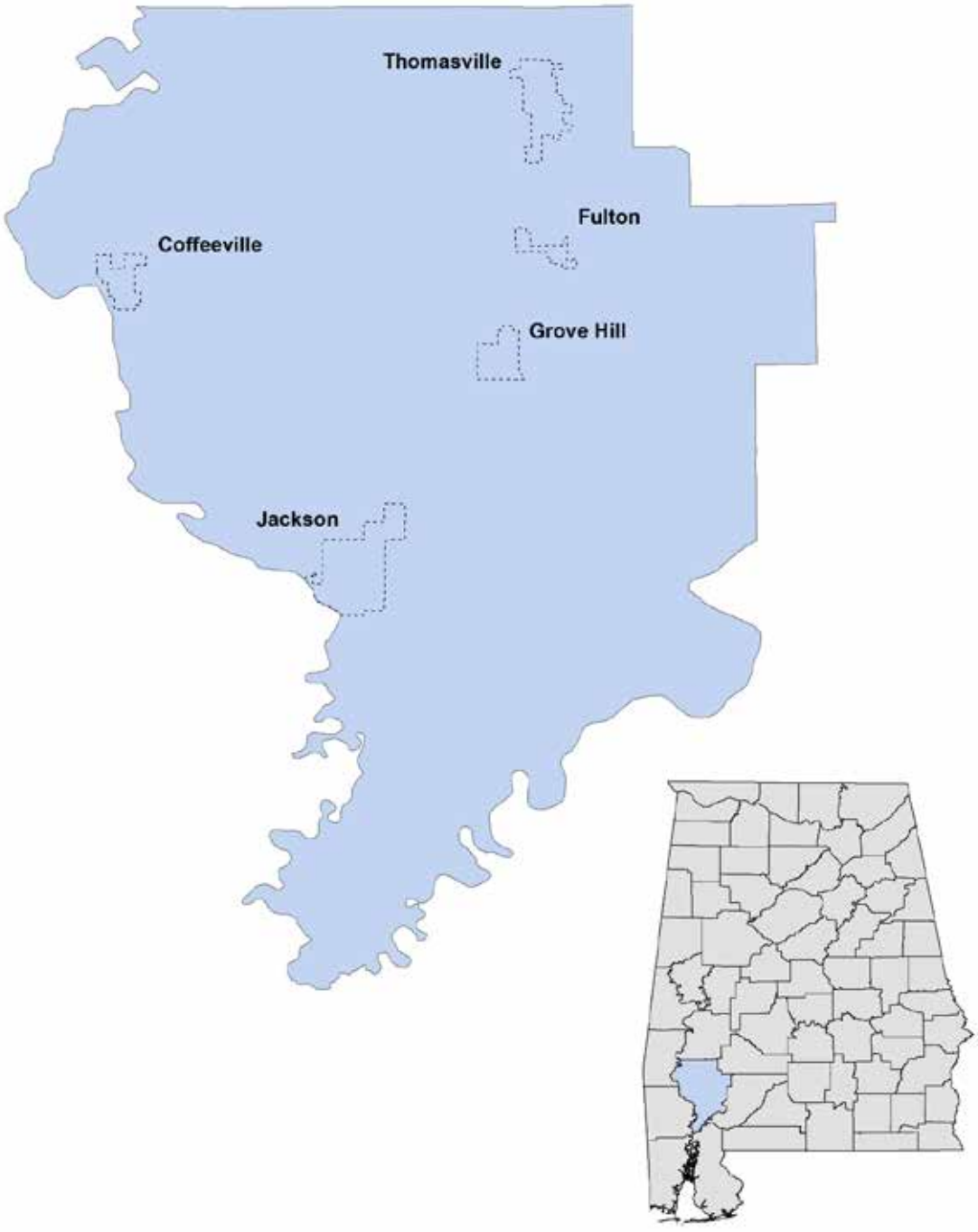
Clarke County Hazard Mitigation Plan

Clarke County, Alabama



2014

The Alabama Tombigbee Regional Commission prepared this plan with guidance from the Clarke County Emergency Management Agency and the Clarke County Natural Hazards Steering Committees.

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Table of Contents

I. The Hazard Mitigation Plan……1
- A. The Clarke County Natural Hazards Mitigation Plan
- B. Authority
- C. Funding
- D. Scope
- E. Purpose
- F. Multi Jurisdictional Planning Participation

II. Planning Process……..4
- A. Hazard Mitigation Steering Committees
- B. Public Involvement
- C. Interagency and Intergovernmental Involvement
- D. Participating Jurisdictions
- E. Integration with Existing Plans

III. County Profile……10
- A. Geology
- B. Transportation
- C. Economy
- D. Utilities
- E. Media
- F. Social and Economic Characteristics

IV. Risk Assessment……18
- A. Identification of Natural Hazards
- B. Identification of Technological Hazards
- C. Identification of Human- Caused Hazards
- D. Area Affected by Each Natural Identified Hazard
- E. Extent of Each Identified Natural Hazard
- F. Previous Occurrences
- G. Past Occurrence Documentation
- H. Probability of Future Occurrences

V. Assessing Vulnerability…….104
- A. Overview of Hazard Vulnerability and Impact
- B. Overview of Affected Populations by Hazard
- C. Identification of Socially Vulnerable Populations
- D. Overview of County Building Stock
- E. Identification of Critical Facilities
- F. Critical Facilities by Jurisdiction
- G. Future Critical Facilities
- H. Critical Facilities by Hazard
- I. Analyzing Development Trends

VI. Ongoing Mitigation Assessment……..132

VII. Mitigation Goals, Objectives, and Actions by Jurisdiction...…..134
A. Clarke County
B. Town of Coffeeville
C. Town of Fulton
D. Town of Grove Hill
E. City of Jackson
F. City Of Thomasville
G. Clarke County School System
H. Thomasville City School System

VIII. Plan Maintenance…….……...…...…164

Summary of Changes Made in Plan Update
Section I. The Hazard Mitigation Plan

The first section of the plan gives a basic overview of the need and purpose of a Hazard Mitigation Plan. For the update, the Clarke County EMA and the Alabama Tombigbee Regional Commission reviewed this section. Only a minimal amount changes were needed.

I. The Hazard Mitigation Plan

A. Clarke County Natural Hazards Mitigation Plan

The Natural Hazards Mitigation Plan for Clarke County, Alabama 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. This plan geographically covers the entire county including all unincorporated areas and the municipalities of Coffeeville, Fulton, Grove Hill, Jackson, and Thomasville.

B. 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 Part 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. Clarke County's original mitigation plan was approved November 30, 2004. An update to the plan was approved 11/23/2009.

C. Funding

Funding for this update to the Clarke County Mitigation Plan was made available through the Hazard Mitigation Grant Program (HMGP). The Alabama Tombigbee Regional Commission facilitated the development of Clarke County's plan.

D. Scope

The Natural Hazards Mitigation Plan for Clarke County, Alabama includes all incorporated and unincorporated areas in Clarke County. The plan addresses all natural hazards identified by the Federal Emergency Management Agency. It also identifies technological and human caused hazards which affect the county. All hazards that may affect Clarke County and its residents are identified. Hazard mitigation strategies are discussed in terms of short term and long-term goals. Responsibility for implementation of strategies is discussed and possible funding sources are identified.

E. 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 Natural Hazards Mitigation Plan for Clarke County, Alabama is an effort to evaluate and identify all natural hazards, which may affect Clarke County. It presents mitigation strategies that address each hazard identified. This plan is only one of many steps Clarke County will take to achieve a safer, more hazard resistant environment for its residents.

F. Multi Jurisdictional Planning Participation

All five jurisdictions in Clarke County along with both school systems continued their participation in the planning process. The participating jurisdictions are Clarke County, Coffeeville, Fulton, Grove Hill, Jackson, and Thomasville. The Clarke County Board of Education and the Thomasville City School System are the participating school systems. Participation included completing hazard questionnaires, supplying information on critical facilities, and providing project lists. Each participant will also formally adopt the plan.

Continuing Participants	New Participants
Town of Coffeeville	
Town of Fulton	
Town of Grove Hill	
City of Jackson	
City of Thomasville	
Clarke County Commission	
Thomasville City Schools	
Clarke County Schools	

Summary of Changes Made in Plan Update
Section II. Planning Process

This section contains a variety of organizational and basic information that deals with the update process. The majority of this information was reviewed by the EMA Director and revised as he felt necessary. Mailing lists containing stakeholders and other entities that were contacted were reviewed and updated by the Alabama Tombigbee Regional Commission. The committee was asked to provide the names of any additional reports or information sources they felt would be helpful.

- **Outlined Natural Hazards Steering Committee and Local Government Sub Committee's involvement in update process**
- **Outlined public involvement process in plan update**
- **Updated Interagency and Intergovernmental Coordination Section**
- **Updated participating jurisdictions**
- **Updated reports and information sources that were consulted**
- **Updated committee listings**

II. Planning Process

The Clarke County Natural Hazards Mitigation Plan was updated in the spring of 2014. The Alabama Tombigbee Regional Commission worked with the Clarke County Emergency Management Agency to develop the plan. The plan was developed with the guidance of the Natural Hazards Steering Committee and the Local Government Subcommittee. These committees were established in 2004 to develop the original plan. The purpose of these committees was to ensure the interests and concerns of everyone in Clarke County were addressed. The committees were re-evaluated for the update and new appointees were identified for the entire five-year planning cycle.

A. Hazard Mitigation Steering Committees

The Clarke County Hazard Mitigation Plan was developed with the guidance of two committees, the Natural Hazards Steering Committee and a Local Government Subcommittee. Two separate committees were established due to the extensive nature of the federal guidelines. Both committees were appointed for the entire five-year planning cycle. Both committees were charged with the following task:

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

- ✓ *Engages public participation and support,*
- ✓ *Facilitates federal, state, regional, and local agencies' coordination,*
- ✓ *Constantly monitors and evaluates the potential risks of hazards to life and property*
- ✓ *Actively mobilizes all available community resources and measures to mitigate the threats of hazards,*
- ✓ *Results in programmed actions with specific results.*

Natural Hazards Steering Committee

The following entities chose to appoint a representative to the Committee:

- ❖ Clarke EMA Director, Committee Chair
- ❖ Clarke County Road and Bridge Department, Engineer
- ❖ Clarke County Board of Education, Superintendent
- ❖ Thomasville City Schools, Superintendent
- ❖ Alabama Forestry Commission, Clarke County Forester
- ❖ Clarke County Department of Human Resources, Director
- ❖ Clarke County Volunteer Firefighters Association, President
- ❖ Clarke County E-911, Director

The Clarke County EMA Director chose not to change the participation requirements for this plan update. Each member of the committee was notified of these requirements in writing and at the first update meeting. All members stated they understood the requirements. The requirements were as follows:

- ❖ Members, or their representative, are encouraged to attend committee meetings or notify ATRC to receive materials and worksheets from the meeting missed
- ❖ Information requested must be submitted within the specified time frame for that material

- Full cooperation (working together, striving to resolve conflicts, showing respect) between municipalities, Clarke County EMA, and Alabama Tombigbee Regional Commission throughout the entire planning process.

The update process consisted of two Natural Hazards Steering Committee meeting held on May 14, 2014 and June 17, 2014 at the Clarke County Courthouse these meetings were also public involvement meetings. All other correspondence regarding the Natural Hazards Steering Committee took place via phone, fax, and email.

During the update process, information regarding each section of the plan was reviewed and presented to the committee. If the committee felt a change or revision was warranted, ATRC would make the revisions. In addition, each municipality's specific information was reviewed and revised if necessary.

Each member of the Steering Committee contributed his/her opinion on the following:

- review of hazards (risk assessment),
- identification of existing plans,
- review and update of critical facilities,
- review and update of goals, objectives, and possible projects;
- review and update of plan maintenance guidelines.

Local Government Subcommittee

The Local Government Subcommittee was formed to address the requirements each municipality was expected to fulfill. The only participation requirement for the subcommittee was that information requested from them be provided in a reasonable time frame. The Alabama Tombigbee Regional Commission contacted each municipality. Each jurisdiction was asked to review and update the information contained in the plan that was specific to their jurisdiction. The new information they provided tailored the plan to Clarke County's needs.

The Local Government Subcommittee consisted of representatives from the following:

- Town of Coffeeville, Mayor & Clerk
- Town of Fulton, Mayor & Clerk
- Town of Grove Hill, Mayor & Clerk
- City of Jackson, Mayor & Clerk
- City of Thomasville, Mayor & Clerk
- Clarke County Commission, County Administrator & all Commissioners

B. Public Involvement

An important aspect of the planning process is involving the public at every step. Clarke County EMA and ATRC took steps to involve the public at every juncture. The committee meetings held on May 14, 2014 and June 17, 2014 were also a public meetings.

The draft plan was also posted for the public's review on the Alabama Tombigbee Regional Commission's website (atrcregion6.org). Copies of the draft plan were also available for the public's review at the Clarke County EMA offices.

A public hearing to receive public comments was also held by each jurisdiction prior to adopting the resolution approving this plan. These meetings were held on the following dates:

- Town of Coffeeville – (date of meeting prior to adoption to be inserted)
- Town of Fulton –(date of meeting prior to adoption to be inserted)
- Town of Grove Hill –(date of meeting prior to adoption to be inserted)
- City of Jackson –(date of meeting prior to adoption to be inserted)
- City of Thomasville –(date of meeting prior to adoption to be inserted)
- Clarke County Commission –(date of meeting prior to adoption to be inserted)
- Clarke County School System –(date of meeting prior to adoption to be inserted)
- Thomasville City Schools –(date of meeting prior to adoption to be inserted)

C. Interagency and Intergovernmental Coordination

A wide range of state, regional, county, and local entities were contacted regarding the update process. Information was requested from many. Many were contacted as stakeholders. All committee members, local government subcommittee members, and stakeholders were contacted through a letter and a follow up email. The following table lists each participating entity and how they participated. In addition all surrounding jurisdictions were contacted and invited to review the draft and provide comments.

Entities Serving on Natural Hazards Steering Committee
Clarke County EMA
Clarke County Department of Human Resources
Clarke County School System
Thomasville City Schools
Clarke County Road and Bridge Department
Alabama Forestry Commission
Clarke County E-911
Clarke County Volunteer Firefighters Association

Entities Serving on Local Government Subcommittee
Town of Coffeeville
Town of Fulton
Town of Grove Hill
City of Jackson
City of Thomasville
Clarke County Commission

Entities Not on a Committee that Provided Information	**Information Provided**
Clarke County Tax Assessor's Office	Critical Facility Values
National Weather Service	Website of Past Occurrences

Entities Contacted as Stakeholders
Grove Hill Memorial Hospital
Jackson Medical Center
Clarke Washington Electric Co-Op
Alabama Power Company
Clarke County E-911
Clarke County Sheriff's Office
Thomasville Water Works and Sewer Board
City of Jackson Utilities
Community Action Agency
Clarke-Mobile Gas District
Washington County Commission
Wilcox County Commission
Marengo County Commission
Choctaw County Commission
Monroe County Commission

By inviting a wide range of entities to participate, the plan was more effective in representing the county as a whole. All information, suggestions, and comments from all who participated were reviewed and integrated making Clarke County's updated plan a collaborative effort.

D. Participating Jurisdictions

All jurisdictions within Clarke County have participated in the planning process and will adopt the final plan by formal resolution. Both school systems have also participated and will adopt the plan. Participating entities that will adopt the plan are as follows:

- Town of Coffeeville
- Town of Fulton
- Town of Grove Hill
- City of Jackson
- City of Thomasville
- Clarke County Commission
- Thomasville City School System
- Clarke County Board of Education

E. Integration with Existing Plans

Many reports, plans, and information sources were consulted during the update process. Many of these plans were the same plans consulted in the last update, but had been updated. These plans were consulted for various types of information. The Alabama Tombigbee Regional Commission reviewed these documents and incorporated them as deemed necessary. All sources of information are cited throughout the plan. These sources include:

- United States Census Bureau, Census 2010 & American Community Survey (socio-economic information)
- Alabama State Data Center Population Projections
- Clarke County, Alabama THIRA
- Alabama State Data Center Estimates (population, housing units, income)
- NOAA and NWS records (updated past occurrences)
- Flood Insurance Rate Maps, Flood Insurance Study (reviewed flood boundaries)
- A Strategic Plan for the Alabama Tombigbee Region. (reviewed strategies with regional goals)
- State of Alabama :State Hazard Mitigation Plan Update (hazard information)
- Clarke County, Alabama Soils Survey
- Geology of Clarke County
- Tropical Cyclone Track Probability: Historical probability of a tropical cyclone crossing various locations around the world – Florida State University
- US Corps of Engineers National Inventory of Dams.

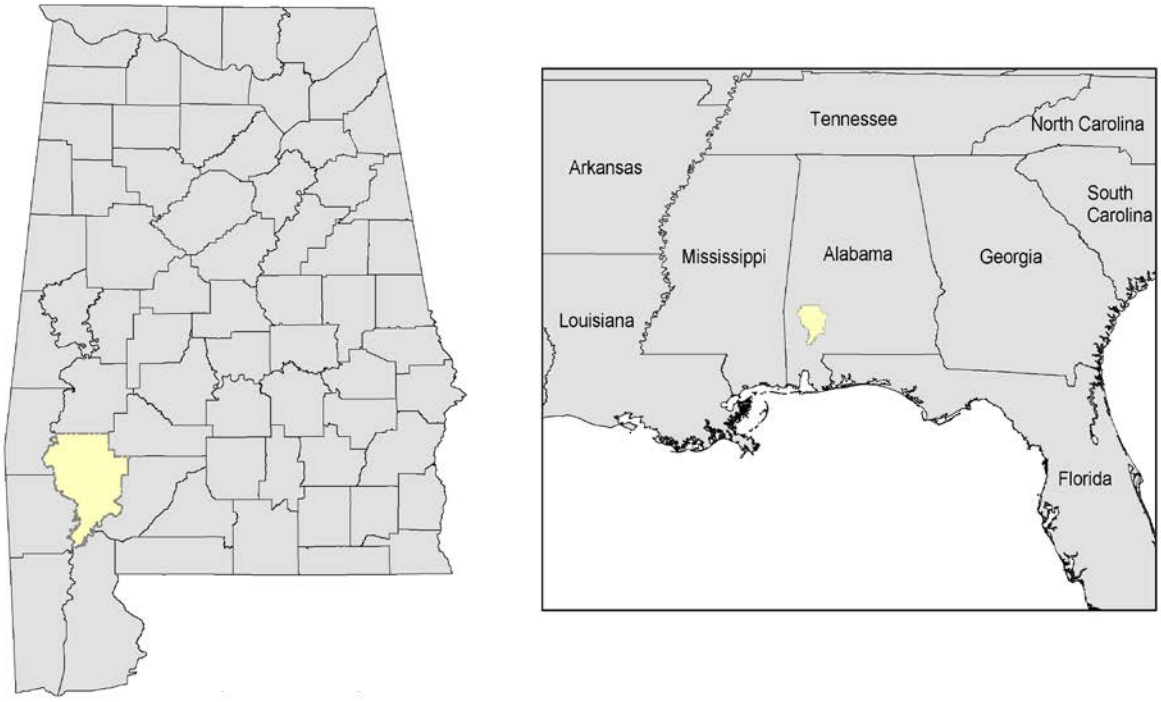
Summary of Changes Made in Plan Update
Section III. County Profile

This section gives a brief overview of the County as a whole. It is intended to help the reader become more familiar with the County. This is not a required section of the mitigation plan. Only minimal changes were made to this section to update traffic counts, large employers, and utility providers. These changes were made as the Alabama Tombigbee Regional Commission and the Clarke County EMA reviewed the plan.

III. County Profile

Clarke County was established on December 10, 1812. It was named in honor of General John Clarke of Georgia. The county is bordered by Choctaw and Washington Counties to the West, Marengo County to the North, Monroe and Wilcox Counties to the East, and Baldwin County to the South (Figure 3.1). The county spans an area of 1,230 square miles. It is the third largest county, with regards to area, in Alabama.

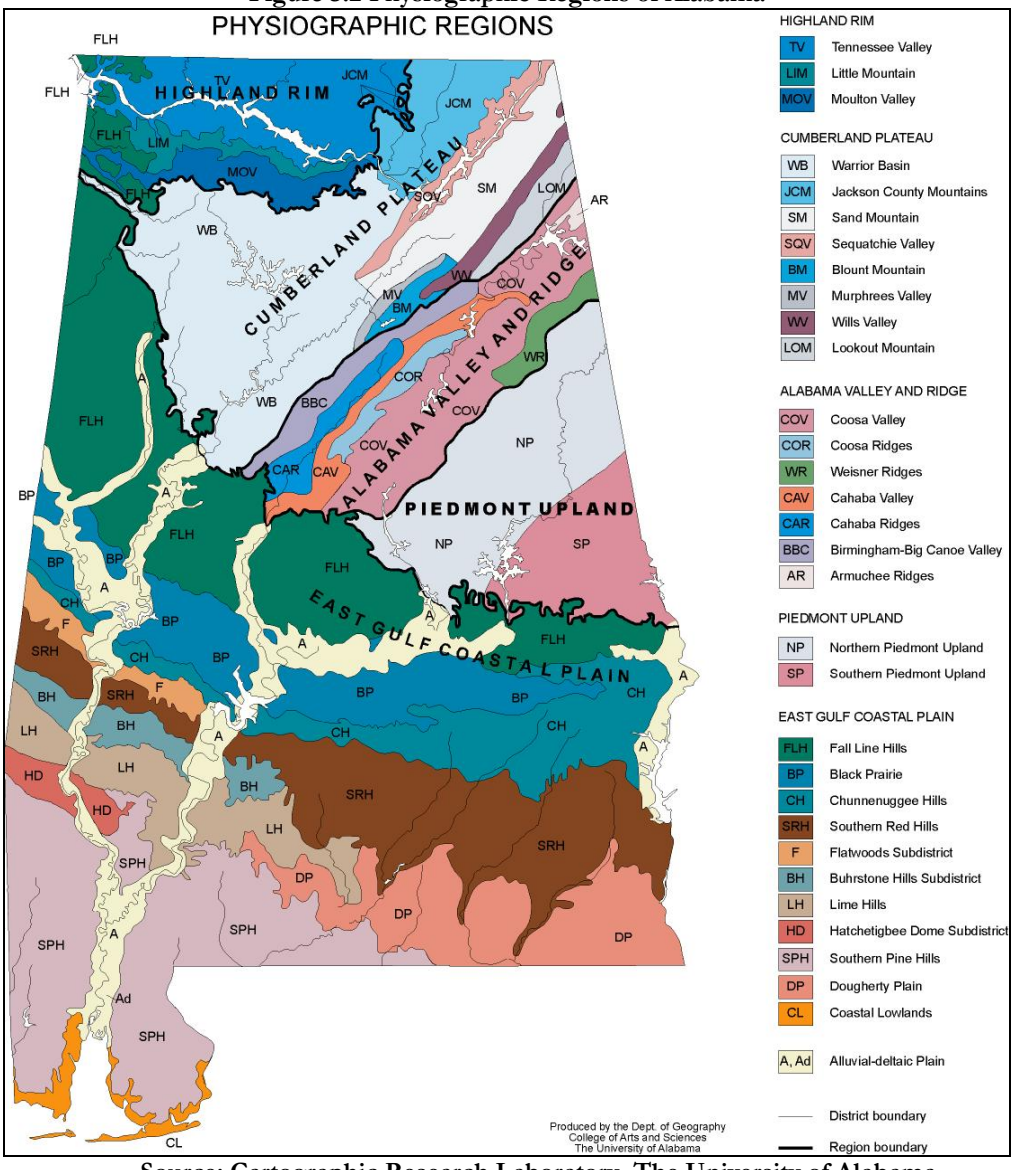
Figure 3.1 Map of Clarke County in Relation to the State of Alabama and Southeast U.S



A. Geology

Clarke County lies in the East Gulf Coastal Plain. Geologic units range from the Paleocene to the Holocene. These units are sedimentary in origin and consist of sand, clay, gravel, silt, claystone, marl, limestone, and sandstone. The structural anomalies in the county include the Hatchetigbee anticline, the Jackson fault, Coffeeville fault, and West bend fault. The Jackson fault has a displacement of 1,400 feet, which is greater than any other fault in the Coastal Plain. The county lies within the Southern Pine Hills, Hatchetigbee Dome Sub district, Lime Hills, and Alluvial-Deltaic Plain physiographic regions.

Figure 3.2 Physiographic Regions of Alabama



Source: Cartographic Research Laboratory, The University of Alabama

B. Transportation

Roads

Clarke County has four heavily traveled highways (Table 3.1). United States Highway 43 runs from north to south through the county. Thomasville, Grove Hill and Jackson are located along this route. U.S. 43 is also a major route for county citizens connecting them to Mobile, Demopolis, and Tuscaloosa. This route is also designated a hurricane evacuation route. United States Highway 84 runs east to west across the county. Coffeeville and Grove Hill are located along this route. State Highway 5 connects Clarke County to areas east, such as Wilcox County. This highway is also designated a hurricane evacuation route. State Route 69 runs from north to south through Coffeeville and Jackson. Numerous other state routes pass through the county. In addition to the various state and federal routes, there is an extensive county road system.

Figure 3.3 Clarke County Road System

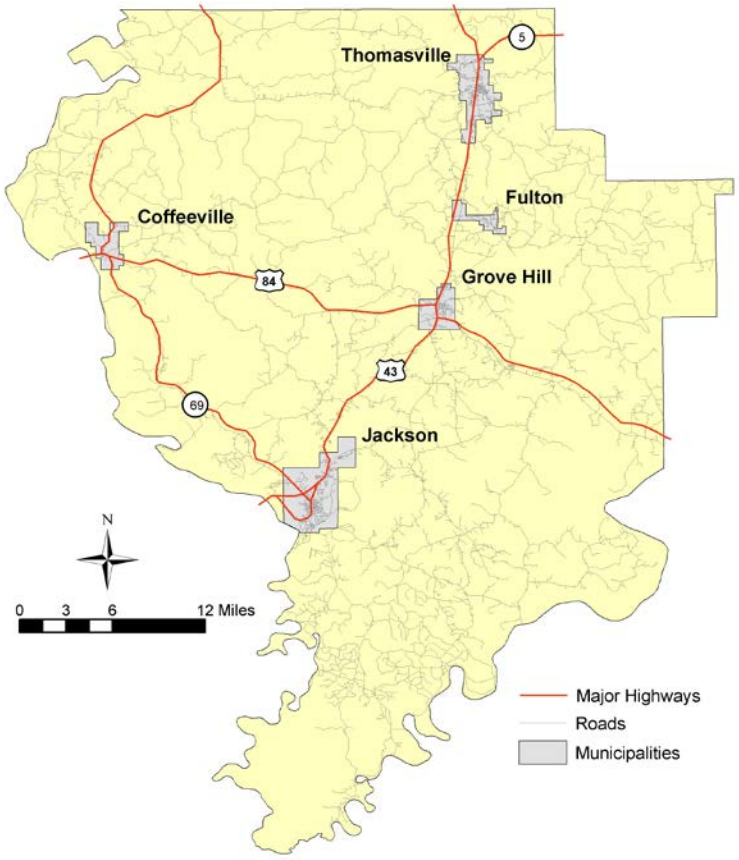


Table 3.1 Average Daily Traffic Counts for Selected Intersections

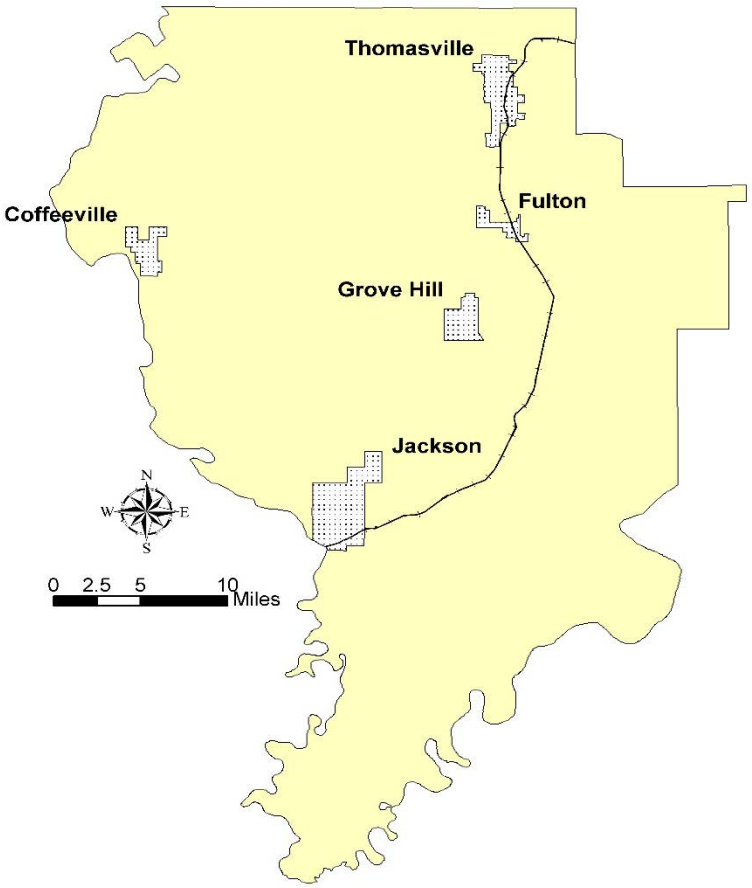
Intersection	Annual Average Daily Traffic Count 2011
US 43 & SR 5	12,180
US 43 (Grove Hill)	6,930
Highway 43 Jackson (Between Edgewood & Industrial)	15,180

Source: Alabama Department of Transportation

Railroads

Clarke County has one major railroad, a north-south route (Figure 3.4). Norfolk Southern Railroad runs this route. This route is a Class I railroad meaning that it has operating revenue in excess of $272.0 million. Major commodities shipped include agriculture products, chemicals, and woodchips.

Figure 3.4 Major Railways in Clarke County



Navigable Waterways

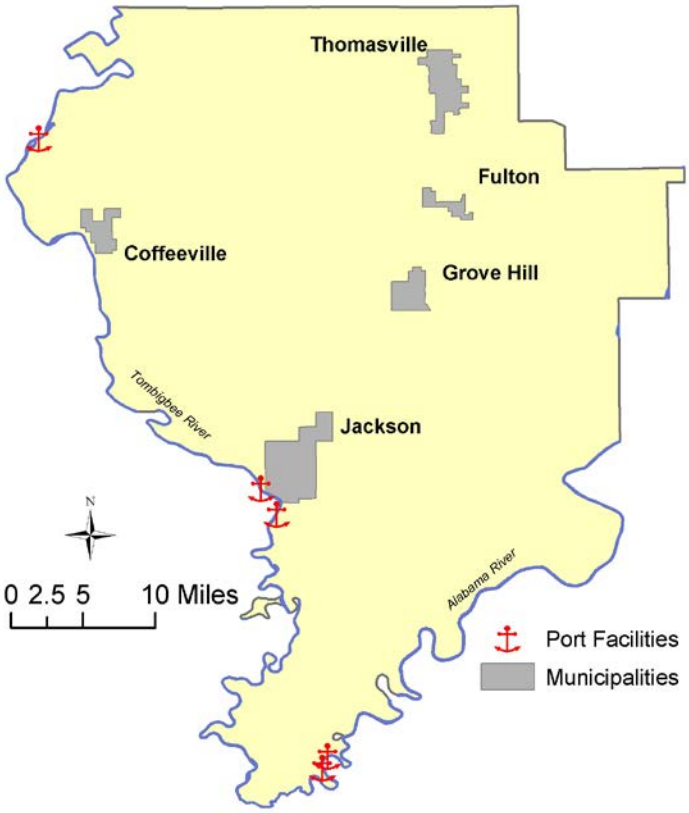
Both the Tombigbee and Alabama Rivers border Clarke County. There are five ports located within the county (Table 3.2).

Table 3.2 Ports in Clarke County

Owner	City
Georgia Pacific	Naheola
Jackson Port Authority	Jackson
Boise Cascade Corporation	Jackson
Alliance Resources Company	Carlton

Source: Hazus M-H

Figure 3.5 Port Facilities in Clarke County



Airports

Two airports are located within Clarke County; these are located in Grove Hill and Jackson. Both of these airports have paved and lighted runways.

C. Economy

The economy of Clarke County is dependent largely upon the forest products industry. There are three large wood products mills in the county: Boise Paper in Jackson and Scotch Gulf Lumber and Scotch Plywood in Fulton. Logging and trucking are a big business in the county as a result of these mills. In recent years a number of steel related industries have also located in Clarke County. Energex Steel has two mills located in Thomasville, which employee over three hundred combined.

D. Utilities

Electricity: Black Warrior Electric, Clarke Washington and Alabama Power
Water: City of Jackson, City of Grove Hill, City of Thomasville, Town of Coffeeville, North Clarke Water Authority, Mid Clarke Water System, McVay Water System, , Mid Central Water, CWM Water Authority
Natural Gas: South Alabama Gas, Clarke-Mobile Gas District, Southern Natural Gas
Telecommunications: AT&T, CenturyTel, Pinebelt, TDS, Frontier

E. Media

Newspapers:

- *Clarke County Democrat*
- *The Thomasville Times*
- *The South Alabamian*

F. Social and Economic Characteristics

The 2013 population estimate for Clarke County was 25,207. Over half of Clarke County's population lives in unincorporated areas.

Table 3.3 Clarke County Demographic Profile

Population	25,207
Male	11,922
Female	13,285
White	13,687
Black	11,142
Other	378
Median Age	39.9
Total households	9,321
Total Housing Units	12,605
Occupied Housing Units	9,301
Population 3 and Over Enrolled in School	6,459
Percent high school graduate or better	78.4
Percent bachelor's degree or higher	12.7
Median Household Income	$30,954
Per Capita Income	$19,563
Individuals below the poverty level	26.4%

Source: United States Census Bureau, American Community Survey 2012

There are five municipalities in the county. These municipalities are Coffeeville, Fulton, Grove Hill, Jackson, and Thomasville. Grove Hill is the county seat. Jackson has the largest population. Table 3.4 gives basic social characteristics of these populations. Jackson and Thomasville have a significantly larger population than all other municipalities. All municipalities, except Fulton and Coffeeville, have over one third of their populations belonging to a minority.

Table 3.4 Social Characteristics by Municipality

Place	*Coffeeville*	*Fulton*	*Grove Hill*	*Jackson*	*Thomasville*
Population	448	368	1,788	5,206	4,207
Minority Percent	26	12	53	46	53
Percent 65 Years and Older	17	13.3	12.9	14.4	15.7
Percent Under Age 18	23.6	18.8	19.4	18.6	20.9
Per Capita Income	$12,691	$19,642	$16,577	$22,943	$21,759
Median Household Income	$20,455	$53,125	$23,528	$37,083	$36,409
Housing Units	271	183	962	2,213	1,890

Source: US Census Bureau, American Community Survey 2012

Jackson covers the largest area of all the municipalities in the county (Table 3.5). It covers nearly 6.5 more square miles than Thomasville, the next largest city. Thomasville has both the highest population and housing densities. Jackson and Grove Hill also have significantly higher population and housing densities than the municipalities of Coffeeville and Fulton.

Table 3.5 Housing and Population Densities by Municipality

Municipality	Land Area*	Water Area*	Total Area*	Housing Units	Housing Density**	Population	Population Density**
Coffeeville	4.52	0	4.52	271	60	448	99
Fulton	2.49	0	2.49	183	73	368	148
Grove Hill	4.97	0	4.97	962	194	1,788	360
Jackson	15.11	0.08	15.19	2,213	146	5,206	343
Thomasville	8.75	0	8.75	1,890	216	4,207	481

***square miles**

****density per square mile of land**

Source: US Census Bureau, American Community Survey 2012

Summary of Changes Made in Plan Update
Section IV. Risk Assessment

The *Risk Assessment* portion of the plan was updated by the Alabama Tombigbee Regional Commission. Each hazard was reviewed and information was updated when it was necessary. There were a number of hazards with no changes made due to their nature.

The Risk Assessment was presented to the Steering Committee along with data gathered during the development of the County's THIRA document. The Steering Committee used this information to rank hazards.

The past occurrence data was updated by the staff at the Alabama Tombigbee Regional Commission as a routine part of the update process. The committee and EMA Director reviewed the areas affected and extents of each hazard. They used their knowledge of occurrences and past damages to revise this section.

Changes to the risk assessment section are outlined below.

- All hazards were reviewed and changes were made where warranted.
- Additional information provided on hurricanes, tornadoes, flooding, and earthquakes.
- A section identifying technological and human caused hazards was added.
- The locations susceptible to each identified hazard were updated.
- The extent of each of the identified hazards was updated.
- All previous occurrences were updated.
- Probabilities of future occurrences were updated.

IV. Risk Assessment

The risk assessment process is necessary to identify those natural hazards that pose a risk to Clarke County. This process does not only use empirical data, but also information given by members of the Clarke County Hazard Mitigation Steering Committee and Local Government Subcommittee. Table 4.1 gives a broad overview of jurisdiction and the hazards that were identified as risks.

Each hazard was designated as being a low, moderate, or high risk. Low risk hazards may occur in the county, but may have a low probability or little to no damage potential. Moderate hazards occur more frequently than low risk hazards and have a higher degree of potential damage associated with them. High risk hazards occur frequently or have a high degree of damage associated with them. The hazards the county is at no risk of are simply designated no risk.

Table 4.1 Hazard Identification Results

	Hazard	Unincorporated	Coffeeville	Fulton	Grove Hill	Jackson	Thomasville
NATURAL HAZARDS	Avalanche	--	--	--	--	--	--
	Coastal Erosion	--	--	--	--	--	--
	Dam Failure	X	X	--	--	X	--
	Disease Outbreak	X	X	X	X	X	X
	Earthquake	X	X	X	X	X	X
	Epidemic	X	X	X	X	X	X
	Expansive Soils	--	--	--	--	--	--
	Extreme Heat and Drought	X	X	X	X	X	X
	Flood (including flash flood)	X	X	X	X	X	X
	Hurricane	X	X	X	X	X	X
	Land Subsidence	X	X	--	X	X	--
	Landslide	X	--	--	--	--	--
	Severe Storms (Hail, Winds, Lightning and thunderstorms)	X	X	X	X	X	X
	Severe Winter Storm	X	X	X	X	X	X
	Soil Erosion	X	--	--	X	X	--
	Tornado	X	X	X	X	X	X
	Tsunami	--	--	--	--	--	--
	Volcano	--	--	--	--	--	--
	Wildfire	X	X	X	X	X	X
TECHNOLOGICAL HAZARDS	Water Shortage	X	X	X	X	X	X
	Power Failure	X	X	X	X	X	X
	Traffic Accidents	X	X	X	X	X	X
	Airplane Crash	X	X	X	X	X	X
	Hazardous Materials Release	X	X	X	--	X	X
	Industrial Accident	--	--	X	--	X	X
	Train Derailment	X	--	X	--	X	X
	Bridge Failure	X	X	X	X	X	X
	Dam Failure	X	X	X	X	X	X
	Solid Waste Disposal	--	--	--	--	--	--
	Radiological Release	--	--	--	--	--	--
HUMAN-CAUSED	School Violence	X	X	X	X	X	X
	Fuel Shortage	X	X	X	X	X	X
	Cyber Incidents	X	X	X	X	X	X
	Work Place Violence	X	X	X	X	X	X
	Biological	X	X	X	X	X	X
	Financial Issues	X	X	X	X	X	X
	Civil Disturbance	X	X	X	X	X	X
	Sabotage	X	X	X	X	X	X

A. Identification of Natural Hazards

Avalanche

Avalanches are masses of snow, which slide down mountain slopes. They occur when snow becomes dislodged or unstable on a mountain slope. Clarke County has neither steep slopes nor any regular snowfall; therefore, it is not considered a risk to Clarke County.

Coastal Erosion

Coastal erosion is the breakdown and movement of rock and soil from coastal locations by processes such as weathering. Wind and water are two common moving forces in this process. Clarke County has no risk of coastal erosion; therefore, it not considered a risk to Clarke County.

Dam Failure

The National Inventory of Dams lists seventeen dams as being located in Clarke County. The NID consists of dams meeting at least one of the following criteria: 1) High hazard classification - loss of one human life is likely if the dam fails, 2) Significant hazard classification - possible loss of human life and likely significant property or environmental destruction, 3) Equal or exceed 25 feet in height and exceed 15 acre-feet in storage, 4) Equal or exceed 50 acre-feet storage and exceed 6 feet in height.

Table 4.2 gives the number of dams classified in each potential downstream hazard category. No dams are classified as having high hazard potential; meaning their failure or misoperation would probably result in the loss of human life. Eight dams are listed in the significant risk category meaning their failure or misoperation would probably not result in the loss of life, but would result in economic loss, environmental damage, and disruption of lifeline facilities. The remaining nine dams in the county are listed as at low risk meaning that their failure or misoperation would not result in the loss of life and only low economic or environmental damage.

The Coffeeville Lock and Dam located across the county line in Choctaw County on the Tombigbee River is a high-risk dam operated by the Corps of Engineers. The failure of this dam could potentially affect the City of Jackson's water supply and damage infrastructure within Clarke County. The Corps of Engineers have operating procedures and plans to monitor and prevent this from occurring.

The Claiborne Lock and Dam located on the Alabama River at Claiborne is also a high risk dam. Many of the access points to this area are located in Clarke County. Also parts of Clarke County are susceptible to flooding from this dam in the event of a failure. Like the Coffeeville Lock and Dam, Claiborne is a Corps of Engineers facility. The Corps has operating procedures and plans in place to prevent any significant event from occurring.

Although the County could be affected by two high risk dams if they should fail, due to the sparse populations and infrastructure in the potentially affected areas this hazard is classified as a low risk.

Table 4.2 Clarke County Dams by Downstream Hazard	
Hazard Categories	**Number of Dams**
High	0
Significant	8
Low	9
Undetermined	0
Total	**17**

Disease Outbreak and Epidemics

A disease outbreak refers to the occurrence of a particular disease that is a greater magnitude than would be expected for a particular time and/or place. An epidemic is similar, but it refers to an outbreak in a specific region. Clarke County classifies this hazard as a moderate risk.

Earthquakes

The USGS defines an earthquake as a sudden slip on a fault. The Earth's tectonic plates are always moving relative to each other, but they can get stuck at their edges due to friction. When the stress on the edge of a plate overcomes the friction, there is an earthquake that releases energy in waves that travel through the earth's crust and causes the shaking that we feel. 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. Although many areas of the United States are better known for their susceptibility, earthquakes do occur in Alabama. There are four seismic zones that affect the state; these zones are the New Madrid Seismic Zone, Southern Appalachian Seismic Zone, Bahamas Fracture Seismic Zone, and the South Carolina Seismic Zone (SCSZ). Clarke County is located within the Bahamas Fracture Seismic Zone. The county does have multiple faults; Figure 4.1 and Table 4.3 gives locations and displacements for these faults.

There are five earthquakes on record for the county Table 4.4. The 1984 quake, with an epicenter in Jackson, occurred on January 6, 1984. The magnitude of this earthquake was a 3 on the Richter scale. Earthquakes with a magnitude of 3 are often felt, but rarely cause damage. A quake occurred on September 5, 2000, six miles west of Fulton. Coffeeville has experienced multiple earthquakes. The 1966 earthquake, with a 4.0 magnitude, destroyed part of the river bluff landmark. More recently, quakes in 2005 and 2008 rattled homes and shook pictures off the walls. The Coffeeville quakes are a result of movements in the Bahamas fault zone that extends from Mississippi to Florida.

Figure 4.1 Structure Contour Map of Clarke County
(Geologic Survey of Alabama: *Geology of Clarke County*)

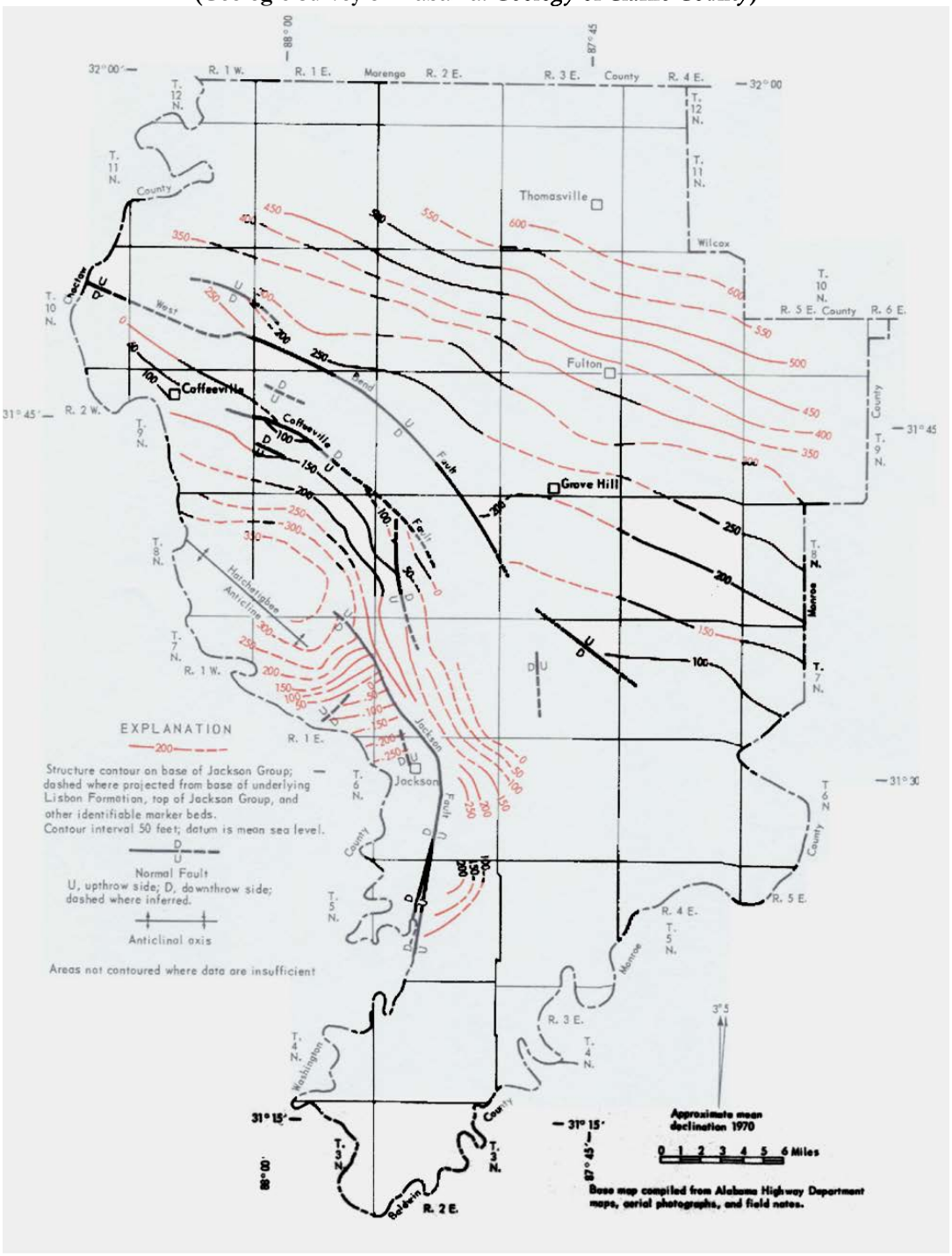


Table 4.3 Known Faults in Clarke County
(Geologic Survey of Alabama: *Geology of Clarke County*)

Fault	Location	Estimated displacement (feet)	Units displaced
Unnamed	SE¼NW¼ sec. 9, T. 11 N., R. 1 E.	25	Upper unnamed member of Hatchetigbee formation against Bashi Marl Member of Hatchetigbee.
Do.	NW¼NE¼ sec. 14, T. 10 N., R. 1 W.	90	North Twistwood Creek Member of Yazoo Clay against lower half of Lisbon Formation.
West Bend	NE¼NW¼ sec. 25, T. 10 N., R. 1 W.	200+	Miocene Series against Moodys Branch Formation.
Do.	SE¼NE¼ sec. 32, T. 10 N., R. 1 E.	300±	Chickasawhay Limestone against lower part of Lisbon Formation.
Do.	SW¼ sec. 7, T. 9 N., R. 2 E.	300±	Do.
Do.	SE¼SE¼ sec. 2, T. 8 N., R. 2 E.	175+	Miocene Series against lower half of Jackson Group.
Coffeeville	NW¼ sec. 13, T. 9 N., R. 1 W.	75	Lower part of Oligocene Series against lower half of Jackson Group.
Do.	SW¼ sec. 22, T. 9 N., R. 1 E.	75±	Marianna Limestone against Jackson Group.
Unnamed	NW¼ sec. 20, T. 8 N., R. 2 E.	75±	Upper part of Jackson Group against upper part of Lisbon Formation.
Do.	SW¼SW¼ sec. 20, T. 9 N., R. 1 E.	30	Moodys Branch Formation against Lisbon Formation.
Do.	SE¼ sec. 11, T. 7 N., R. 3 E.	75±	Marianna Limestone against upper half of Jackson Group.
Do.	NW¼ sec. 33, T. 7 N., R. 3 E.	50±	Upper part of Oligocene Series against lower part.
Jackson	SE¼ sec. 33, T. 6 N., R. 2 E.	1,400	Oligocene Series against Nahcola Formation.
Do.	NE¼ sec. 30, T. 7 N., R. 2 E.	400±	Upper part of Oligocene Series against Tallahatta Formation.
Do.	SW¼ sec. 18, T. 7 N., R. 2 E.	200±	Lower part of Oligocene Series against lower part of Lisbon Formation.
Do.	SE¼ sec. 2, T. 7 N., R. 1 E.	50	Lisbon Formation against Tallahatta Formation.

Table 4.4 Earthquakes on Record for Clarke County, Alabama

DATE	COUNTY	EPICENTER	EFFECTS (MODIFIED MERCALLI INTENSITY)
05/16/2008	Clarke	Coffeeville	3.1 Magnitude
003/22/2005	Clarke	Coffeeville	3 miles NNE of Coffeeville 3.3 Magnitude
09/05/2000	Clarke	Fulton	10 km (6 mi) west of Fulton
01/06/1984	Clarke	Jackson	(V) at Jackson and (III) at Walker Springs
1966	Clarke	Tombigbee River North of Coffeeville	4.0 Magnitude

There are multiple faults in the county and four reported earthquakes. The peak acceleration value for the county is between 0.04 and 0.06(Figure 4.2). Peak acceleration is a measure of how fast the rate of the earth's movement changes compared to the gravitational acceleration rate during an earthquake.

Figure 4.2 United States Geological Survey: http://www.geology.usgs.gov

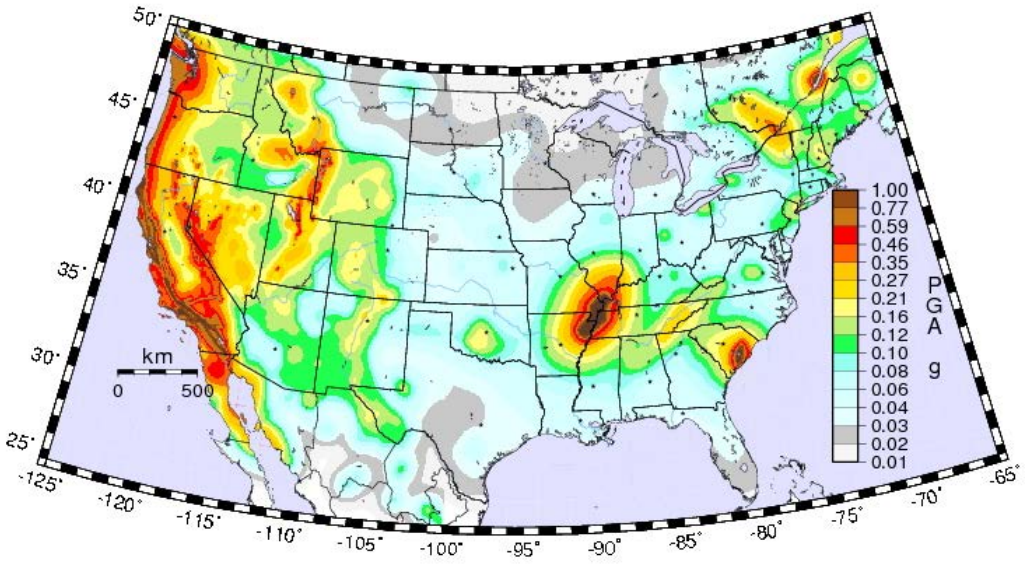
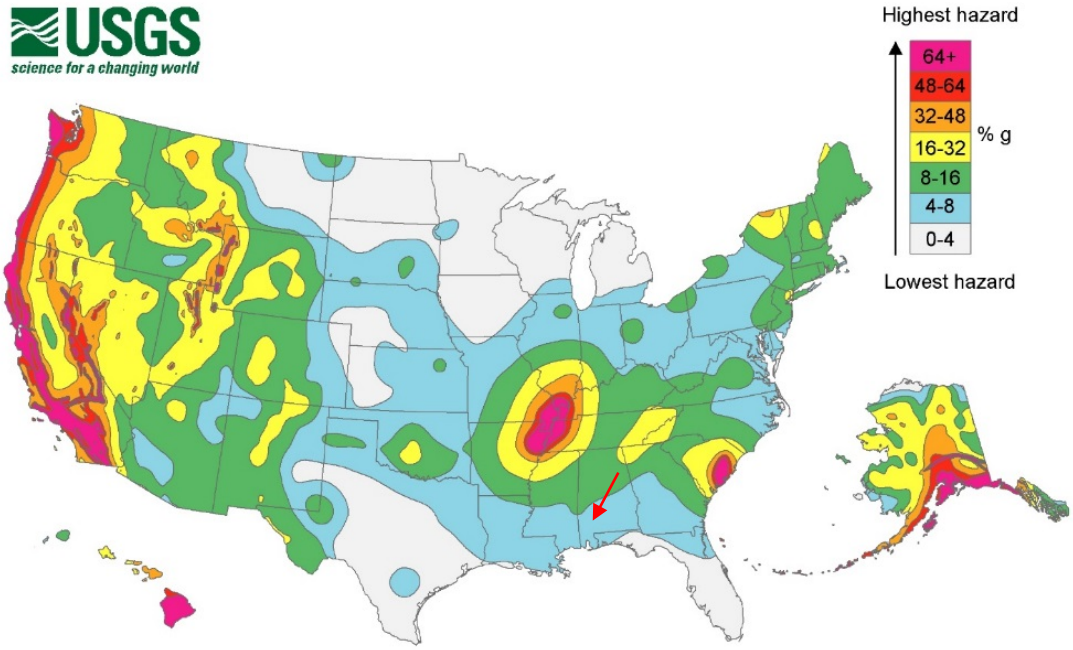


Figure 4.3 is a map from the USGS depicting earthquake hazard risk. Clarke County lies within an area of 4%-8% risk. A 4%-8% rate translates into a low seismic risk.

Figure 4.3 Earthquake Hazard Map
Source: www.usgs.gov/earthquake



Based on the County's location within an active seismic zone and documented previous occurrences, Clarke County has decide that earthquakes are a moderate risk hazard.

Expansive Soils

Expansive soils are soils that swell when they come in contact with water. The occurrence of clay is generally the cause of such behavior. Figure 4.4 shows the general soil areas for the state. Clarke County has Coastal Plain and Major Flood Plain and Alluvial soils. These soils do not have significant shrink/swell potential; therefore, it is not considered a risk to Clarke County.

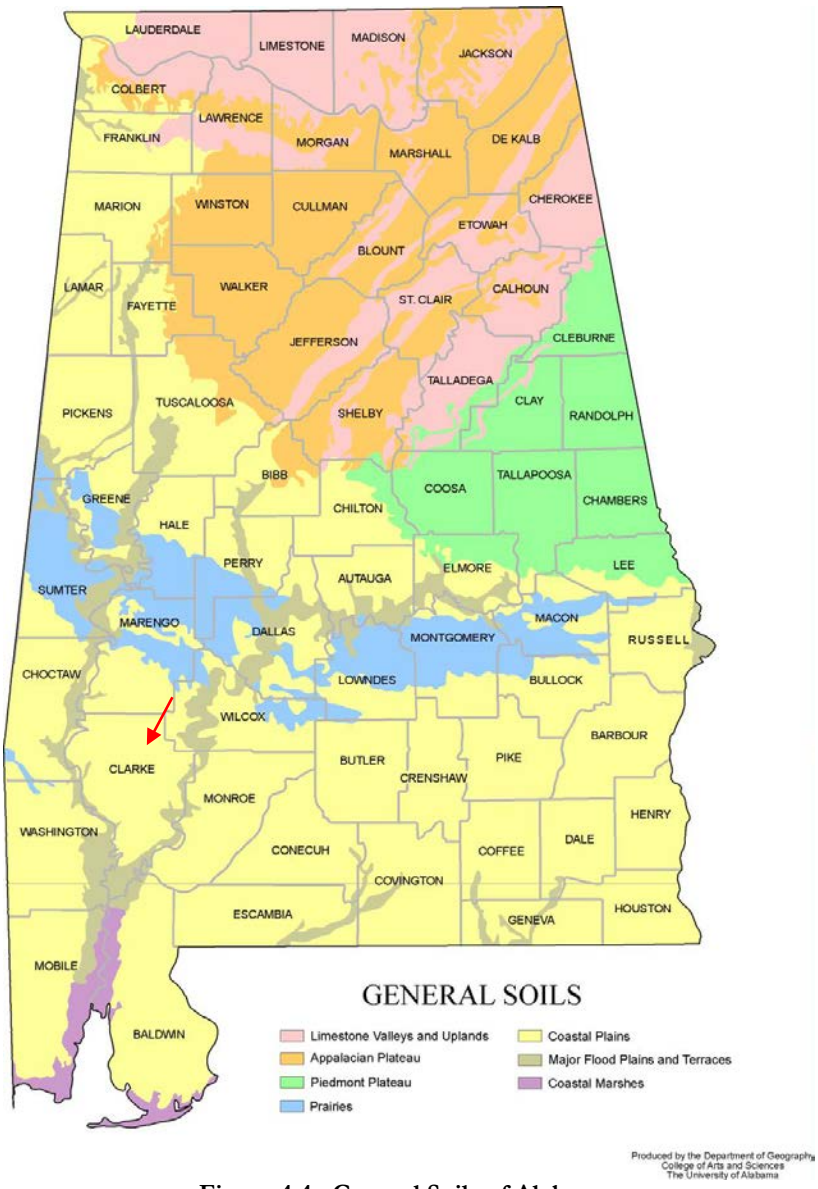


Figure 4.4 General Soils of Alabama

Source: Cartographic Research Lab, University of Alabama

Extreme Heat and Drought

The National Weather Service defines drought as a persistent and abnormal moisture deficiency having adverse impacts on vegetation, animals, and people. Meteorological, hydrological, and agricultural are the three types of droughts. Meteorological droughts occur when precipitation departs from normal amounts. High temperatures may also play a role in this type of drought. Hydrological droughts are deficiencies in surface or subsurface water levels. Agricultural droughts occur when there is not enough soil moisture to support crop growth. Drought conditions are prevalent in much of the United States during the summer months.

Extreme heat is defined as temperatures that are ten or more degrees or higher than average daily temperatures and last for several weeks. Extreme heat can damage an area economically by resulting in crop losses. The health of persons living and working within the area is also threatened. Health conditions that result from extreme heat range from mild to severe. These conditions include sunburn, heat cramps, heat exhaustion, and heat stroke. In 2012, excessive heat led to the death of an archaeologist performing field work in the county. Due to its high probability of occurrence, extreme heat is considered a high risk to Clarke County.

High, subtropical temperatures are common to South Alabama. Under normal conditions, frequent afternoon thunderstorms produce enough precipitation to alleviate drought concerns. There are a couple of events of extreme heat and droughts recorded for Clarke County, but FEMA (http://www.fema.gov/hazards/extremeheat/heat.shtm/) lists all of the United States as being at risk for these conditions at any time of the year.

Over the past decade, Clarke County has been classified as having some degree of drought. In the summer of 2007 drought conditions were severe in a large portion of the County. Due to the probability and past occurrence, drought is classified as a high risk in Clarke County.

Flood (Including Flash Flooding)

Generally there are three types of flooding: river flooding, urban/area flooding, and flash flooding. River flooding occurs when rains fill river basins with water too quickly. Basins may be filled with water from successive days of rainfall or from torrential rains that occur as hurricanes move inland. Urban/area flooding occurs from the increased runoff caused by paving large areas. Paved areas cannot absorb rainwater like unpaved or grassy areas, so torrential rains can cause flooding in these areas. Flash flooding is one of the deadliest natural hazards. It can occur almost anywhere and often has a rapid onset. There are many areas throughout the county that experience flash flooding as a result of insufficient drainage structures.

According to the Flood Insurance Study for Clarke County, damaging floods have occurred in the county. On the Tombigbee River at Jackson, major floods occurred in 1874, 1900, 1961, and 1979. The flood in 1874 was the greatest. The April 1979 flood is the most recent with a flood elevation of 33.5 feet National Geodetic Vertical Datum of 1929 (NGVD) at the Alabama Electric Cooperative.

The Alabama State Hazard Mitigation Plan Update analyzed National Flood Insurance Program claims from 1978-2012. For Clarke County they found twenty-seven flood insurance properties. Over the thirty four year span, two of these properties have reported a loss. The total dollar loss on these two properties was $1,941.00. There are no repetitive loss properties in Clarke County.

The municipalities of Coffeeville, Fulton, Grove Hill, Jackson, and Thomasville all participate in the National Flood Insurance Program (NFIP). Clarke County joined the NFIP in 2006 and is currently in good standing. According to the NFIP maps there are significant areas of flood plain along both the Alabama and Tombigbee Rivers. After consulting with the County, it was found this area contains mainly hunting and fishing camps. That was also the case where flood plains are identified along creeks within the county.

The list below identifies designated flood areas on NFIP flood maps.

TOWN OF FULTON

- Zone A is located along Ulcanush Creek and runs north along Pace Creek and Estis Mill Creek.
- Zone A is located along Kanetuche Creek and follows it north into Eberline Mill Creek and Salipta Creek.
- Zone A is located along Salipta Creek and Wells Creek.
- Zone A is also located along Bassett and Little Bassett Creek.

TOWN OF GROVE HILL

- Zone A is located along Rabbit Creek.
- Zone A is located along Bassett Creek and Fishers Creek. It then runs north along Bassett Creek.
- Zone A is located along Cedar Creek and North of Cedar Creek. It is also located along Pigeon Creek and Bassett Creek.

CITY OF JACKSON

- Zone A and Zone AE are located along the Clarke and Washington County line along the Tombigbee River and south of the Southern railway.
- Zone A is located along East Bassett Creek and Salt Creek.

CITY OF THOMASVILLE

- Zone A runs along Johnson Creek.
- Zone A runs along Allen Branch Creek.
- Zone A runs along Beaver Creek
- Zone A runs along Sixteenth Creek.
- Zone A runs along Allen Branch Tributary 2 and Salipta Creek Tributary 34.
- Zone A runs along Orphans Creek Tributary 1 and Bassett Creek.

CLARKE CO UNINC & INC AREAS

- Zone A is located on the north and south side of Coffeeville Lake.
- Zone A is located around Big Cypress Pond, Coffeeville Lake, Dry Creek, Bashi Creek and an Unnamed Tributary.
- Zone A is located around Talluhati Creek, Bashi Creek and Long Branch Creek
- Zone A is located along Johnson Creek.
- Zone A is located along Allen Branch.

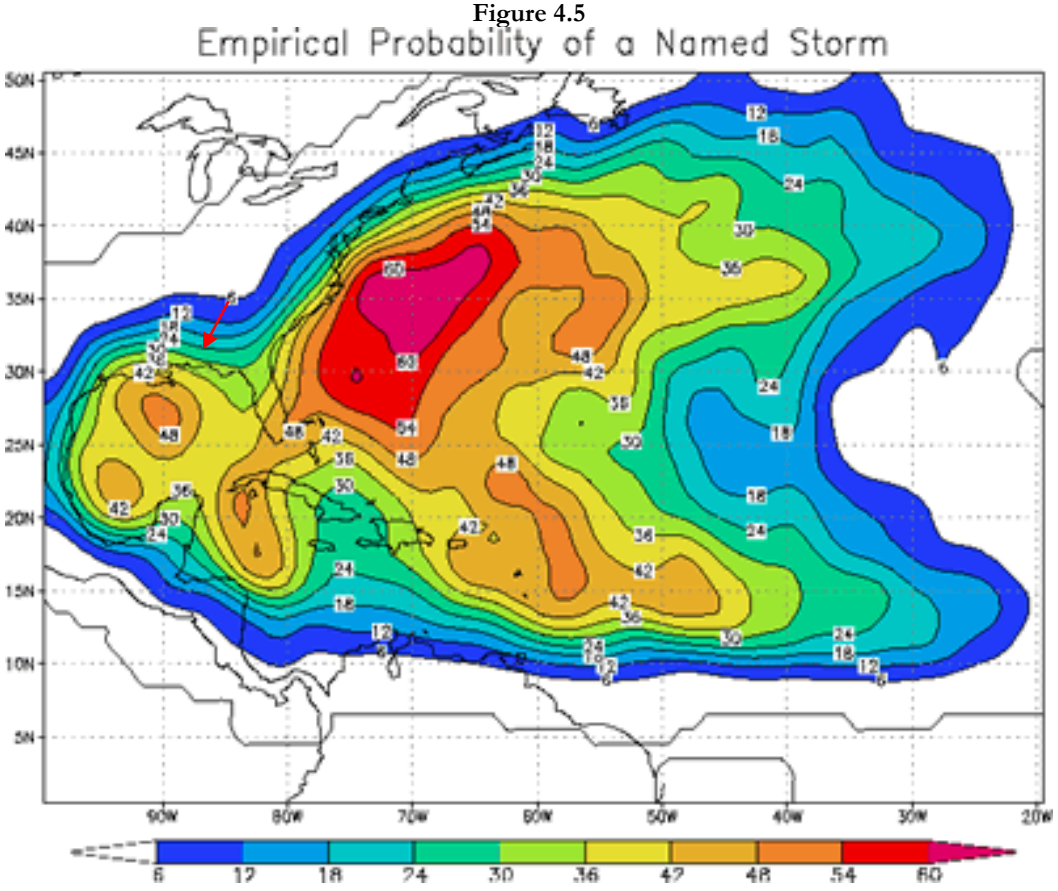
- Zone A is located along Bashi Creek, Bashi Creek Tributary 11, and Johnson Creek
- Zone A is located along Beaver Creek
- Zone A is located along Allen Branch, Allen Branch Tributary 3 and Sixteenth Creek.
- Zone A is located along Silver Creek and Silver Creek Tributary 8, 9, and 10. It is also located along Cane Creek and the Alabama River.
- Zone A is located along Little Bassett Creek and Bassett Creek.
- Zone A is located along Bassett Creek, Allen Branch and Tantroft Branch.
- Zone A is located along Wells Creek and Salipta Creek and Salipta Creek Tributary 28
- Zone A is located along Allen Branch Tributary 2.
- Zone A is located along Salipta Creek, Wells Creek, Harris Creek, and Morgan Creek.
- Zone A is located along Mills Creek, Salipta Creek, Harris Creek, Roberts Creek, Estis Mill Creek, Ulcanush Creek, Pace Creek, and Westbend Creek.
- Zone A is located along The Ditch, Flat Woods Creek, and The Ditch Tributary 2.
- Zone A is located along West Bend Creek, The Ditch, and The Ditch Tributary 1.
- Zone A is located along Sixteenth Creek.
- Zone A is located along Kanatuceh Creek Tributary 2 and Rabbit Creek
- Zone A is located along Beaver Creek.
- Zone A is located along the Alabama River Tributary 2 and Camp Creek.
- Zone A is located around Salt Gut Slough
- Zone A is located along the Tombigbee River and Salt Creek.
- Zone A is located along Rabbit Creek and the Southern Railway
- Zone A is located along Pigeon Creek Tributary 2 and Pigeon Creek
- Zone A is located along East Bassett Creek and S C M waste treatment pond
- Zone A is located along Sizemore Creek and the Alabama River.
- Zone A is located around Fishing Lake, Hals Lake, Moore Lake, and Gander Lake
- Zone A is located south of Hammer Creek.
- Zone A is located east and west of Hals Road and around Bengy Lake and the Alabama River.

Based on the information provided in this plan, the Natural Hazards Steering Committee and Local Government Subcommittee feel river flooding is a moderate risk hazard and flash flooding is also considered a moderate risk hazard.

Hurricanes and Coastal Storms

Hurricanes are low-pressure systems over tropical or sub-tropical waters with organized convection present (http://www.aoml.noaa.gov/hrd/tcfaq/A1.html). The Atlantic hurricane season is from June through November. The Atlantic Oceanographic and Meteorological Laboratory analyzed hurricane activity from 1944-1999. A map showing probabilities of a strike that will affect the area sometime during the season was created. Figure 4.5 is the result of this analysis. It shows the results drawn from total hits from hurricanes or storms within one hundred miles of the location. Clarke County lies within the 24% probability range.

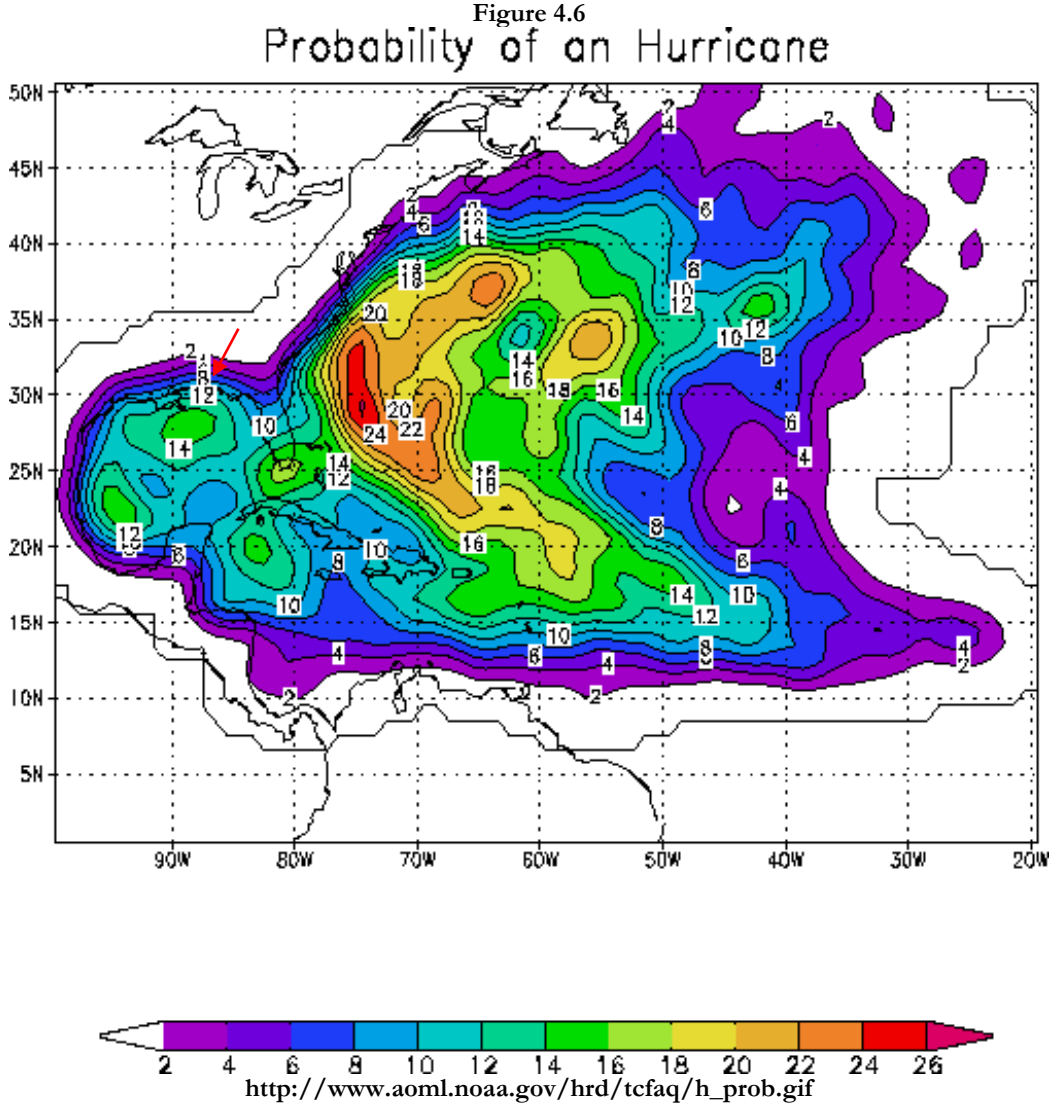
Figure 4.5



http://www.aoml.noaa.gov/hrd/tcfaq/G12.html

Figure 4.6 shows the results of analysis using hurricanes or storms that struck within sixty miles of a location. This figure illustrates that probability. Clarke County lies within the 8% percent probability.

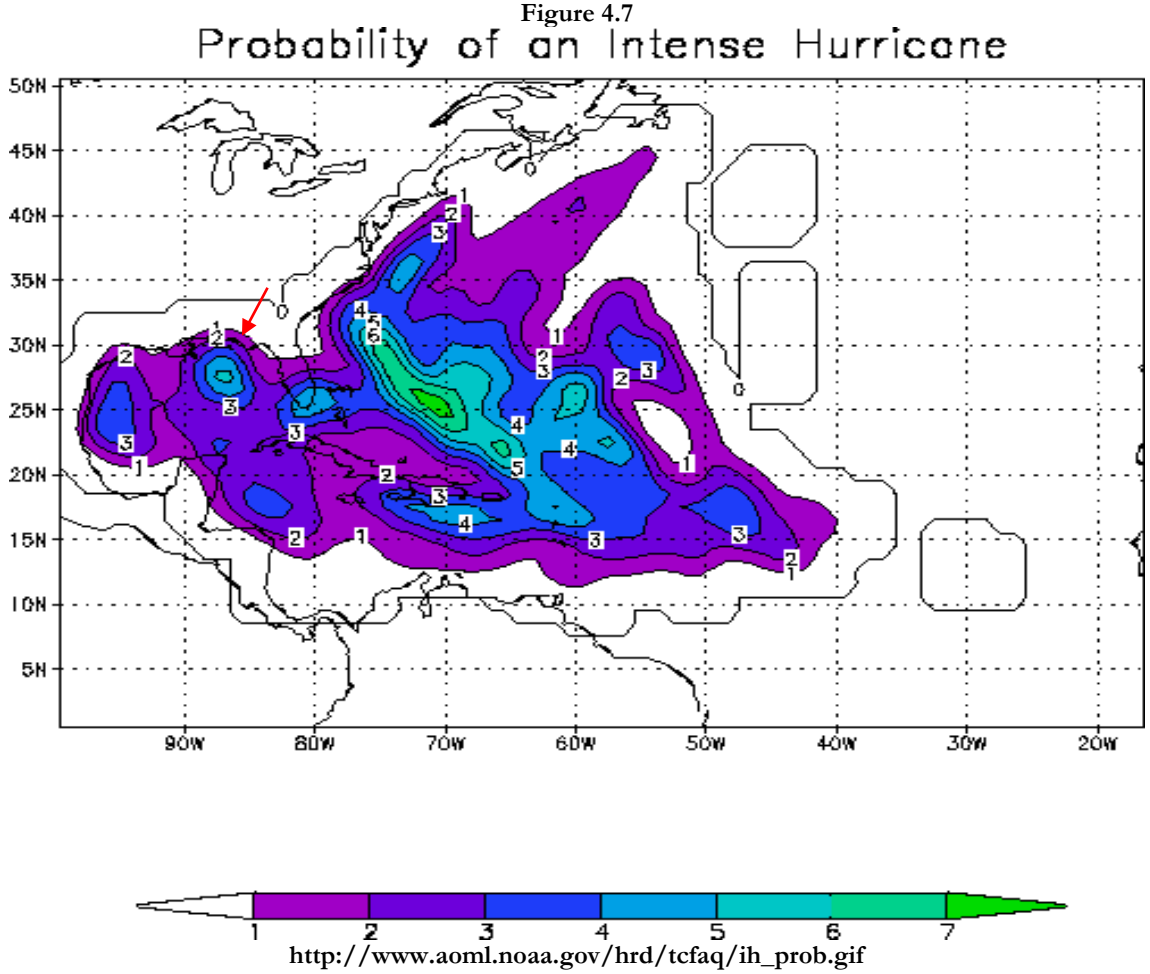
Figure 4.6



http://www.aoml.noaa.gov/hrd/tcfaq/h_prob.gif

Figure 4.7 shows the probability of an intense hurricane affecting an area during the June through November season. An intense hurricane is defined as a Category 3, 4, or 5 storms. These probabilities were derived from analysis of hurricanes that hit within thirty miles of a location. Clarke County is in the 1% probability of this type of storm.

Figure 4.7



http://www.aoml.noaa.gov/hrd/tcfaq/ih_prob.gif

Florida State University's Meteorology Department also analyzed hurricane tracks. Their research included hurricanes occurring from 1886-2012. The following figures (4.8-4.10) depict the results of their research.

Figure 4.8

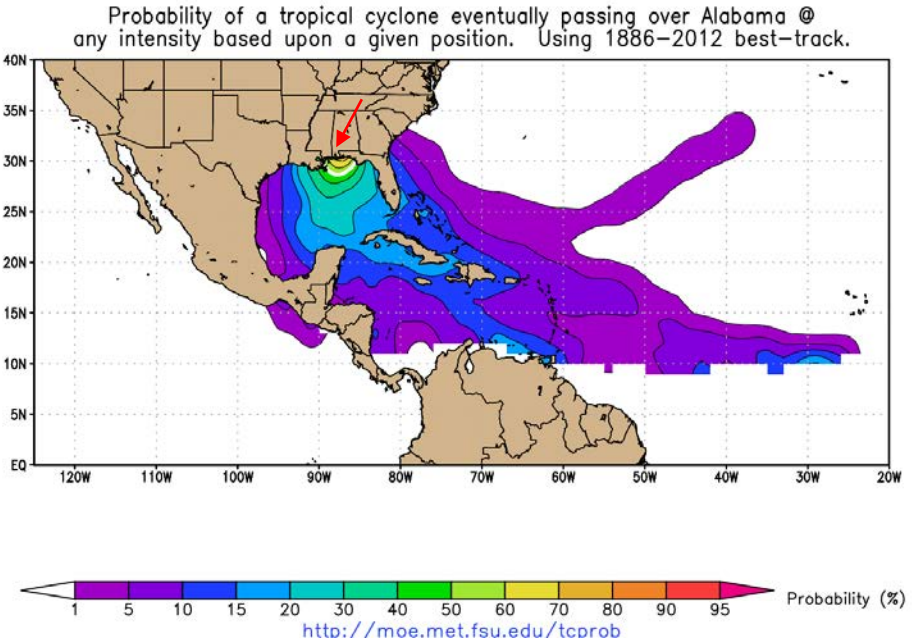


Figure 4.8 shows that based on FSU's research the probability of a hurricane of any intensity passing over Alabama is between 60% and 80%.

Figure 4.9

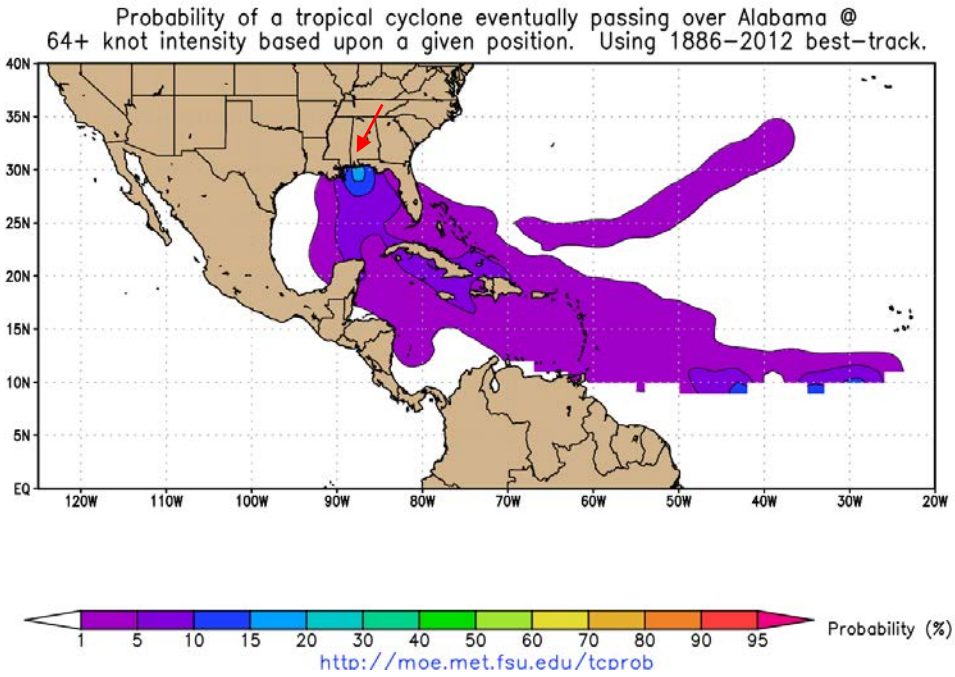


Figure 4.9 shows that the probability of a storm passing over Alabama with winds exceeding 64 knots (74 miles per hour) is between 15% and 20%.

Figure 4.10

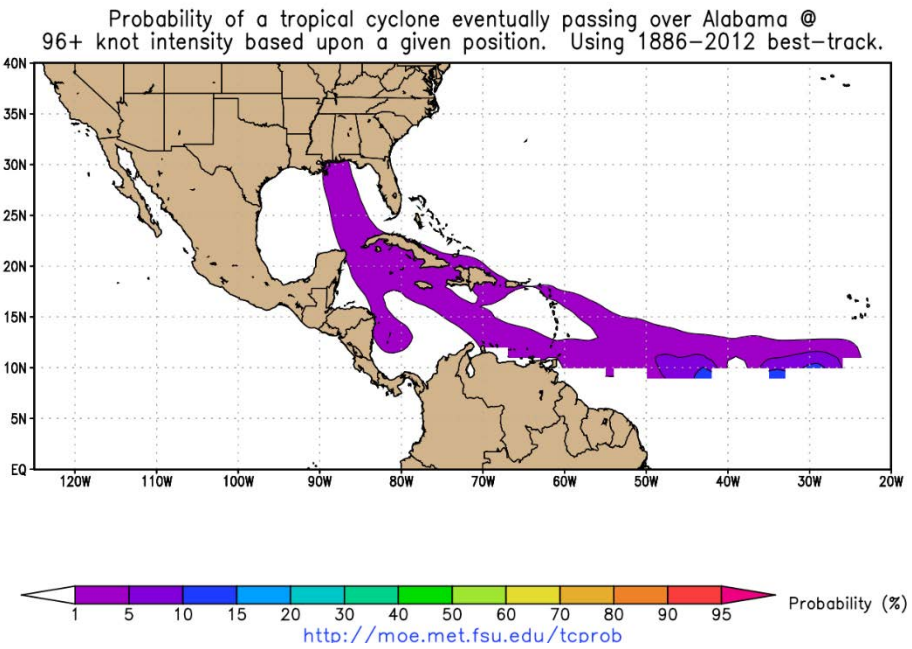


Figure 4.10 shows the probability of a cyclone passing over Alabama with winds greater than 96 knots (110 miles per hour) is between 1% and 5%.

Clarke County's proximity to the Gulf of Mexico makes it vulnerable to hurricanes. Hurricane Ivan in 2004 caused substantial damage throughout the County. Utility infrastructure, especially electricity transmitting lines received heavy damage. Some areas in the County were without electricity for almost two weeks. Many public buildings and private residences also sustained damages. Four homes and 25 mobile homes were completely destroyed. 199 homes and 52 mobile homes received major damage and 80 homes and 21 homes had minor damage. An estimated $61.3 million dollars' worth of timber was destroyed.

The secondary effects of hurricanes, such as high winds and spinoff tornadoes have caused problems for Clarke County historically. The remnants of Katrina, Dennis and other storms have caused damages in the County. Due to the proximity to the coast and historical occurrences, hurricanes are a high risk hazard for Clarke County.

Landslides

Landslides are the downward and outward movement of soil and rocks under the influence of gravity (http://www.gsa.state.al.us/). Naturally induced landslides occur as a result of weakened rock composition, heavy rain, changes in ground water levels, and seismic activity. Figure 4.11 is a landslide map of the conterminous United States illustrating susceptibility to landslides.

Figure 4.11 http://pubs.usgs.gov/pp/p1183/plate1.html

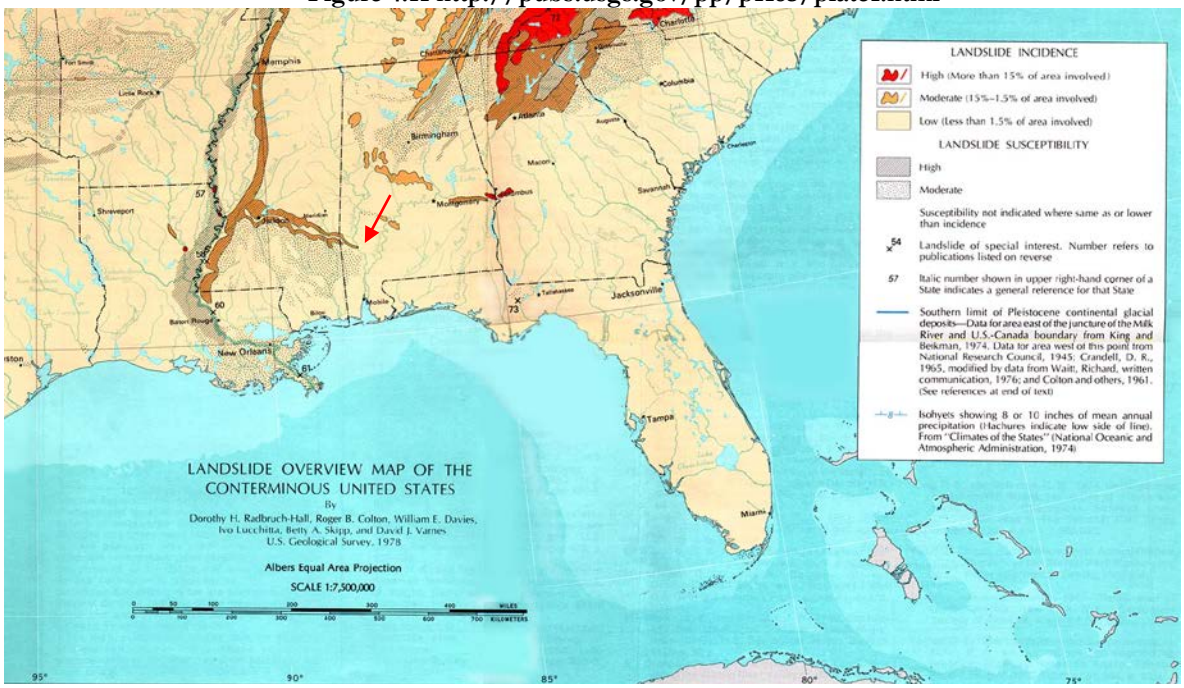
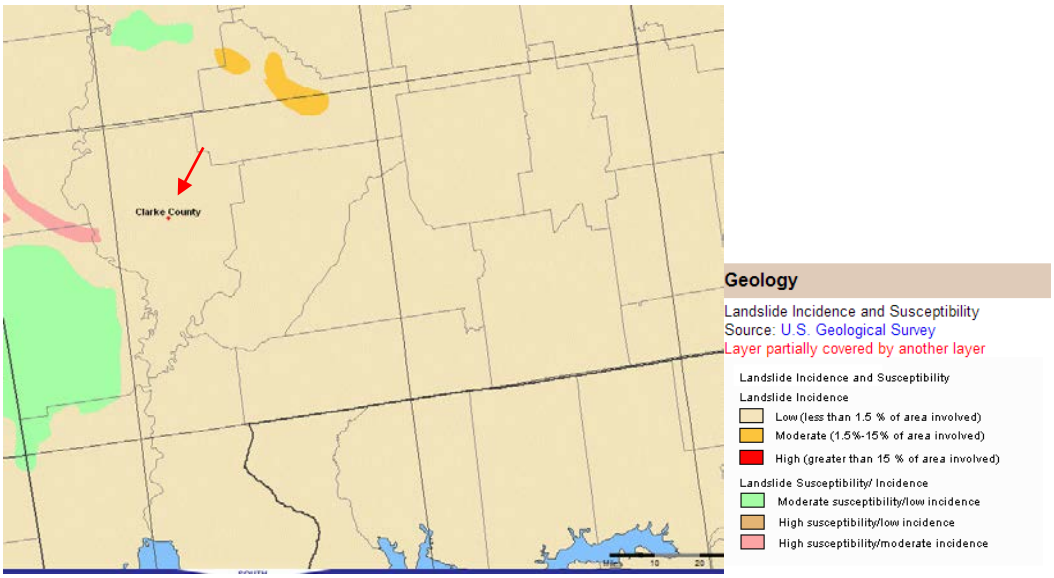


Figure 4.12 gives a closer look at Clarke County. Clarke County has a very small area of susceptibility and incidence just west of the community of Salipta along the Tombigbee River.

Figure 4.12 Map of Clarke County Landslide Susceptibility and Incidence



The Geologic Survey of Alabama has had multiple reports of historic or current landslide incidences in the county. These incidences are human induced that occur primarily along highway right of ways. No structures are at risk and no roadways are at risk of significant damage. Generally these slides can be detected and contained before they progress to a point where travel is hindered. This hazard is a low priority hazard.

Land Subsidence

Land subsidence is the collapse of the ground generally in areas with carbonate bedrock or underlying abandoned mines. Clarke County has a large area, which is underlain by carbonate rocks (Figure 4.13). This area extends southeast across the central portion of the County. The Town of Coffeeville and part of the City of Jackson is located in this area along with a number of small unincorporated communities. There is an active area of subsidence in central Clarke County (Figure 4.14). This area includes the Town of Grove Hill and the City of Jackson along with numerous unincorporated communities. At this time, there is no evidence of subsidence affecting any structure or residence in Clarke County. Due to there being no evidence of effects, this hazard is considered a low risk.

Figure 4.13

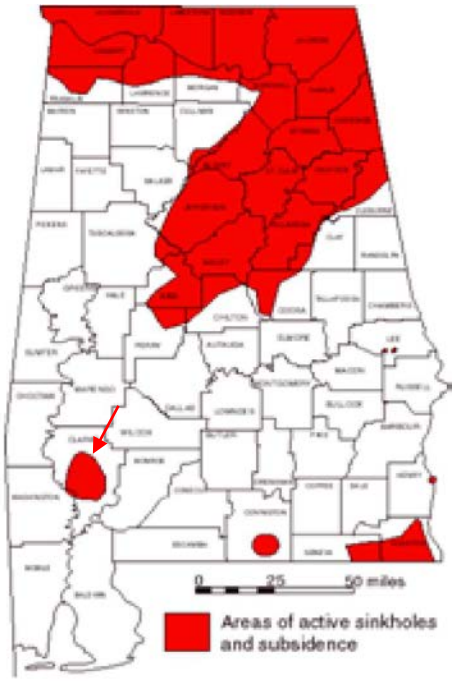


Figure 4.14

Source: http://www.gsa.al.state

Severe Storms (Hail, High Winds, Lightning, Thunderstorms)

Thunderstorms, lightning, hail, and high winds will be grouped into the category of severe storms. Clarke County has had numerous occurrences of these events. Figure 4.15 illustrates the mean annual lightning strike density for the United States. Clarke County lies in the 14-16 annual strikes per square kilometer. Figure 4.16 illustrates the average number of days per year with hailstorms. Clarke County lies in the less than two days a year with hailstorm range. Hail, high winds, lightning, and thunderstorms all occur in the county on a regular basis. These events have resulted not only in property and crop damage, but also injuries have been reported on numerous occasions. These events will continue to occur on a regular basis, leading to these being considered a high risk hazard.

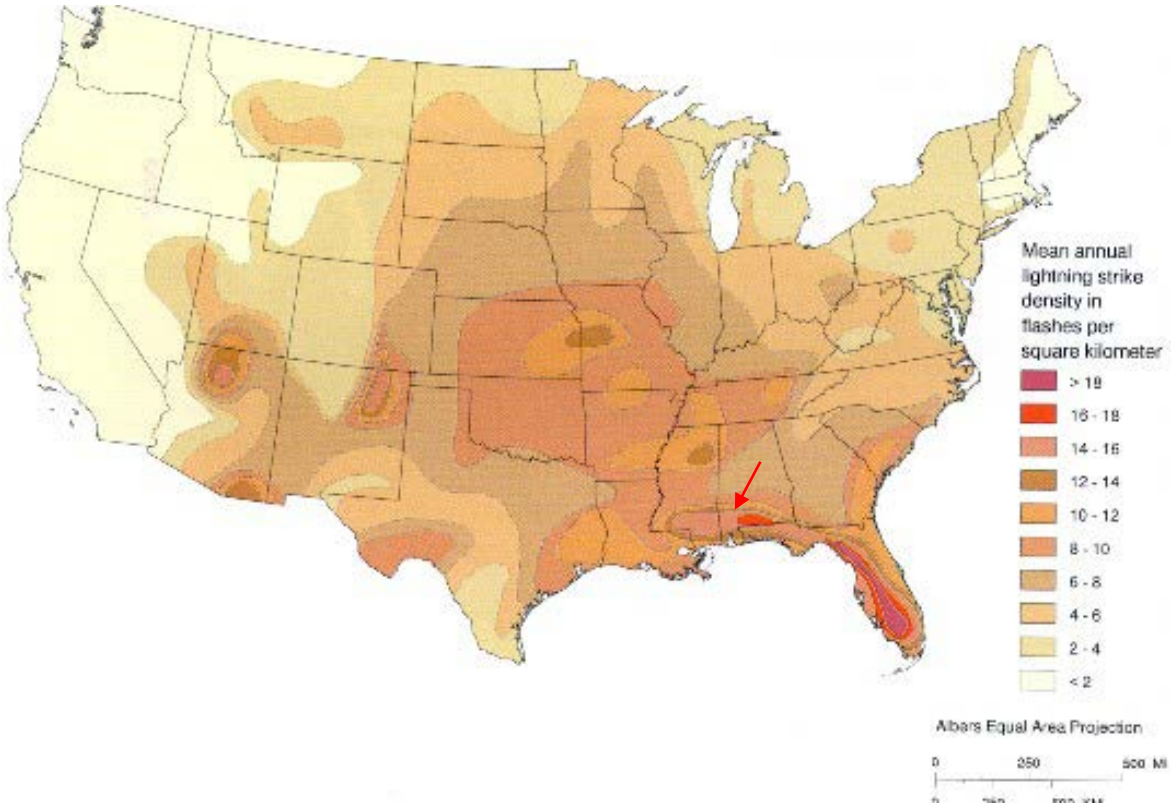


Figure 4.15 Mean Average Lightning Strikes per Square Kilometer
Source: hhtp://www.nhoem.state.nh.us/mitigation/fig%203-17.htm

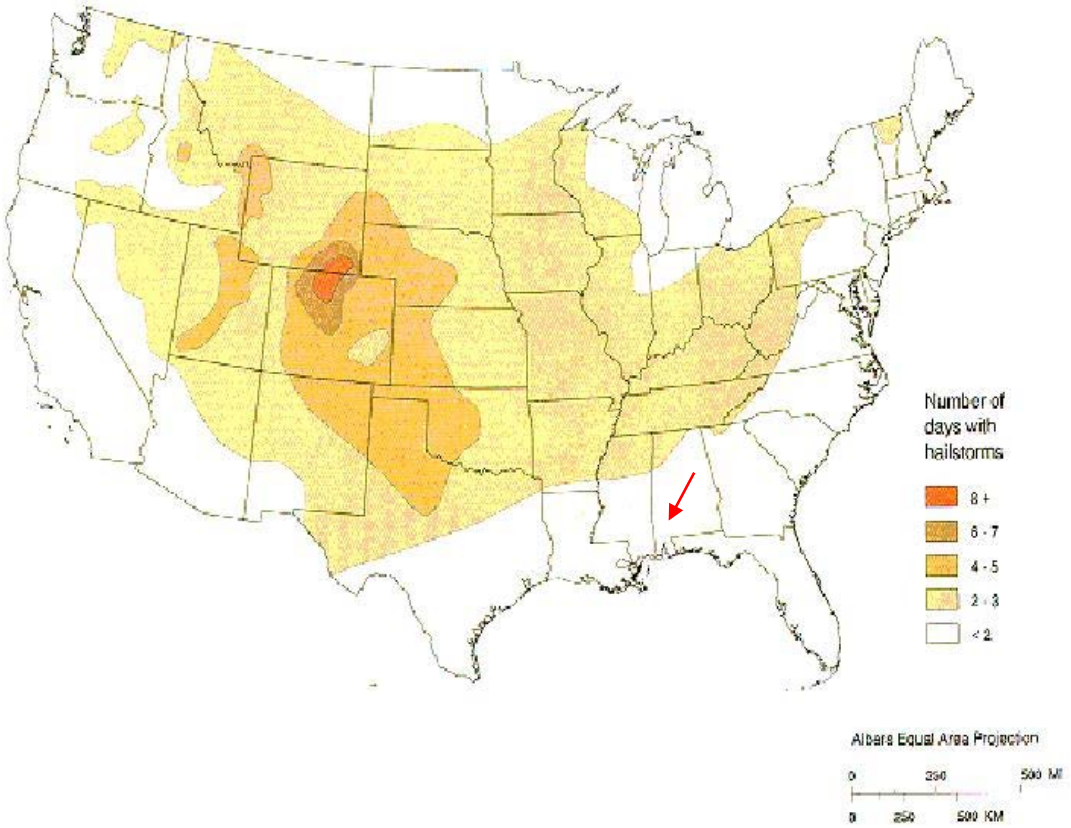


Figure 4.16 Numbers of Days with Hailstorms
Source: hhtp://www.nhoem.state.nh.us/mitigation/fig%203-17.htm

Severe Winter Storms

Severe winter storms are associated with strong winds, extreme cold, ice, and snow. These storms are becoming more common in Clarke County, but are still considered a lower probability. When these storms do occur they have wide ranging impacts. Ice damages vegetation and often causes limbs to break and trees to fall. Motorists are unaccustomed to traveling in this weather, so accidents occur as a result. Also many homes and buildings, especially in rural areas, lack proper insulation or heating leading to risk of hypothermia. Municipalities generally do not have the resources on hand to deal with winter weather, such as salt, sand, and snow removal equipment. Due to the low probability of occurrences, this hazard is considered a low risk.

Soil Erosion

Soil erosion is the movement of soil by wind and water. The process is a natural one, but is often accelerated by human actions. The City of Jackson has identified soil erosion as a natural hazard. The city is located on the Tombigbee River. The city is partially elevated with downward sloping sides. During periods of heavy rainfall large amounts of soils are eroded off these slopes. The city of Jackson is currently pursuing erosion control projects to address this hazard. Soil Erosion has also been identified in the Town of Grove Hill and Clarke County. This hazard is considered a moderate risk for Jackson, but no risk for the remainder of the County.

Tornadoes

The National Weather Service defines a tornado as, "A violently rotating column of air in contact with the ground and extending from the base of a thunderstorm (http://www.srh.noaa.gov/oun/severewx/glossary4.php#Tornado)." The occurrence of tornadoes cannot be predicted, but past occurrences and basic weather patterns can be used to identify areas more susceptible. Figure 4.17 shows tornado activity per 1,000 square miles, Clarke County falls in the one to five tornados per square mile range. The United States Wind Zone map (Figure 4.18) shows how intense and frequent strong winds occur across the United States. Clarke County lies in Wind Zones III and IV, which have design wind speeds of 200 and 250 miles per hour. Locations within Zone III have experienced significant tornado events and within Zone IV have historically had the most intense and frequent occurrences of tornadoes and strong winds.

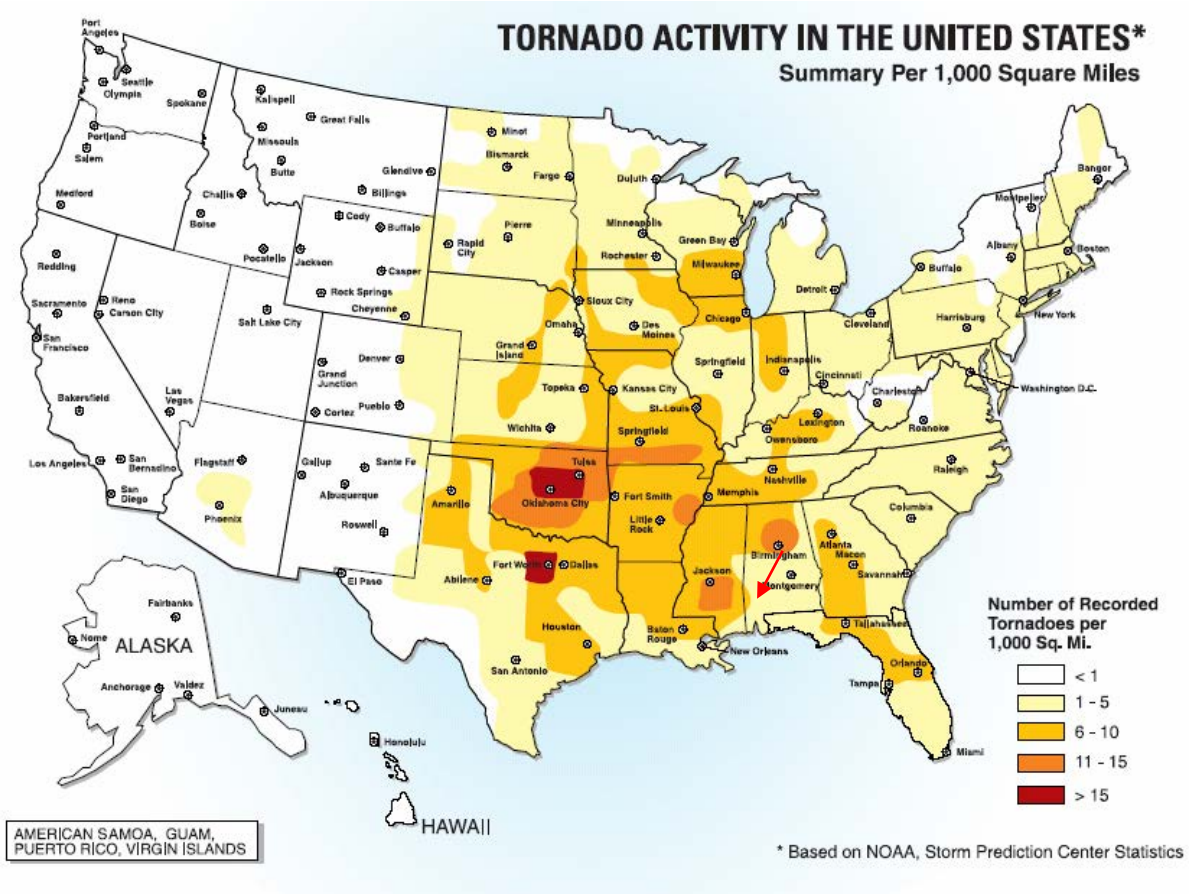


Figure 4.17 Tornadoes per 1,000 square miles.
Source: http://www.fema.gov/pdf/library/2ismsec1.pdf

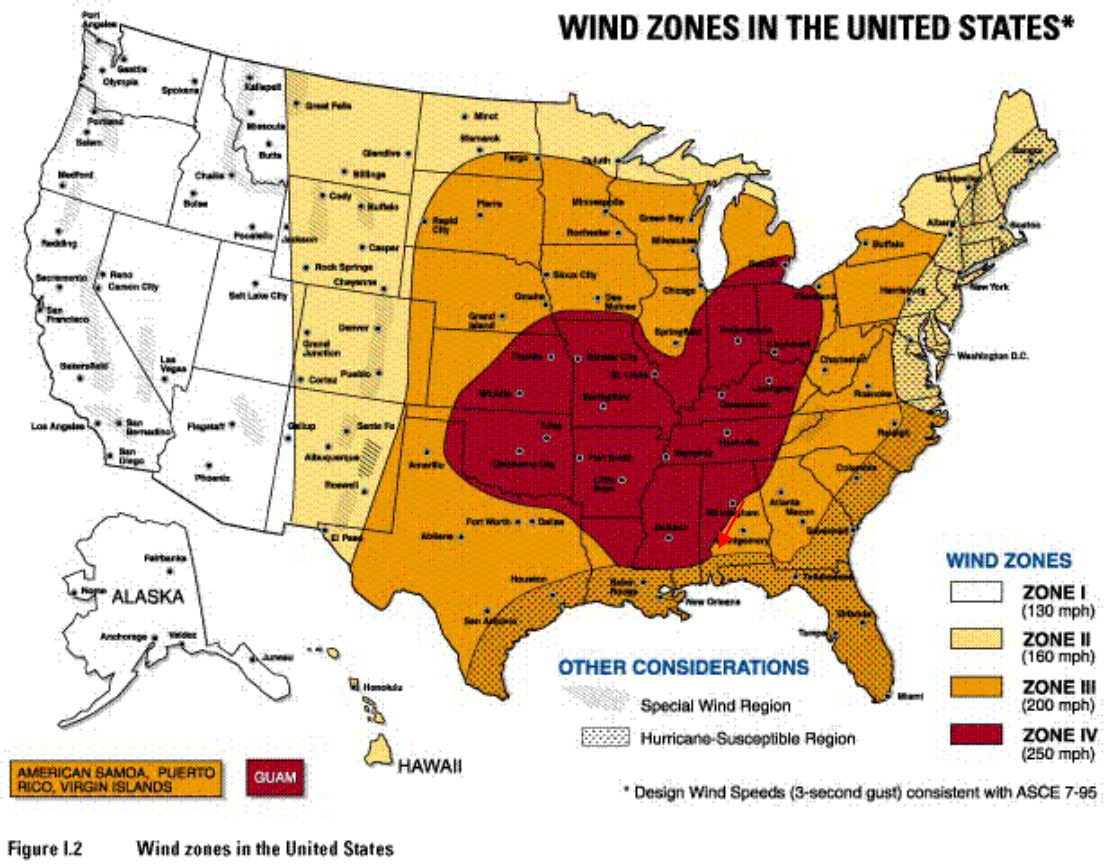


Figure 4.18 Wind Zones in the United States
Source: Federal Emergency Management Agency: http://www.fema.gov/graphics/fima/tsfsm01.gif

A number of tornadic events have occurred in Clarke County. Below are descriptions of the most recent occurrences.

- On July 5, 2005, near Walker Springs in Clarke County a magnitude F0 tornado occurred. It ended five miles North West of Walker Springs. About $15,000 worth of damages occurred. The tornado developed along the fringes of Tropical Storm Cindy. The tornado touched down west of Walker Springs and blew down trees and power lines for about half a mile.

- On May 10, 2007, a tornado occurred in Talahatta, which is located in North Clarke County. The F0 tornado did about $15,000 worth of damages. The weak tornado blew down several trees and power lines and damaged the roof of a small meat processing plant. No injuries were reported. Large hail was also reported with the storm.

- On April 15, 2011 an EF-2 tornado touched down in Gainestown. According to the National Weather Service, "The tornado touch down took a large section of roof off of a wood frame single story home near the center of circulation, pulled a single-wide mobile home off of its foundation on the north side of the circulation, and lifted off the roof of a

nearby double-wide mobile home on the south side of the circulation. The tornado circulation quickly widened to 200 yards and strengthened, rolled another single-wide mobile home 60 yards then causing it to disintegrate as it hit a large tree. The mobile homes bent undercarriage was left about 60 yards to the left of the tornado path. The tornado continued to the east and quickly lifted in a pine forest."

- Also on April 15, 2011 an EF-1 tornado touched down in the Carlton area of southern Clarke County. The Alabama Forestry Commission indicated a 300 to 600 yard wide path of trees snapped or blown over on the Fred T. Stimpson State Game Preserve. Several power poles and lines were snapped, and a storage shed was destroyed. The timber losses of large longleaf pine and slash pine were estimated to be close to 3 million dollars.

- On December 25, 2012 an EF-2 tornado affected the county. The tornado touched down on Todd Town Road seven miles north of Jackson. It then moved northeast where it destroyed a farm out-building then crossed Highway 43 approximately six miles southwest of Grove Hill. After it crossed Highway 43, the tornado was at its widest and caused extensive damage to farm equipment. Many large trees were uprooted in this area and minor structural damage occurred to several homes as well. The storm continued northeast uprooting large trees as it crossed Highway 84, two miles southeast of Grove Hill. The tornado then weakened as the thunderstorm core collapsed, which caused a microburst. The microburst resulted in a half mile wide damage swath on Nettlesboro Road. The tornado then reformed before exiting northeast Clarke County and moved into southwest Wilcox County. The tornado uprooted trees along its path before dissipating twelve miles southwest of Camden.

- On February 2, 2013 an EF-1 tornado touched down in Winn. The tornado stayed on ground only a short time. Damage included trees snapped mid-trunk and damage roofs in the area.

- On February 10, 2013 an EF-1 crossed the Tombigbee River into Clarke County where it produced damage on Old Lock Road to three wood frame homes (blowing one off of its masonry block foundation), rolling one single wide mobile home over onto its side, and blowing another single wide mobile home off of its blocks. The tornado continued east across Highway 69 snapping several pine trees. The tornado then dissipated in a deeply wooded area east of Highway 69 before reaching U.S. Highway 43 north of Jackson.

- On April 28, 2014 a weak F1 tornado touched down in central Clarke County to the south-southeast of Grove Hill. The tornado snapped and downed numerous trees. Roof damage was also reported on two homes and a barn.

Due to the number of past occurrences and its location in Wind Zones III and IV this hazard is a high risk for Clarke County.

Tsunamis

"A tsunami is a sea wave of local or distant origin that results from large-scale seafloor displacements associated with large earthquakes, major submarine slides, or exploding volcanic islands (http://earthquake.usgs.gov)." Tsunamis occur predominately in the Pacific Ocean and more specifically as a result of seismic activity in the "Ring of Fire" of the Pacific Rim. Clarke

County is not located in an area at risk for tsunamis; therefore it is not considered a risk to Clarke County.

Volcanoes

Volcanoes are accumulations of volcanic materials erupted through volcanic vents on Earth's surface. Within the United States the risk from volcanic activity is only prevalent in the Pacific Northwest, Alaska, and Hawaii. The state of Alabama is not identified as being at risk for volcanic activity; it is not considered a risk to Clarke County.

Wildfire

Wildfires are responsible for burning thousands of acres of land each year. These fires are uncontrolled and in dry conditions can spread rapidly through the surrounding vegetation and in some cases structures. There are two types of wildfires; these are wild land fires and urban-wild land interface fires. Wild land fires are those fires that occur in areas where the only development is utilities or infrastructure. Urban-wild land fires occur in areas were development occurs near or within the vegetative cover.

According to the Alabama Forestry Commission, between 1997 and 2012 there were 511 total wildfires in Clarke County. Those fires burned 2,606 acres. That translates to a yearly average of 34 fires and 174 acres burned per year. The average fire size was 5.1 acres.

The Alabama State Forestry Commission has produced a series of maps for each county detailing fire related statistics. These maps are provided as Figures 4.19-4.21. Figure 4.19 shows data relating to the occurrence of fires per 1,000 acres. One can see that the only area that is ranked in the extreme category is the Alma Community located in the southeast part of the County. There are also a number of areas classified as having a high number of occurrences. Portions of Thomasville and Grove Hill are classified as having a high number of occurrences. The communities of Tallahatta Springs, Roundhill, and an area between Salipta and Tattlersville also have a high number of occurrences. There are also many areas in the County classified as having a medium number of occurrences. Unincorporated areas along with portions of Thomasville, Grove Hill, Jackson, and Fulton all are ranked in the medium category. It is obvious that based on past occurrences, the County and all municipalities are vulnerable to wildfires.

Figure 4.20 depicts the risk of a wildfire on any given acre in the County. There are only numerous areas in the County classified with extreme risk. These areas are parts of the City of Jackson, Town of Grove Hill, Town of Fulton, and City of Thomasville. Also the Alma Community, an area between Salipta and Tattlersville, Tallahatta Springs, and Roundhill. All municipalities, except Coffeeville, have areas classified as having a medium risk. There are also many unincorporated areas with areas of medium risk. It is apparent based on risk by acre that the entire county has some degree of risk.

Figure 4.21 shows wildfire risk by community. The Town of Grove Hill is at critical or high risk. The City of Thomasville, City of Jackson, and Town of Fulton are all classified as being at moderate risk, while Coffeeville is at low risk. Based on the information from the Alabama Forestry Commission, Clarke County and all municipalities have some degree of risk. Based on this information, wildfire is a high risk hazard for Clarke County.

Figure 4.19 Fire Occurrence Areas

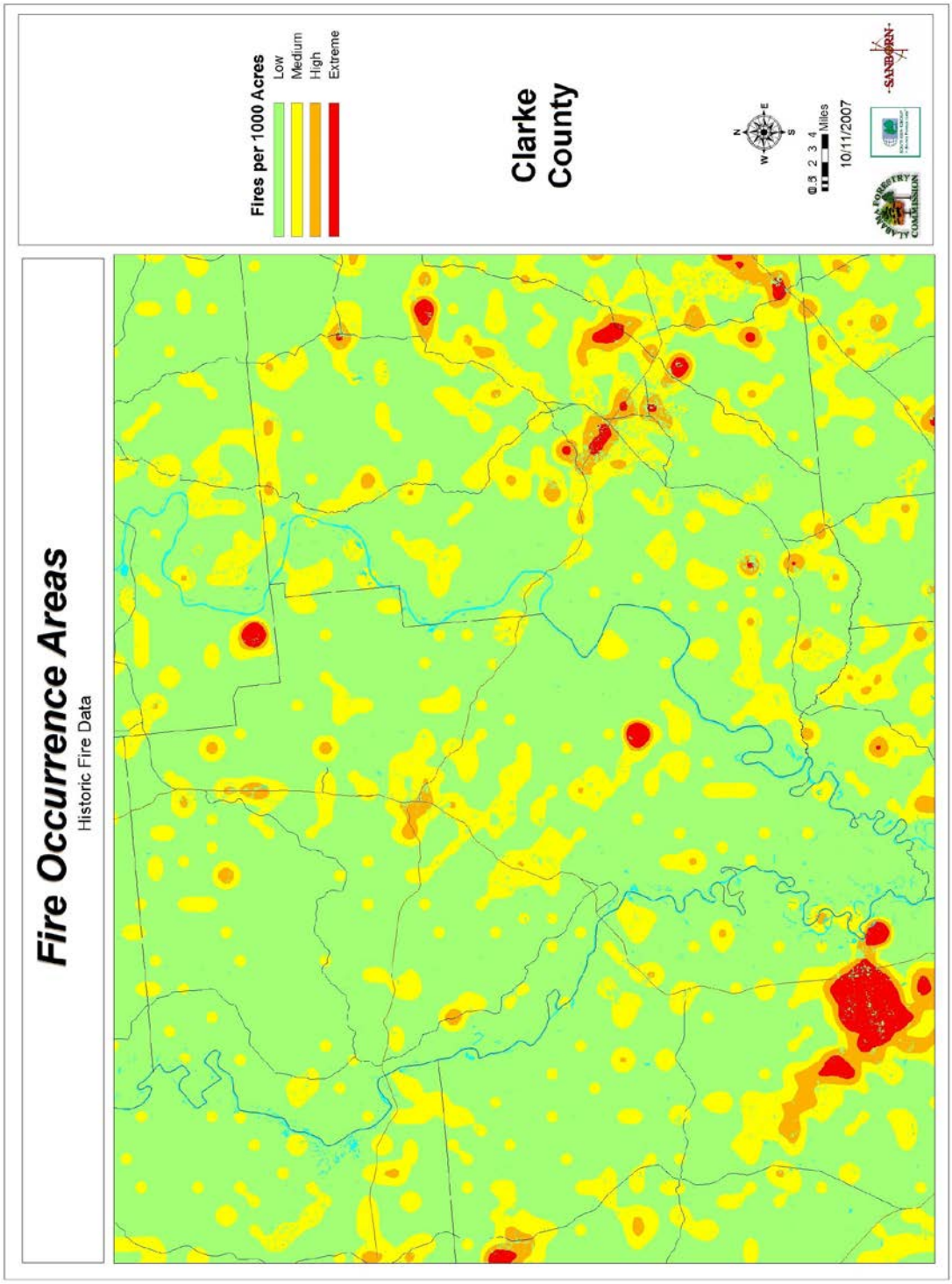


Figure 4.20 Risk of a Wildland Fire on a Given Acre

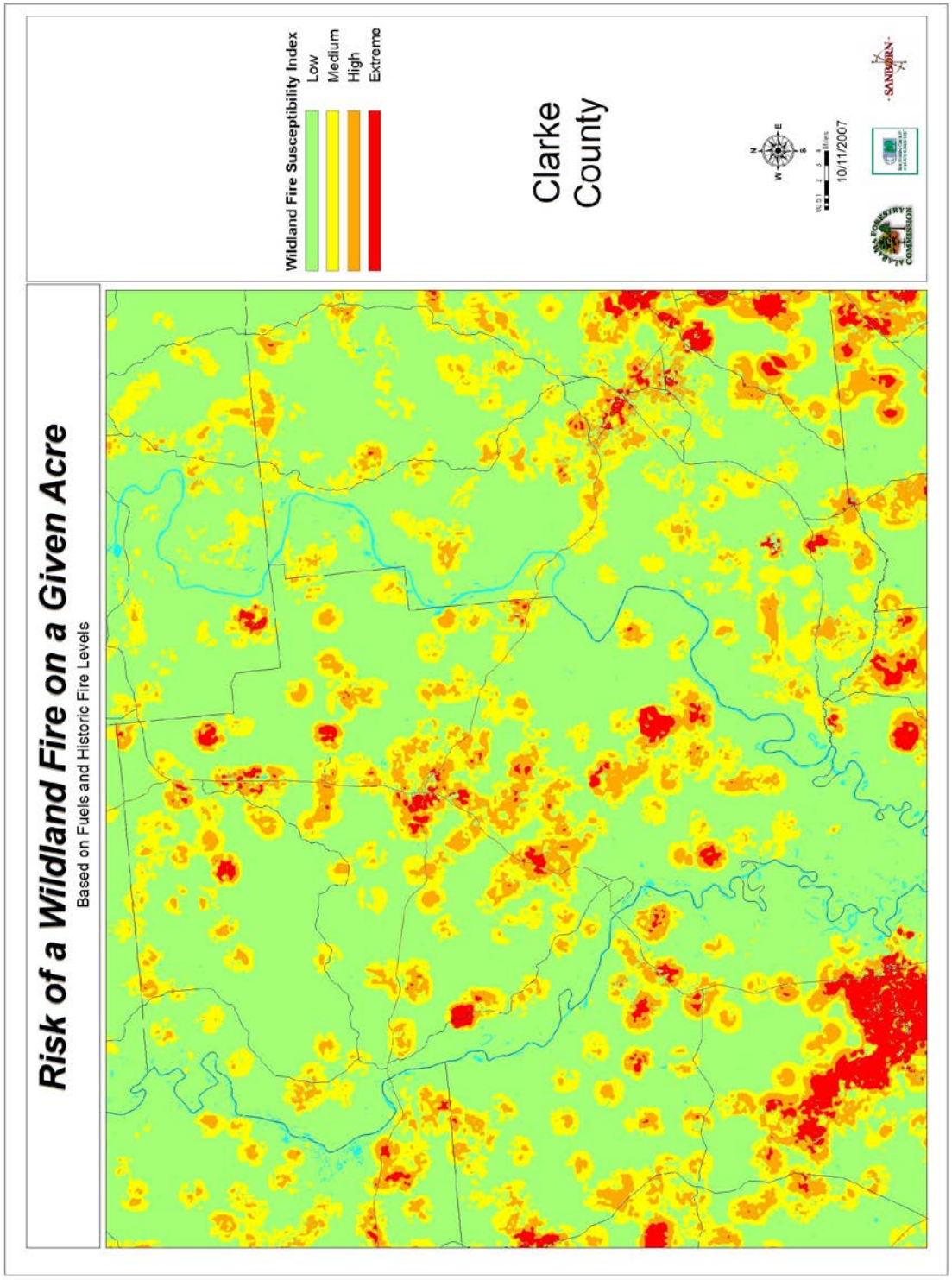


Figure 4.21 Communities at Risk of Wildfire Damage

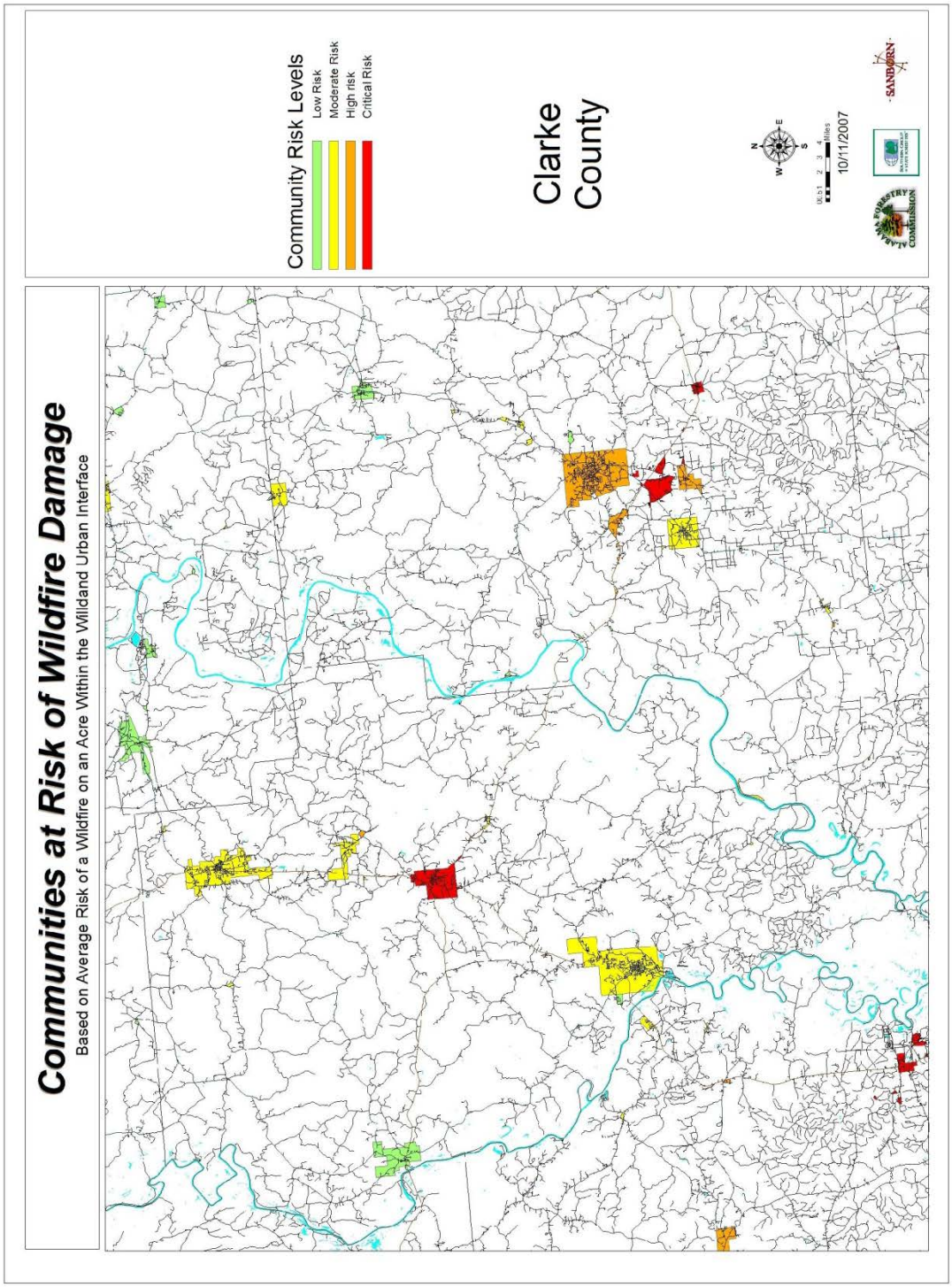


Table 4.5 summarizes natural hazard risks for Clarke County.

Table 4.5 Clarke County Natural Hazard Risk Assessment Summary

Hazard	Where Identified	Why Identified	Why Not Identified
Avalanche			Location
Coastal Erosion			Location
Dam Failure	Coffeeville Lock & Dam: unincorporated areas, Coffeeville, indirectly Jackson. Claiborne Local & Dam: unincorporated areas	would damage infrastructure in Clarke County and affect Jackson's water supply	
Earthquake	Coffeeville area, areas in Bahamas Fault Zone	Past occurrences, presence of faults	
Disease Outbreak/Epidemic	Countywide	Possibility of occurrence	
Expansive Soils			Location
Extreme Heat & Drought	Entire County	Past occurrences, climate	
Flood (including flash floods)	Areas along creeks and rivers in county; areas with insufficient drainage structures	Presence of flood zones; occurrences	

Hurricane	Entire County	Past occurrences and damage, probability of occurrence	
Landslide	Along roadways throughout county	Past occurrences	
Land Subsidence	Area of active subsidence across central portion of the County including parts of Grove Hill and Jackson	Identification of active subsidence area	
Severe Storms (hail, thunderstorms, lightning)	Entire County	Past occurrences and damages	
Severe Winter Storm	Entire County	Past occurrences	
Soil Erosion	Areas in the City of Jackson, Town of Grove Hill and Clarke County	Hazard identified by the City of Jackson, Town of Grove Hill and	
Tornado	Entire County	Past occurrences and damages	
Tsunami			Location

Volcano			Location
Wildfire	Entire County	Past Occurrences, Alabama Forestry Commission maps	

B. Identification of Technological Hazards
Technological Hazards result from the failure of systems and structures. Technological hazards are identified and their risk is determined in this plan, but no further information will be included. The Clarke County EMA identified the following technological hazards:

Water Shortage
Water shortages occur when available water sources do not have sufficient capacity to meet the demand for water. Shortages can be caused by infrastructure damage, mechanical failures, and natural disasters. In Clarke County, the most common cause is damage to water infrastructure. During the winter months, numerous breaks and line failures occur during periods of cold weather which can lead to these issues. In January 2010, the City of Thomasville and Grove Hill experienced water shortages due to these events. Clarke County identified water shortage as a high risk hazard.

Power Failure
Power failure is common during storm events, but can also result from a technological failure. Power failure can affect major utilities, hospitals, schools, and businesses. Clarke County has identified this as a moderate risk hazard.

Traffic Accidents
Traffic accidents are a common occurrence in most areas. Two major highways, United States Highways 43 & 84, run through the County. There are a high number of trucks that use these routes for shipping freight. Clarke County has identified traffic accidents as a moderate risk hazard.

Airplane Crash
Numerous planes cross over Clarke County on a daily basis. The County is also in the flight path of the Naval Air Stations from Pensacola and Meridian. Clarke County has identified this hazard as a moderate risk.

Hazardous Materials Release
Hazardous materials can be released as a result of vehicle accidents, train derailments, industrial accidents, technological failure, and mechanical failure. There are numerous mills and businesses in Clarke County which handle these materials. Trucks and trains transport these materials through the County on a daily basis. Clarke County has identified this hazard as a low risk hazard due to the nature of this hazard.

Industrial Accident
Industrial accidents can occur as a result of a variety of actions including human error, mechanical failure, and technological failure. There are a number of industrial mills within the county that employee hundreds. Also, a number of mills in the county handle hazardous materials making accidents especially dangerous. In the past, these accidents have been small scale and have affected only a handful of individuals. Due to the lower probabilities and small scale effects, Clarke County classifies this as a low hazard.

Train Derailment
A Class I railroad runs north-south in the county. Norfolk Southern runs this route. A wide variety of cargo is transported along this route, including hazardous materials. The route runs through the

cities of Thomasville, Fulton, and Jackson. Due to the low probability of occurrence, the county classifies train derailment as a low risk hazard.

Bridge Failure
There are a number of bridges throughout the County. All bridges in the county are inspected annually. A bridge failure could result in transportation delays and in some areas, residents being isolated. Clarke County classifies bridge failure as a low risk hazard.

Dam Failure
Refer to Dam Failure section under natural hazards discussion.

Solid Waste Disposal
Clarke County and all municipalities contact for waste disposal. The waste is disposed of at landfills in neighboring counties. Clarke County classifies this as a low risk hazard.

Radiological Release
Clarke County is well over one hundred miles from the nearest nuclear power plant. The nearest nuclear reactor is in Dothan. An incident at this site would not pose an immediate threat to the County. The county does not classify this hazard as a risk.

Table 4.6 summarizes the technological hazard risks for Clarke County.

Table 4.6 Clarke County Technological Hazard Risk Assessment Summary

Hazard	Where Identified	Why Identified	Why Not Identified
Water Shortage	Countywide	Possibility of occurrence	
Power Failure	Countywide	Possibility of occurrence	
Traffic Accidents	Countywide	Possibility of occurrence	
Airplane Crash	Countywide	Possibility of occurrence	

Hazardous Materials Release	Countywide	Possibility of occurrence	
Industrial Accident	Thomasville, Fulton, Grove Hill, Jackson	Industrial/Manufacturing Facilities	
Train Derailment	Unincorporated County, Thomasville, Fulton, Jackson	Class I railway present	
Bridge Failure	Countywide	Presence of bridges in areas	
Dam Failure	Coffeeville Lock & Dam: unincorporated areas, Coffeeville, indirectly Jackson. Claiborne Local & Dam: unincorporated areas	could damage infrastructure in Clarke County and affect Jackson's water supply	
Solid Waste Disposal			Contracts in place for disposal, no disposal facilities in county
Radiological Release			No facilities closer than 150 miles

C. Identification of Human-Caused Hazards

Human-Caused Hazards result from the intentional act of an adversary. Human caused hazards are identified and their risk is determined in this plan, but no further information will be included. Clarke County ranked the following human caused hazards:

School Violence- Moderate Risk
Fuel Shortage-Low Risk
Cyber Incidents- Low Risk
Work Place Violence- Low Risk
Biological- Low Risk
Financial Issues- Low Risk
Civil Disturbance- Low Risk
Sabotage- Low Risk

Due to the nature of these hazards a summary table will not be provided.

D. Area Affected by Each Identified Natural Hazard

Table 4.7 illustrates the geographic areas susceptible to each hazard identified in the natural hazard risk assessment. Hazards that were not considered a risk have been deleted.

Although most areas are susceptible to the same hazards, the extent to which they are susceptible varies. The susceptibility also may vary within a jurisdiction. An example is wildfire susceptibility, while all areas are in fact susceptible; those areas with little or no defensible space are more susceptible. Areas also may have different susceptibility to flooding. Areas of lower elevation or poor drainage are more susceptible than higher better-drained areas.

Tables 4.10-4.52 give more specific location information with regards to historic occurrences. It is evident by the data in these tables that the all areas in the county have been affected by the identified hazards.

Table 4.7 Locations Susceptible to Each Identified Hazard

Hazard	Unincorporated	Coffeeville	Fulton	Grove Hill	Jackson	Thomasville
Avalanche	--	--	--	--	--	--
Coastal Erosion	--	--	--	--	--	--
Dam Failure	X	X	--	--	X	--
Disease Outbreak/Epidemic	X	X	X	X	X	X
Earthquake	X	X	X	X	X	--
Expansive Soils	--	--	--	--	--	--
Extreme Heat and Drought	X	X	X	X	X	X
Flood (including flash flood)	X	X	X	X	X	X
Hurricane	X	X	X	X	X	X
Land Slide	X	--	--	--	--	--
Land Subsidence	X	--	--	X	X	--
Severe Storms (Hail, Lightning, High Wind, and Thunderstorms)	X	X	X	X	X	X
Severe Winter Storm	X	X	X	X	X	X
Soil Erosion	--	--	--	--	X	--
Tornado	X	X	X	X	X	X
Tsunami	--	--	--	--	--	--
Volcano	--	--	--	--	--	--
Wildfire	X	X	X	X	X	X

E. Extent and Impact of Each Identified Natural Hazard

The extent and impact of each natural hazard is addressed in Table 4.8.

Table 4.8 Extent and Impact of Identified Natural Hazards

Hazard	Unincorporated	Coffeeville	Fulton	Grove Hill	Jackson	Thomasville
Avalanche						
Coastal Erosion						
Dam Failure	Coffeeville Dam failure would cause infrastructure and environmental damages; would affect City of Jackson's water supply; Claiborne Dam failure would affect Clarke County infrastructure	Coffeeville Dam or Claiborne Dam failure would cause infrastructure and environmental damages			Coffeeville Dam failure would affect City of Jackson's water supply	
Disease Outbreak/Epidemic	Widespread contamination, Illness, death	Widespread contamination, Illness, death	Widespread contamination, Illness, death	Widespread contamination, Illness, death	Widespread contamination, Illness, death	Widespread contamination, Illness, death
Earthquake	3-6 on Richter Scale, Property damage, injury	3-6 on Richter Scale, Property damage, injury	3-6 on Richter Scale, Property damage, injury	3-6 on Richter Scale, Property damage, injury	3-6 on Richter Scale, Property damage, injury	3-6 on Richter Scale, Property damage, injury
Expansive Soil						
Extreme Heat and Drought	Temperatures above 100°,D4 drought, crop loss, public health concern, wildfire susceptibility	Temperatures above 100°,D4 drought, crop loss, public health concern, wildfire susceptibility	Temperatures above 100°,D4 drought, crop loss, public health concern, wildfire susceptibility	Temperatures above 100°,D4 drought, crop loss, public health concern, wildfire susceptibility	Temperatures above 100°,D4 drought, crop loss, public health concern, wildfire susceptibility	Temperatures above 100°,D4 drought, crop loss, public health concern, wildfire susceptibility
Flood (including flash flood)	8-10" of water, Road closures, property damage, injury or loss of life	8-10" of water, Road closures, property damage, injury or loss of life	8-10" of water, Road closures, property damage, injury or loss of life	8-10" of water, Road closures, property damage, injury or loss of life	8-10" of water, Road closures, property damage, injury or loss of life	8-10" of water, Road closures, property damage, injury or loss of life
Hurricane	Category 5, Heavy flood and wind damage, loss of life, injuries, temporary loss of utilities, timber loss	Category 5, Heavy flood and wind damage, loss of life, injuries, temporary loss of utilities, timber loss	Category 5, Heavy flood and wind damage, loss of life, injuries, temporary loss of utilities, timber loss	Category 5, Heavy flood and wind damage, loss of life, injuries, temporary loss of utilities, timber loss	Category 5, Heavy flood and wind damage, loss of life, injuries, temporary loss of utilities, timber loss	Category 5, Heavy flood and wind damage, loss of life, injuries, temporary loss of utilities, timber loss
Land Slide	Road damage, environmental damage	Road damage, environmental damage	Road damage, environmental damage	Road damage, environmental damage	Road damage, environmental damage	Road damage, environmental damage

Land Subsidence	Property damage			Property damage	Property damage	
Severe Storms (Hail, Lightning, High Wind, and Thunderstorms)	Large hail (4-5"), wind damage, property damage, crop loss, death, injury	Large hail (4-5"), wind damage, property damage, crop loss, death, injury	Large hail (4-5"), wind damage, property damage, crop loss, death, injury	Large hail (4-5"), wind damage, property damage, crop loss, death, injury	Large hail (4-5"), wind damage, property damage, crop loss, death, injury	Large hail (4-5"), wind damage, property damage, crop loss, death, injury
Severe Winter Storm (Snow and Ice)	5-8" of snow, 3-5" of ice, Tree damage, utility damage, property damage	5-8" of snow, 3-5" of ice, Tree damage, utility damage, property damage	5-8" of snow, 3-5" of ice, Tree damage, utility damage, property damage	5-8" of snow, 3-5" of ice, Tree damage, utility damage, property damage	5-8" of snow, 3-5" of ice, Tree damage, utility damage, property damage	5-8" of snow, 3-5" of ice, Tree damage, utility damage, property damage
Soil Erosion	Property, utility, environmental damage			Property, utility, environmental damage	Property, utility, environmental damage	
Tornado	F0-F5 Extensive property damage possible, death, injury	F0-F5 Extensive property damage possible, death, injury	F0-F5 Extensive property damage possible, death, injury	F0-F5 Extensive property damage possible, death, injury	F0-F5 Extensive property damage possible, death, injury	F0-F5 Extensive property damage possible, death, injury
Tsunami						
Volcano						
Wildfire	Property, timber, and revenue losses, death, injury	Property, timber, and revenue losses, death, injury	Property, timber, and revenue losses, death, injury	Property, timber, and revenue losses, death, injury	Property, timber, and revenue losses, death, injury	Property, timber, and revenue losses, death, injury

F. Previous Occurrences

There are previous occurrences on record for each type of hazard identified in this risk assessment. The best available data was taken from the National Weather Service and local newspapers. Due to the lack of historical records of storm events EMA has begun keeping records of events to submit to the National Weather Service, this addresses a deficiency identified in previous plans.

Once a total review of all National Weather Service records was completed, it was evident that all occurrence numbers were drastically low (Table 4.9). Table 4.9 illustrates that the number of reported occurrences vary greatly between jurisdictions.

Table 4.9 Past Occurrences by Jurisdiction

Hazard	Unincorporated	Coffeeville	Fulton	Grove Hill	Jackson	Thomasville
Avalanche						
Coastal Erosion						
Dam Failure	N/A	N/A	N/A	N/A	N/A	N/A
Earthquake	N/A	N/A	N/A	N/A	N/A	N/A
Expansive Soil						
Hurricane	8	8	8	8	8	8
Land Slide	N/A	N/A	N/A	N/A	N/A	N/A
Land Subsidence	N/A	N/A	N/A	N/A	N/A	N/A
Extreme Heat and Drought	3	3	3	3	4	3
Flood(including flash flood)	16	4	4	3	9	5
Severe Storm (hail, wind, lightning and thunderstorm)	113	20	15	39	43	136
Severe Winter Storms	6	5	5	6	5	5
Soil Erosion	N/A	N/A	N/A	N/A	N/A	N/A
Tornado	29	4	0	4	4	1
Tsunami						
Volcano						
Wildfire	N/A	N/A	N/A	N/A	N/A	N/A

G. Past Occurrence Documentation

The information for the hazard profile section of this plan was taken from the National Weather Service's Storm Events Database, available at http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storms and the Birmingham Office of the National Weather Service's Tornado occurrences available at http://www.srh.noaa.gov/bmx/tornadoes/index.html. **This data is the best available data for Clarke County.** The storm descriptions are taken from these sources. This section is broken into six parts one for Coffeeville, Fulton, Grove Hill, Jackson, Thomasville, and unincorporated Clarke County. **Time periods available for each hazard may vary; this is a result of incomplete data and could not be corrected. The Clarke County EMA has begun keeping records of event dates to submit to the National Weather Service, this addresses a deficiency identified in previous plans.**

Dam Failure – No reported occurrences.
Earthquake- Refer to Section 4, Risk Assessment
Land Subsidence-Nature of hazard is such that occurrences are not available.
Landslides - Data not available.
Soil Erosion- Data not available.
Wildfires- Data is not available.

No past occurrence data for technological and human caused hazards was collected.

Hazard Profile by Jurisdiction
Town of Coffeeville

Tables 4.10-4.16 contain the available past occurrence data for the Town of Coffeeville. The hurricane, snow and ice, and extreme temperature occurrences were all countywide, so jurisdiction specific information was unavailable. Historically, the data shows that Coffeeville has received damage from thunderstorm winds, flash flooding, hail, and tornadoes. The data shows no injuries or deaths being reported. Storm descriptions indicate that most damage has been a result of falling trees.

Table 4.10 Extreme Heat Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Coffeeville	07/01/2000		Excessive Heat	N/A	0	0	N/A	N/A
2. Coffeeville	08/08/2007		Excessive Heat	N/A	0	0	N/A	N/A
3. Coffeeville	08/03/2012		Excessive Heat	N/A	0	0	N/A	N/A
				TOTALS:	0	0	N/A	N/A

1. No description available.
2. Between 8/8/2007-8/14/2007 a combination of high temperatures and high humidity led to warnings being issued. The heat index during this period ranged from 110-115.
3. Excessive heat with a hear index around 105 led to the death of an archaeologist performing field work in the county.

Table 4.11 Historical Flash Flood Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Coffeeville	01/30/1999	12:30 PM	Flash Flood	N/A	0	0	$5,000.00	0
2. Coffeeville	07/10/2005	05:30 PM	Flash Flood	N/A	0	0	0	0
3. Coffeeville	08/29/2005	12:00 PM	Flash Flood	N/A	0	0	0	0
4. Coffeeville	04/11/2008	18:00 PM	Flash Flood	N/A	0	0	0	0
				TOTALS:	0	0	$5,000.00	0

1. Heavy rainfall caused several streets to flood across the north part of the county and also in the Jackson area. Many of the roads were impassable for about two hours. Rainfall totals were estimated at 2.5 to 3.0 inches.
2. Heavy rains from Hurricane Dennis caused street flooding across most of the county. Radar estimated that 3-5 inches of rain fell across most of the county, with isolated amounts of 8-10 inches across the east part.
3. Heavy rains from Hurricane Katrina caused flooding across most of the county. Several streets had to be closed off and on throughout the day. Radar estimated that 3-5 inches of rain fell across the county.

4. Heavy rains on April 11 caused temporary street flooding. Rainfall totals of three to four inches caused several streets across rural parts of southwest Alabama to temporary flood. The streets had to be closed for several hours due to the high water.

Table 4.12 Historical Hail Occurrences (Severe Storms)

Location	Date	Time	Type	Magnitude (inches)	Deaths	Injuries	Property Damage	Crop Damage
1. Coffeeville	12/12/1996	03:55 PM	Hail	0.75	0	0	0	0
2. Coffeeville	04/17/1998	05:30 PM	Hail	0.75	0	0	0	0
3. Coffeeville	05/28/1999	05:24 PM	Hail	1.00	0	0	0	0
4. Coffeeville	03/26/2005	03:35 PM	Hail	1.00	0	0	0	0
5. Coffeeville	12/24/2005	02:45 PM	Hail	1.75	0	0	$5,000.00	0
6. Coffeeville	04/30/2005	04.35 PM	Hail	1.00	0	0	0	0
7. Coffeeville	04/11/2008	4:50 PM	Hail	0.88	0	0	0	0
8. Coffeeville	05/27/2009	2:38 PM	Hail	1.00	0	0	0	0
9. Coffeeville	04/24/2010	10:45 AM	Hail	1.75	0	0	0	0
10. Coffeeville	04/24/2010	10:45 AM	Hail	0.88	0	0	0	0
11. Coffeeville	05/21/2010	4:05 PM	Hail	1.00	0	0	0	0
12. Coffeeville	02/10/2013	6:00 PM	Hail	1.75	0	0	$5,000.00	0
				TOTALS:	0	0	$10,000.00	0

1. Dime size hail was reported just east of Coffeeville.
2. Dime size hail was reported near Coffeeville.
3. Quarter size hail was reported near the Coffeeville Lock and Dam.
4. None reported.
5. Golfball size hail fell along U. S. Highway 84 from Coffeeville to east of the city. Several vehicles were damaged by the large hail. The hail lasted several minutes and covered the ground.
6. None reported.
7. Severe thunderstorms produced large hail and high winds that blew down trees across parts of southwest Alabama.
8. Severe thunderstorms produced large hail and high winds that blew down trees across parts of southwest Alabama.
9. Thunderstorms produced large hail.
10. Thunderstorms produced large hail.
11. A line of thunderstorms produced large hail and high winds.
12. Thunderstorms developed ahead of an approaching cold front. Some of the thunderstorms became severe with damaging winds and tornadoes. The storms also produced very heavy rain which caused flash flooding.

Table 4.13 Historical Thunderstorm and High Wind Occurrences (Severe Storms)

Location	Date	Time	Type	Magnitude (knots)	Deaths	Injuries	Property Damage	Crop Damage
1. Coffeeville	07/15/1994	5:30 PM	Thunderstorm Winds	N/A	0	0	$5,000.00	0
2. Coffeeville	06/05/1998	10:45 PM	Thunderstorm Wind	70	0	0	0	0
3. Coffeeville	01/24/2010	6:50 AM	Thunderstorm Winds	50	0	0	0	0
4. Coffeeville	04/04/2011	7:07 PM	Thunderstorm Wind	50	0	0	0	0
5. Coffeeville	04/04/2011	8:56 PM	Thunderstorm Wind	50	0	0	0	0
6. Coffeeville	05/06/2012	12:30 PM	Thunderstorm Wind	52	0	0	0	0
7. Coffeeville	06/11/2012	9:00 PM	Thunderstorm Wind	52	0	0	$3,000.00	0
8. Coffeeville	07/03/2012	1:30 PM	Thunderstorm Wind	52	0	0	$2,000.00	0
				TOTALS:	0	0	$10,000.00	0

1. Thunderstorm winds uprooted numerous trees along Highway 69 south of Coffeeville, in the area just east of Coffeeville, and along Highway 154 northeast of Coffeeville. Falling trees did minor damage to two houses.
2. A line of severe thunderstorms moved through the county from west to east between 10:45 pm and 11:40 pm.
3. Trees and power lines were blown down throughout the county.
4. During the morning hours, a line of strong thunderstorms occurred, two trees were snapped in half and downed on West Bend Road about 1 mile off Highway 69.
5. Trees blown down by severe thunderstorm winds near 60 mph on West Bend Road.
6. Winds with an estimated speed of 60mph downed a tree on a house causing extensive damage.
7. Winds estimated at 60 mph blew down trees near the intersection of Hwy 84 and County Road 3.
8. Winds estimated at 60 mph downed a tree on Hwy 154 at mile marker 10.

Table 4.14 Historical Hurricane Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Coffeeville	08/03/1995	09:00 AM	Hurricane Erin	N/A	0	0	N/A	N/A
2. Coffeeville	10/03/1995	12:00 AM	Hurricane Opal	N/A	0	0	N/A	N/A
3. Coffeeville	09/25/1998	09:00 AM	Hurricane Georges	N/A	0	0	N/A	N/A
4. Coffeeville	09/13/2004	09:00 PM	Hurricane Ivan	N/A	0	0	N/A	N/A
5. Coffeeville	06/10/2005	03:00 AM	TS Arlene	N/A	0	0	N/A	N/A
6. Coffeeville	07/05/2005	0.3:00 AM	TS Cindy	N/A	0	0	N/A	N/A
7. Coffeeville	07/09/2005	0.3:00 AM	Hurricane Dennis	N/A	0	0	N/A	N/A
8. Coffeeville	08/31/2005	0.3:00 AM	Hurricane Katrina	N/A	0	0	N/A	N/A
				TOTALS:	0	0	N/A	N/A

1. Heavy rains and high winds from Hurricane Erin pounded Clarke County resulting in heavy tree damage and power outages.
2. Hurricane Opal's high winds resulted in power outages throughout the County. The heavy rains from the storm also hampered the County.
3. Hurricane George brought heavy rains that resulted in flash flooding in many areas of the county. There were also power outages due to tree damage.
4. Hurricane Ivan devastated Clarke County with high winds and spinoff tornadoes. There were four Homes and 25 mobile homes destroyed. 199 homes and 52 mobile homes had major damage, while 80 homes and 21 mobile homes had minor damage. The County's timber damage was estimated to be $61.3 million by the Alabama Forestry Commission
5. Tropical Storm Arlene brought strong wind and soaking rain to the area.
6. Tropical Storm Cindy brought a substantial amount of rainfall to Clarke County.
7. Hurricane Dennis brought rain and strong winds to Clarke County. The County suffered significant tree damage and many areas loss power.
8. Hurricane Katrina brought strong winds and soaking rains to the Clarke County. Power outages and tree damage were reported.

Table 4.15 Historical Severe Winter Storms

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Coffeeville	12/21/2000		Winter Storm	N/A	0	0	N/A	N/A
2. Coffeeville	01/01/2001		Winter Storm	N/A	0	0	N/A	N/A
3. Coffeeville	01/02/2002		Winter Storm	N/A	0	0	N/A	N/A
4. Coffeeville	01/09/2011		Ice Storm	N/A	0	0	N/A	N/A
5. Coffeeville	01/28/2014		Ice Storm	N/A	0	0	N/A	N/A
				TOTALS:	0	0	N/A	N/A

1. No description available.
2. No description available.
3. No description available.
4. Widespread light icing was experienced throughout the county.
5. One inch of sleet and snow accumulation. All roads in the county were closed.

Table 4.16 Historical Tornado Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Coffeeville	03/18/1996	05:00 PM	Tornado	F1	0	0	$50,000.00	0
2. Coffeeville	01/10/2008	1:58 PM	Funnel Cloud	N/A	0	0	0	0
3. Coffeeville	05/21/2010	2:20 PM	Funnel Cloud	N/A	0	0	0	0
4. Coffeeville	04/15/2011	8:56 PM	Funnel Cloud	N/A	0	0	0	0
				TOTALS:	0	0	$50,000.00	0

1. Another tornado touched down from the same storm that began in southeast Mississippi. The tornado touched down east of Coffeeville along County Road 3. The tornado then moved northeast and crossed U.S. Highway 84. A couple of homes were damaged here when large trees fell on them. The tornado continued moving northeast before lifting back into the cloud just east of County Road 21. Several homes were damaged just before the tornado lifted back into the cloud. As before homes were damaged when trees fell on them. Some homes also suffered roof damage when shingles were blown off them. The tornado stayed on the ground for about three miles.
2. A squall line of thunderstorms moved through southwest Alabama producing several funnel cloud reports and hail. High winds from the thunderstorms also caused downed trees.
3. A funnel cloud was sighted in Coffeeville.
4. A funnel cloud was sighted near the intersection County Road 31 and State Highway 69.

Hazard Profile by Jurisdiction
Town of Fulton

Tables 4.17-4.22 contain the available past occurrence data for the Town of Fulton. The hurricane, snow and ice, and extreme temperature occurrences were all countywide, so jurisdiction specific information was unavailable. Historically, the data shows that Fulton has received damage from thunderstorm winds and flash flooding. The data shows no injuries or deaths being reported. Storm descriptions indicate that most damage has been a result of falling trees.

Table 4.17 Extreme Heat Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Fulton	07/01/2000		Excessive Heat	N/A	0	0	0	0
2. Fulton	08/08/2007		Excessive Heat	N/A	0	0	0	0
3. Fulton	08/03/2012		Excessive Heat	N/A	0	0	0	0
				TOTALS:	0	0	0	0

1. No description available.
2. Between 8/8/2007-8/14/2007 a combination of high temperatures and high humidity led to warnings being issued. The heat index during this period ranged from 110-115.
3. Excessive heat with a hear index around 105 led to the death of an archaeologist performing field work in the county.

Table 4.18 Historical Flash Flood Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Fulton	01/30/1999	12:30 PM	Flash Flood	N/A	0	0	$5,000.00	0
2. Fulton	07/10/2005	05:30 PM	Flash Flood	N/A	0	0	0	0
3. Fulton	08/29/2005	12:00 PM	Flash Flood	N/A	0	0	0	0
4. Fulton	04/12/2009	11:45 PM	Flash Flood	N/A	0	0	$50,000.00	0
				TOTALS:	0	0	$55,000.00	0

1. Heavy rains from Hurricane Dennis caused street flooding across most of the county. Radar estimated that 3-5 inches of rain fell across most of the county, with isolated amounts of 8-10 inches across the east part.
2. Heavy rains from Hurricane Katrina caused flooding across most of the county. Several streets had to be closed off and on throughout the day. Radar estimated that 3-5 inches of rain fell across the county.
3. Heavy rains on April 11 caused temporary street flooding. Rainfall totals of three to four inches caused several streets across rural parts of southwest Alabama to temporary flood. The streets had to be closed for several hours due to the high water.
4. Heavy rains flooded the fire department and Post Office in Fulton. The railroad tracks were also under water.

Table 4.19 Historical Hurricane Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Fulton	08/03/1995	09:00 AM	Hurricane Erin	N/A	0	0	N/A	N/A
2. Fulton	10/03/1995	12:00 AM	Hurricane Opal	N/A	0	0	N/A	N/A
3. Fulton	09/25/1998	09:00 AM	Hurricane Georges	N/A	0	0	N/A	N/A
4. Fulton	09/13/2004	09:00 PM	Hurricane Ivan	N/A	0	0	N/A	N/A
5.Fulton	06/10/2005	03:00 AM	TS Arlene	N/A	0	0	N/A	N/A
6. Fulton	07/05/2005	0.3:00 AM	TS Cindy	N/A	0	0	N/A	N/A
7. Fulton	07/09/2005	0.3:00 AM	Hurricane Dennis	N/A	0	0	N/A	N/A
8. Fulton	08/31/2005	0.3:00 AM	Hurricane Katrina	N/A	0	0	N/A	N/A
				TOTALS:	0	0	N/A	N/A

1. Heavy rains and high winds from Hurricane Erin pounded Clarke County resulting in heavy tree damage and power outages.
2. Hurricane Opal's high winds resulted in power outages throughout the County. The heavy rains from the storm also hampered the County.
3. Hurricane George brought heavy rains that resulted in flash flooding in many areas of the county. There were also power outages due to tree damage.
4. Hurricane Ivan devastated Clarke County with high winds and spinoff tornadoes. There were four Homes and 25 mobile homes destroyed. 199 homes and 52 mobile homes had major damage, while 80 homes and 21 mobile homes had minor damage. The County's timber damage was estimated to be $61.3 million by the Alabama Forestry Commission
5. Tropical Storm Arlene brought strong wind and soaking rain to the area.
6. Tropical Storm Cindy brought a substantial amount of rainfall to Clarke County.
7. Hurricane Dennis brought rain and strong winds to Clarke County. The County suffered significant tree damage and many areas loss power.
8. Hurricane Katrina brought strong winds and soaking rains to the Clarke County. Power outages and tree damage were reported.

Table 4.20 Historical Hail Occurrences (Severe Storms)

Location	Date	Time	Type	Magnitude (inches)	Deaths	Injuries	Property Damage	Crop Damage
1. Fulton	03/15/1995	4:15 PM	Hail	0.88	0	0	0	0
2. Fulton	07/17/2003	06:20 PM	Hail	0.75	0	0	0	0
3. Fulton	07/17/2003	06:35 PM	Hail	1.00	0	0	0	0
4. Fulton	10/24/2010	7:31 PM	Hail	0.88	0	0	0	0
5. Fulton	10/24/2010	7:33 PM	Hail	1.75	0	0	0	0
				TOTALS:	0	0	0	0

1. Hail up to the size of nickels was reported between Dickinson and Fulton.
2. No description available.
3. No description available.

4. Nickel size hail fell near Fulton.
5. Quarter to golf ball size hail was reported in Fulton.

Table 4.21 Historical Thunderstorm and High Wind Occurrences (Severe Storms)

Location	Date	Time	Type	Magnitude (knots)	Deaths	Injuries	Property Damage	Crop Damage
1. Fulton	05/15/1995	7:30 PM	Thunderstorm Winds	N/A	0	0	$1,000.00	0
2. Fulton	02/26/1998	05:40 PM	Thunderstorm Winds	50	0	0	$3,000.00	0
3. Fulton	11/09/2000	01:35 AM	Thunderstorm Winds	55	0	0	$10,000.00	0
4. Fulton	07/15/2002	04:45 PM	Thunderstorm Winds	50	0	0	$8,000.00	0
5. Fulton	02/22/2003	12:30 AM	Thunderstorm Winds	50	0	0	$10,000.00	0
6. Fulton	04/12/2009	9:45 PM	Thunderstorm Winds	50	0	0	$15,000.00	0
7. Fulton	06/04/2009	1:47 PM	Thunderstorm Winds	52	0	0	$10,000.00	0
8. Fulton	01/24/2010	09:40 AM	Thunderstorm Winds	50	0	0	0	0
9. Fulton	10/24/2010	07:35 PM	Thunderstorm Winds	52	0	0	0	0
10. Fulton	04/04/2011	07:35 PM	Thunderstorm Winds	50	0	0	0	0
				TOTALS:	0	0	$57,000.00	0

1. Several trees and power lines were blown down along State Highway 178 between Fulton and Greenwood.
2. Several trees were blown down along US Highway 43 just west of Fulton.
3. High winds from a thunderstorm blew several trees down and blew some shingles from a home near Fulton.
4. Trees were blown down near Fulton by high winds from a thunderstorm.
5. High winds from a thunderstorm blew some tin off a school building and scattered it around the school. The tin was blown from a make shift building that was added to the school. Trees were also blown down.
6. Thunderstorm wind gusts downed trees near Highway 43,
7. Winds downed trees and power lines in Fulton.
8. Trees were blown down near Fulton Junction.
9. Trees and power lines were down on Old Grove Hill Road.
10. High winds blew down trees in Fulton.

Table 4.22 Historical Severe Winter Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Fulton	12/21/2000		Winter Storm	N/A	0	0	N/A	N/A
2. Fulton	01/01/2001		Winter Storm	N/A	0	0	N/A	N/A
3. Fulton	01/02/2002		Winter Storm	N/A	0	0	N/A	N/A
4. Fulton	01/09/2011		Ice Storm	N/A	0	0	N/A	N/A
5. Fulton	01/28/2014		Ice Storm	N/A	0	0	N/A	N/A
				TOTALS:	0	0	N/A	N/A

1. No description available.
2. No description available.
3. No description available.
4. Widespread light icing was experienced throughout the county.
5. One inch of sleet and snow accumulation. All roads in the county were closed.

Hazard Profile by Jurisdiction
City of Grove Hill

Tables 4.23-4.30 contain the available past occurrence data for the Town of Grove Hill. The hurricane, snow and ice, and extreme temperature occurrences were all countywide, so jurisdiction specific information was unavailable. Historically, the data shows that Grove Hill has received damage from flash floods, lightning, thunderstorms, and tornadoes. The data shows no injuries or deaths being reported. Storm descriptions indicate that most damage has been a result of high winds.

Table 4.23 Extreme Heat Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Grove Hill	07/01/2000		Excessive Heat	N/A	0	0	0	0
2. Grove Hill	08/08/2007		Excessive Heat	N/A	0	0	0	0
3. Grove Hill	08/03/2012		Excessive Heat	N/A	0	0	0	0
				TOTALS:	0	0	0	0

1. No description available.
2. Between 8/8/2007-8/14/2007 a combination of high temperatures and high humidity led to warnings being issued. The heat index during this period ranged from 110-115.
3. Excessive heat with a hear index around 105 led to the death of an archaeologist performing field work in the county.

Table 4.24 Historical Flood Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Grove Hill	06/27/1999	05:30 PM	Flash Flood	N/A	0	0	$3,000.00	0
2. Grove Hill	03/03/2001	02:30 AM	Flash Flood	N/A	0	0	N/A	0
3. Grove Hill	04/03/2001	08:35 PM	Flash Flood	N/A	0	0	$3,000.00	0
				TOTALS:	0	0	$6,000.00	0

1. Heavy rainfall caused temporary street flooding along secondary roads off of US Hwy 43 between Jackson and Grove Hill. Local weather radars estimated that three to four inches of rain fell in a three hour period. As the storms moved out of the area, the flooded roads quickly drained.
2. Heavy rainfall caused extensive washouts to secondary roads and bridges across the counties. Most of the water had drained by sunset and most of the roads were reopened. However, some of the roads and bridges, especially in Clarke County, had to be rebuilt and were closed for several days before they were reopened. Radar estimated four to six inches of rainfall fell across the area.
3. Heavy rainfall caused several dirt roads that cross U. S. 43 between Jackson and Grove Hill to temporarily flood. Some of the roads were closed for several hours until the water drained. Radar estimated four to six inches of rain fell across the area in a three hour period.

Table 4.25 Historical Hurricane Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Grove Hill	08/03/1995	09:00 AM	Hurricane Erin	N/A	0	0	N/A	N/A
2. Grove Hill	10/03/1995	12:00 AM	Hurricane Opal	N/A	0	0	N/A	N/A
3. Grove Hill	09/25/1998	09:00 AM	Hurricane Georges	N/A	0	0	N/A	N/A
4. Grove Hill	09/13/2004	09:00 PM	Hurricane Ivan	N/A	0	0	N/A	N/A
5. Grove Hill	06/10/2005	03:00 AM	TS Arlene	N/A	0	0	N/A	N/A
6. Grove Hill	07/05/2005	0.3:00 AM	TS Cindy	N/A	0	0	N/A	N/A
7. Grove Hill	07/09/2005	0.3:00 AM	Hurricane Dennis	N/A	0	0	N/A	N/A
8. Grove Hill	08/31/2005	0.3:00 AM	Hurricane Katrina	N/A	0	0	N/A	N/A
				TOTALS:	0	0	N/A	N/A

1. Heavy rains and high winds from Hurricane Erin pounded Clarke County resulting in heavy tree damage and power outages.
2. Hurricane Opal's high winds resulted in power outages throughout the County. The heavy rains from the storm also hampered the County.
3. Hurricane George brought heavy rains that resulted in flash flooding in many areas of the county. There were also power outages due to tree damage.
4. Hurricane Ivan devastated Clarke County with high winds and spinoff tornadoes. There were four Homes and 25 mobile homes destroyed. 199 homes and 52 mobile homes had major damage, while 80 homes and 21 mobile homes had minor damage. The County's timber damage was estimated to be $61.3 million by the Alabama Forestry Commission
5. Tropical Storm Arlene brought strong wind and soaking rain to the area.
6. Tropical Storm Cindy brought a substantial amount of rainfall to Clarke County.
7. Hurricane Dennis brought rain and strong winds to Clarke County. The County suffered significant tree damage and many areas loss power.
8. Hurricane Katrina brought strong winds and soaking rains to the Clarke County. Power outages and tree damage were reported.

Table 4.26 Historical Hail Occurrences (Severe Storms)

Location	Date	Time	Type	Magnitude (inches)	Deaths	Injuries	Property Damage	Crop Damage
1. Grove Hill	10/27/1995	1:45 PM	Hail	0.75	0	0	0	0
2. Grove Hill	03/29/1997	07:25 PM	Hail	0.88	0	0	0	0
3. Grove Hill	04/22/1997	05:55 PM	Hail	0.75	0	0	0	0
4. Grove Hill	03/13/2003	02:55 PM	Hail	0.75	0	0	0	0
5. Grove Hill	05/02/2003	07:30 PM	Hail	0.75	0	0	0	0
6. Grove Hill	04/07/2004	05:15 PM	Hail	0.88	0	0	0	0
7. Grove Hill	03/30/2005	09:00 PM	Hail	1.00	0	0	0	0

8. Grove Hill	02/03/2006	07:43 PM	Hail	0.75	0	0	0	0
9. Grove Hill	05/06/2009	2:30 PM	Hail	0.88	0	0	0	0
10. Grove Hill	07/30/2009	1:59 PM	Hail	1.00	0	0	0	0
11. Grove Hill	05/26/2011	11:10 AM	Hail	0.75	0	0	0	0
12. Grove Hill	05/26/2011	11:10 AM	Hail	1.00	0	0	0	0
13. Grove Hill	12/25/2012	7:15 PM	Hail	1.00	0	0	0	0
				TOTALS:	0	0	0	0

1. Dime-size hail was reported along U.S. Highway 84 west of Grove Hill near the city of Zimco.
2. Quarter size hail was reported around the Grove Hill area.
3. Dime size hail was reported in the Grove Hill area.
4. No description available.
5. No description available.
6. Penny to nickel size hail fell near Grove Hill for about twenty minutes. Hail covered the ground up to six inches in depth in some areas. Hail was still visible the next morning along areas that were not exposed to the sun. Many residents said it looked like snow.
7. No description.
8. None description.
9. A storm produced nickel size hail in Grove Hill.
10. A severe thunderstorm produced 1.0 inch hail.
11. Hail 0.75 inches in diameter was reported.
12. Hail 1.00 inch in diameter was reported.
13. Hail 1.00 inch in diameter was reported.

Table 4.27 Historical Lightning Occurrences (Severe Storms)

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Grove Hill	12/16/2000	02:50 PM	Lightning	N/A	0	0	$20,000.00	0
2. Grove Hill	07/30/2007	13:45 PM	Lightning	N/A	0	0	$15,000.00	0
3. Grove Hill	08/22/2011	6:30 PM	Lightning	N/A	0	0	$10,000.00	0
				TOTALS:	0	0	$45,000.00	0

1. Lightning struck an abandoned house near Grove Hill. The house caught on fire and most of it was destroyed before the fire department could put the fire out.
2. A lightning strike damaged communications equipment in Grove Hill. The 911 system was also knocked off line for a couple of hours. A lightning strike from a thunderstorm caused damage to communications equipment in Clarke County**.**
3. A house fire was started by a lightning strike.

Table 4.28 Historical Thunderstorm and High Wind Occurrences (Severe Storms)

Location	Date	Time	Type	Magnitude (knots)	Deaths	Injuries	Property Damage	Crop Damage
1. Grove Hill	05/15/1994	5:54 PM	Thunderstorm Winds	N/A	0	0	$5,000.00	0
2. Grove Hill	07/13/1996	01:30 PM	Thunderstorm Winds	55	0	0	$2,000.00	0
3. Grove Hill	01/24/1997	06:20 AM	Thunderstorm Winds	50	0	0	$2,000.00	0
4. Grove Hill	02/21/1997	08:10 AM	Thunderstorm Winds	50	0	0	$2,000.00	0
5. Grove Hill	04/05/1997	01:15 PM	Thunderstorm Winds	50	0	0	$1,000.00	0
6. Grove Hill	07/28/1997	11:15 AM	Thunderstorm Winds	50	0	0	$5,000.00	0
7. Grove Hill	10/24/1997	05:50 AM	Thunderstorm Winds	50	0	0	$3,000.00	0
8. Grove Hill	06/05/1998	10:45 PM	Thunderstorm Winds	70	0	0	N/A	0
9. Grove Hill	06/04/1999	07:40 PM	Thunderstorm Winds	58	0	0	$10,000.00	0
10. Grove Hill	12/16/2000	02:55 PM	Thunderstorm Winds	50	0	0	$8,000.00	0
11. Grove Hill	10/20/2002	02:15 PM	Thunderstorm Winds	50	0	0	$5,000.00	0
12. Grove Hill	12/23/2002	10:40 PM	Thunderstorm Winds	50	0	0	$5,000.00	0
13. Grove Hill	03/18/2003	07:55 PM	Thunderstorm Winds	50	0	0	$5,000.00	0
14. Grove Hill	04/07/2004	05:20 PM	Thunderstorm Winds	50	0	0	$15,000.00	0
15. Grove Hill	03/04/2008	01:20 AM	Thunderstorm Winds	50	0	0	$12,000.00	0
16. Grove Hill	05/03/2009	12:45 PM	Thunderstorm Winds	52	0	0	$15,000.00	0
17. Grove Hill	07/30/2009	02:00 PM	Thunderstorm Winds	61	0	0	$25,0000.00	0
18. Grove Hill	04/04/2011	07:40 PM	Thunderstorm Winds	50	0	0	0	0
19. Grove Hill	07/03/2012	12:15 PM	Thunderstorm Winds	61	0	0	$8,000.00	0
20. Grove Hill	07/23/2013	02:43 PM	Thunderstorm Winds	52	0	0	$5,000.00	0

21. Grove Hill	07/23/2013	02:43 PM	Thunderstorm Winds	52	0	0	$2,000.00	0
22. Grove Hill	07/23/2013	03:00 PM	Thunderstorm Winds	52	0	0	$5,000.00	0
23. Grove Hill	09/24/2013	4:05 PM	Thunderstorm Winds	61	0	0	$5,000.00	0
				TOTALS:	0	0	$144,000.00	0

1. Numerous trees and power lines were downed in the city of Grove Hill by thunderstorm winds.
2. Trees and power lines were blown down near Grove Hill.
3. Trees and power lines were blown down near Grove Hill.
4. Several trees were blown down along U.S. Highway 84 between Coffeeville and Grove Hill. One of the trees blocked the roadway for a short period of time.
5. A couple of trees were blown down in Grove Hill.
6. Several trees and power lines were blown down around Grove Hill.
7. Several trees were blown down just southwest of Grove Hill. A tin roof was also blown from an outbuilding.
8. Trees and power lines were blown down throughout the county
9. High winds blew numerous trees and power lines down along US HWY 84 between Grove Hill and Gosport.
10. High winds from a thunderstorm blew several trees and power lines down near Grove Hill.
11. Trees were blown down by high winds from a thunderstorm near Grove Hill. Dime size hail was also reported with the storm.
12. High winds from a thunderstorm blew down several trees near Grove Hill.
13. High winds from a thunderstorm blew down several trees near Grove Hill.
14. In addition to a large amount of hail near Grove Hill, high winds from the thunderstorm blew down several trees and power lines. A couple of frame buildings also had some minor damage from the high winds. No injuries were reported.
15. A thunderstorm produced high winds that downed trees and power lines around Grove Hill.
16. Wind estimated at 60 mph caused damage in Grove Hill.
17. Winds downed a large limb on a vehicle causing damage.
18. A large tree was blown across Highway 43 in Grove Hill.
19. Winds estimated at 70 mph downed trees and power lines along Allen Walker Road. Trees and power lines down at 500 Archie Schultz Road and a small outbuilding was destroyed.
20. Winds estimated at 60 mph downed at tree on a car on Cobb St. and tree down on Clark St.
21. Winds estimated at 60 mph downed at tree on Brookville Road.
22. Winds estimated at 60 mph downed a tree on a building with other trees down on Church Street. Trees down on Mount Vine Road and Salt Works Road.
23. Winds estimated at 70 mph downed numerous trees and powerlines from near Toddtown to Grove Hill and from Highway 43 eastward to Whatley.

Table 4.29 Historical Tornado Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Grove Hill	4/22/1928	03:00 PM	Tornado	F2	3	1	N/A	N/A
2. Grove Hill	1/19/1963	02:00 PM	Tornado	F2	0	0	$3,000.00	0
3. Grove Hill	3/17/1980	01:00 PM	Tornado	F1	0	0	$3,000.00	0
4. Grove Hill	12/3/1983	05:40 PM	Tornado	F1	0	0	$250,000.00	0
				TOTALS:	3	1	$256,000.00	0

1. A mother and 2 sons were killed in a small home as it was demolished.
2. Tornado briefly touched down destroying one home and damaging a barn. Many trees were blown down.

3. Several homes sustained roof damage and many outbuildings were destroyed. Numerous trees were downed.
4. Some buildings were unroofed, mobile homes were damaged, homes were damaged, and automobiles were damaged.

Table 4.30 Historical Severe Winter Storm Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Grove Hill	12/21/2000		Winter Storm	N/A	0	0	0	0
2. Grove Hill	01/01/2001		Winter Storm	N/A	0	0	0	0
3. Grove Hill	01/02/2002		Winter Storm	N/A	0	0	0	0
4. Grove Hill	01/19/2008		Winter Storm	N/A	0	0	0	0
5. Grove Hill	01/09/2011		Ice Storm	N/A	0	0	0	0
6. Grove Hill	01/28/2014		Ice Storm	N/A	0	0	0	0
				TOTALS:	0	0	0	0

1. Light Freezing Rain occurred during the early morning hours, resulting in a thin layer of ice on the elevated surfaces of bridges and overpasses.
2. One-half to one inch of snowfall accumulated generally along and north of a Chatom to Camden line. Some locations between Butler and Thomasville reported snowfall accumulations of about one inch.
3. A band of sleet and snow fell across the region during the early morning hours Wednesday. Most of the snow fell prior to sunrise, but continued until late morning on a more isolated basis in some locations. Some of the heavier snowfall accumulations occurred in the Jackson and Whatley areas of Clarke County, where 3 inches of snowfall was reported on the ground. Traveling became hazardous across the area, especially on secondary roads and bridges. Several secondary roads and bridges had to be temporarily closed and sanded; however, very few traffic accidents were reported.
4. A low pressure system moved northeast across the northern Gulf of Mexico and into northern Florida during the morning. This produced a large shield of moderate to heavy rain that changed to snow during the morning across portions of southwest Alabama. The heaviest snow fell across Choctaw County where amounts near 4 inches were observed over the west central part of the county. Snowfall amounts of 2 to 3 inches fell across the remainder of Choctaw...northern Washington...northern Clarke and northwestern Wilcox counties.
5. Widespread light icing was experienced throughout the county.
6. One inch of sleet and snow accumulation. All roads in the county were closed.

Hazard Profile by Jurisdiction
City of Jackson

Tables 4.31-4.38 contain the available past occurrence data for the City of Jackson. The hurricane, snow and ice, and extreme temperature occurrences were all countywide, so jurisdiction specific information was unavailable. Historically, the data shows that Jackson has received damage from floods, lightning, thunderstorms and tornadoes. The majority of damages were the result of tornado occurrences. The data shows injuries from thunderstorms and tornadoes have occurred in Jackson. Also one death due to extreme temperatures has occurred in the area.

Table 4.31 Historical Temperature Extremes Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Jackson	01/05/1999		Extreme Cold	N/A	1	0	0	0
2. Jackson	07/01/2000		Excessive Heat	N/A	0	0	0	0
3. Jackson	08/08/2007		Excessive Heat	N/A	0	0	0	0
4. Jackson	08/03/2012		Excessive Heat	N/A	1	0	0	0
				TOTALS:	1	0	0	0

1. An elderly male was found dead on the floor in a tar paper shack. The temperatures in the Jackson area only reached the mid 30s the day before (January 4) and fell to 13 degrees that night. Many cities across the area had record low temperatures for January 5. It was determined the man died from hypothermia. The heater in his home was never turned on that day.
2. July was hot and dry across most of south Alabama. The temperature was 100 degrees or higher five days during the month in Mobile. The average temperature for the month in Mobile was 84.3 degrees which was the eighth warmest July for the area. The highest temperature in Mobile during the month was 102 degrees. Other locations were also hot. In Andalusia the temperature was 100 degrees or higher eleven days during the month with the hottest being 103 degrees. In Butler the temperature was 100 degrees or higher also eleven days during the month with the hottest being 104 degrees. In Camden the temperature was 100 degrees or higher thirteen days during the month with the hottest being 105 degrees. In Chatom the temperature was 100 degrees or higher nine days during the month with the hottest being 106 degrees. In Greenville the temperature was 100 degrees or higher ten days during the month with the hottest being 104 degrees. In Highland Home the temperature was 100 degrees or higher five days during the month with the hottest being 103 degrees. In addition to being a hot month, it was also dry. In the Mobile area the monthly rainfall was almost three inches below the normal for July.
3. Between 8/8/2007-8/14/2007 a combination of high temperatures and high humidity led to warnings being issued. The heat index during this period ranged from 110-115.
4. Excessive heat with a hear index around 105 led to the death of an archaeologist performing field work in the county.

Table 4.32 Historical Flood Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Jackson	05/28/1997	06:30 PM	Flash Flood	N/A	0	0	$2,000.00	0
2. Jackson	01/30/1999	12:30 PM	Flash Flood	N/A	0	0	0	0
3. Jackson	06/27/1999	05:30 PM	Flash Flood	N/A	0	0	0	0
4. Jackson	03/03/2001	02:30 AM	Flash Flood	N/A	0	0	0	0
5. Jackson	04/03/2001	08:35 PM	Flash Flood	N/A	0	0	$3,000.00	0
6. Jackson	07/10/2005	05:30 PM	Flash Flood	N/A	0	0	0	0
7. Jackson	08/29/2005	12:00 PM	Flash Flood	N/A	0	0	0	0
8. Jackson	10/22/2007	10:00 PM	Flash Flood	N/A	0	0	0	0
9. Jackson	12/12/2009	6:55 PM	Flash Flood	N/A	0	0	0	0
				TOTALS:	0	0	$5,000.00	0

1. Sections of SH 177 were washed out and other roads in the south part of the county were impassable from the early evening hours into the early morning hours because of high water. WSR-88D estimated that 8 to 10 inches of rain fell in this area from late afternoon through the early morning hours. Most of the rain fell during the evening hours.
2. Heavy rainfall caused several streets to flood across the north part of the county and also in the Jackson area. Many of the roads were impassable for about two hours. Rainfall totals were estimated at 2.5 to 3.0 inches.
3. Heavy rainfall caused temporary street flooding along secondary roads off of US Hwy 43 between Jackson and Grove Hill. Local weather radars estimated that three to four inches of rain fell in a three hour period. As the storms moved out of the area, the flooded roads quickly drained.
4. Heavy rainfall caused extensive washouts to secondary roads and bridges across the counties. Most of the water had drained by sunset and most of the roads were reopened. However, some of the roads and bridges, especially in Clarke county, had to be rebuilt and were closed for several days before they were reopened. Radar estimated four to six inches of rainfall fell across the area.
5. Heavy rainfall caused several dirt roads that cross U. S. 43 between Jackson and Grove Hill to temporarily flood. Some of the roads were closed for several hours until the water drained. Radar estimated four to six inches of rain fell across the area in a three hour period.
6. Heavy rains from Hurricane Katrina caused flooding across most of the county. Several streets had to be closed off and on throughout the day. Radar estimated that 3-5 inches of rain fell across the county.
7. Heavy rains on April 11 caused temporary street flooding. Rainfall totals of three to four inches caused several streets across rural parts of southwest Alabama to temporarily flood. The streets had to be closed for several hours due to the high water.
8. Heavy rains of 8-12 inches caused roadways across southeast Mississippi to flood. Several roads had to be closed for hours due to high water**.**
9. Heavy rains flooded roads in the Jackson area.

Table 4.33 Historical Hurricane Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Jackson	08/03/1995	09:00 AM	Hurricane Erin	N/A	0	0	N/A	N/A
2. Jackson	10/03/1995	12:00 AM	Hurricane Opal	N/A	0	0	N/A	N/A
3. Jackson	09/25/1998	09:00 AM	Hurricane George	N/A	0	0	N/A	N/A
4. Jackson	09/13/2004	09:00 PM	Hurricane Ivan	N/A	0	0	N/A	N/A
5. Jackson	06/10/2005	03:00 AM	TS Arlene	N/A	0	0	N/A	N/A
6. Jackson	07/05/2005	0.3:00 AM	TS Cindy	N/A	0	0	N/A	N/A
7. Jackson	07/09/2005	0.3:00 AM	Hurricane Dennis	N/A	0	0	N/A	N/A
8. Jackson	08/31/2005	0.3:00 AM	Hurricane Katrina	N/A	0	0	N/A	N/A
				TOTALS:	0	0	N/A	N/A

1. Heavy rains and high winds from Hurricane Erin pounded Clarke County resulting in heavy tree damage and power outages.
2. Hurricane Opal's high winds resulted in power outages throughout the County. The heavy rains from the storm also hampered the County.
3. Hurricane George brought heavy rains that resulted in flash flooding in many areas of the county. There were also power outages due to tree damage.
4. Hurricane Ivan devastated Clarke County with high winds and spinoff tornadoes. There were four Homes and 25 mobile homes destroyed. 199 homes and 52 mobile homes had major damage, while 80 homes and 21 mobile homes had minor damage. The County's timber damage was estimated to be $61.3 million by the Alabama Forestry Commission
5. Tropical Storm Arlene brought strong wind and soaking rain to the area.
6. Tropical Storm Cindy brought a substantial amount of rainfall to Clarke County.
7. Hurricane Dennis brought rain and strong winds to Clarke County. The County suffered significant tree damage and many areas loss power.
8. Hurricane Katrina brought strong winds and soaking rains to the Clarke County. Power outages and tree damage were reported.

Table 4.34 Historical Hail Occurrences (Severe Storms)

Location	Date	Time	Type	Magnitude (inches)	Deaths	Injuries	Property Damage	Crop Damage
1. Jackson	02/19/1996	04:15 PM	Hail	0.75	0	0	0	0
2. Jackson	12/12/1996	05:45 PM	Hail	0.75	0	0	0	0
3. Jackson	08/10/2000	02:25 PM	Hail	0.75	0	0	0	0
4. Jackson	05/27/2001	03:40 PM	Hail	0.88	0	0	0	0
5. Jackson	04/29/2002	02:25 PM	Hail	1.75	0	0	0	0
6. Jackson	03/13/2003	03:00 PM	Hail	0.75	0	0	0	0
7. Jackson	05/02/2003	08:00 PM	Hail	0.75	0	0	0	0
8. Jackson	03/31/2013	4:05 PM	Hail	1.00	0	0	0	0
				TOTALS:	0	0	0	0

1. Dime size hail was reported along United States Highway 43 near the City of Jackson.
2. Dime size hail was reported near Jackson.
3. A thunderstorm produced dime sized hail near the community.
4. No description available.
5. Golf ball to quarter size hail fell between Jackson and Grove Hill. No damage was reported from the hail.
6. No description available.
7. No description available.
8. No description available.

Table 4.35 Historical Lightning Occurrences (Severe Storms)

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Jackson	03/17/1996	07:15 AM	Lightning	N/A	0	0	$30,000.00	0
2. Jackson	05/27/2009	05:00 PM	Lightning	N/A	0	0	$50,000.00	0
3. Jackson	07/30/2009	04:30 PM	Lightning	N/A	0	0	$20,000.00	0
4. Jackson	03/08/2011	09:35 PM	Lightning	N/A	0	0	$5,000.00	0
5. Jackson	08/04/2012	5:58 PM	Lightning	N/A	0	0	$5,000.00	0
				TOTALS:	0	0	$110,000.00	0

1. Lightning struck a church of which part was built in 1889. A fire started and damaged the older part of the church.
2. Lightning struck O'Reily Auto Parts and started a fire.
3. No description available.
4. Lightning struck First United Security Bank causing minor damage.
5. Lightning struck at Jackson Medical Center leading to the evacuation of patients due to smoke in the air conditioning system.

Table 4.36 Historical Thunderstorm and High Wind Occurrences (Severe Storms)

Location	Date	Time	Type	Magnitude (knots)	Deaths	Injuries	Property Damage	Crop Damage
1. Jackson	06/10/1994	06:25 PM	Thunderstorm Winds	N/A	0	0	$50,000.00	0
2. Jackson	04/21/1995	12:15 PM	Thunderstorm Winds	N/A	0	0	$1,000.00	0
3. Jackson	04/21/1995	01:21 AM	Thunderstorm Winds	N/A	0	1	$5,000.00	0
4. Jackson	07/09/1995	12:30 AM	Thunderstorm Winds	N/A	0	0	$1,000.00	0
5. Jackson	11/11/1995	05:00 AM	Thunderstorm Winds	N/A	0	0	$50,000.00	0
6. Jackson	01/26/1996	05:20 PM	Thunderstorm Winds	50	0	0	$2,000.00	0
7. Jackson	04/29/1996	11:40 AM	Thunderstorm Winds	55	0	0	$2,000.00	0

8. Jackson	05/28/1997	04:40 PM	Thunderstorm Winds	50	0	0	$2,000.00	0
9. Jackson	08/31/1997	11:30 AM	Thunderstorm Winds	50	0	0	$4,000.00	0
10. Jackson	11/01/1997	03:30 PM	Thunderstorm Winds	50	0	0	$3,000.00	0
11. Jackson	06/05/1998	10:45 PM	Thunderstorm Winds	70	0	0	$500,000.00	0
12. Jackson	01/02/1999	11:15 AM	Thunderstorm Winds	55	0	0	$10,000.00	0
13. Jackson	07/19/2000	02:00 PM	Thunderstorm Winds	60	0	0	$8,000.00	0
14. Jackson	07/20/2000	03:20 PM	Thunderstorm Winds	55	0	0	$5,000.00	0
15. Jackson	08/19/2001	12:05 PM	Thunderstorm Winds	50	0	0	$5,000.00	0
16. Jackson	10/13/2001	04:30 PM	Thunderstorm Winds	60	0	0	$15,000.00	0
17. Jackson	10/13/2001	11:40 AM	Thunderstorm Winds	50	0	0	$10,000.00	0
18. Jackson	05/03/2003	09:05 AM	Thunderstorm Winds	50	0	0	$5,000.00	0
19. Jackson	07/22/2003	12:25 PM	Thunderstorm Winds	50	0	0	$5,000.00	0
20. Jackson	06/27/2004	12:25 PM	Thunderstorm Winds	50	0	0	$10,000.00	0
21. Jackson	05/27/2009	03:30 PM	Thunderstorm Winds	52	0	0	$10,000.00	0
22. Jackson	07/30/2009	01:50 PM	Thunderstorm Winds	61	0	0	$25,000.00	0
23. Jackson	10/24/2010	07:00 PM	Thunderstorm Winds	52	0	0	0	0
24. Jackson	04/04/2011	07:50 PM	Thunderstorm Winds	50	0	0	0	0
25. Jackson	04/15/2011	01:05 PM	Thunderstorm Winds	50	0	0	$5,000.00	0
26. Jackson	02/24/2011	07:15 AM	Thunderstorm Winds	70	0	0	$20,000.00	0
27. Jackson	02/24/2011	07:17 AM	Thunderstorm Winds	61	0	0	$5,000.00	0
28. Jackson	07/03/2012	01:05 PM	Thunderstorm Winds	61	0	0	$5,000.00	0

29. Jackson	07/03/2012	01:15 PM	Thunderstorm Winds	61	0	0	$5,000.00	0
30. Jackson	07/23/2013	03:10 PM	Thunderstorm Winds	52	0	0	$5,000.00	0
				TOTALS:	0	1	$773,000.00	0

1. Thunderstorm wind damaged temporary classroom buildings and took off an awning at the Gilmore Elementary School in Jackson. In Alma, about eight miles east of Jackson, five trees were blown down by the wind and seven acres of corn was laid flat.
2. Trees and power lines were blown down along CR 3, five miles northwest of Jackson.
3. Trees were blown down just northeast of Jackson along County Road 10. A tree was blown onto a mobile home damaging the mobile home and injuring an occupant.
4. Several trees were blown down around the city of Jackson.
5. Widespread straight-line wind damage was observed throughout the area. Most of the damage was from trees and power lines being blown down. In some instances the trees fell onto some homes causing damage.
6. Several trees were blown down in the southeast part of Jackson.
7. Several trees were blown down along U. S. Hwy 43 near Jackson. Residents saw what appeared to be a funnel cloud but the funnel never touched the ground.
8. Several trees and power lines were blown down in the Jackson community.
9. Several trees were blown down in the city of Jackson.
10. Trees and power lines were blown down in the south parts of Jackson.
11. Some of the trees fell onto homes and businesses in the Jackson area where nine buildings were damaged. Electricity was out across much of the county because of downed power lines.
12. Several trees were downed over the southern sections of the county, generally between Jackson and Choctaw Bluff.
13. Power poles and power lines were blown down as a result of high thunderstorm winds.
14. Winds from a thunderstorm blew down trees near the community.
15. Trees were blown down near Jackson by high winds from a thunderstorm.
16. Thunderstorm winds blew down several trees throughout the community. One fell onto a house and produced minor damage.
17. Several trees were blown down along State Highway 69, north of Jackson.
18. High winds from a thunderstorm blew down several trees around Jackson.
19. High winds from a thunderstorm blew down several trees near Jackson.
20. High winds from a line of thunderstorms blew down several trees between Jackson and Walker Springs.
21. Winds estimated at 60 mph caused minor damage to two roofs in the Jackson area.
22. Winds estimated at 70 mph blew the roof of a National Guard armory off. A large portion of the roof landed on a vehicle in the parking lot. Multiple trees were also blown down.
23. Several trees down along Walker Springs Road near Allen Walker Road.
24. Trees blown down by severe thunderstorm winds near 60 mph winds in the Jackson area on Depot Road near Elms Street.
25. A large tree was blown down onto a house by severe thunderstorms winds near 60 mph.
26. An isolated microburst occurred at the Harper Headstart School. The school sustained roof damage with nearly all the tar roofing material peeled off, metal fencing was flattened, and the school lost electrical power due to a transformer catching fire.
27. Winds estimated at 70 mph damaged trees on Bridalwood Path roughly a half mile northeast of where Harper Head Start School was damaged.
28. Winds estimated at 70 mph downed trees and power lines at the 100 Block of Dogwood and 124 Block of Hayeswood.
29. Winds estimated at 70 mph downed trees and power lines at College and State Streets. Trees also reported down on Forrest Avenue. Trees were also blocking road and on a structure at West Clinton and North Portis Streets.
30. Winds estimated at 60 mph downed a tree on a car...trapping 4 people.

Table 4.37 Historical Tornado Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Jackson	01/23/1953	05:00 AM	Tornado	F3	0	1	$25,000.00	0
2. Jackson	07/08/1956	08:00 AM	Tornado	F2	0	0	$3,000.00	0
3. Jackson	03/24/1984	07:38 AM	Tornado	F3	0	0	NA	NA
4. Jackson Municipal Airport	03/18/1996	05:30 PM	Tornado	F1	0	15	$1,000,000.00	0
				TOTALS:	0	16	$1,028,000.00	0

1. St. Stephens-Jackson: 3 homes were destroyed near the Warrior-Tombigbee Locks. 9 barns and outbuildings were also destroyed.
2. Several farm buildings and homes were damaged.
3. Jackson area: A large part of a school was destroyed and several automobiles were destroyed. At least 40 homes and businesses were damaged or destroyed. Numerous trees were blown down.
4. Jackson Municipal Airport-Walker Springs: A tornado touched down just east of United States Highway 43 just south of Jackson near the Boise Cascade plant and the airport. Heavy damage was sustained at the Boise Cascade plant to a building that as under construction. Several homes near the airport also suffered roof damage. The tornado moved northeast and crossed State Highway 2 and passed just south of Walker Springs. Fifteen people were injured, but none seriously. Most damage was shingles blown off roofs and trees falling on homes.

Table 4.38 Historical Severe Winter Storms Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Jackson	12/21/2000		Winter Storm	N/A	0	0	N/A	N/A
2. Jackson	01/01/2001		Winter Storm	N/A	0	0	N/A	N/A
3. Jackson	01/02/2002		Winter Storm	N/A	0	0	N/A	N/A
4. Jackson	01/09/2011		Ice Storm	N/A	0	0	N/A	N/A
5. Jackson	01/28/2014		Ice Storm	N/A	0	0	N/A	N/A
				TOTALS:	0	0	N/A	N/A

1. No description available.
2. No description available.
3. A band of sleet and snow fell across the region during the early morning hours Wednesday. Most of the snow fell prior to sunrise, but continued until late morning on a more isolated basis in some locations. Some of the heavier snowfall accumulations occurred in the Jackson and Whatley areas of Clarke County, where 3 inches of snowfall was reported on the ground.
4. Widespread light icing was experienced throughout the county.
5. One inch of sleet and snow accumulation. All roads in the county were closed.

Hazard Profile by Jurisdiction
City of Thomasville

Tables 4.39-4.46 contain the available past occurrence data for the City of Thomasville. The hurricane, snow and ice, and extreme temperature occurrences were all countywide, so jurisdiction specific information was unavailable. Historically, the data shows that Thomasville has received damage from thunderstorms, lightning, flash flooding, hail and tornadoes. The data shows that injuries have resulted from tornadoes, but no deaths have occurred. Storm descriptions indicate that most damage has been a result of falling trees.

Table 4.39 Historical Temperature Extremes Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Thomasville	07/01/2000		Excessive Heat	N/A	0	0	0	0
2. Thomasville	08/08/2007		Excessive Heat	N/A	0	0	0	0
3. Thomasville	08/03/2012		Excessive Heat	N/A	0	0	0	0
				TOTALS:	0	0	0	0

1. No description available.
2. Between 8/8/2007-8/14/2007 a combination of high temperatures and high humidity led to warnings being issued. The heat index during this period ranged from 110-115.
3. Excessive heat with a hear index around 105 led to the death of an archaeologist performing field work in the county.

Table 4.40 Historical Flash Flood Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1.Thomasville	01/30/1999	12:30 PM	Flash Flood	N/A	0	0	$5,000.00	0
2.Thomasville	07/10/2005	05:30 PM	Flash Flood	N/A	0	0	0	0
3.Thomasville	08/29/2005	12:00 PM	Flash Flood	N/A	0	0	0	0
4.Thomasville	02/11/2013	1:00 AM	Flash Flood	N/A	0	0	$10,000.00	0
5. Thomasville	07/23/2013	2:48 PM	Flash Flood	N/A	0	0	0	0
				TOTALS:	0	0	$15,000.00	0

1. Heavy rains from Hurricane Dennis caused street flooding across most of the county. Radar estimated that 3-5 inches of rain fell across most of the county, with isolated amounts of 8-10 inches across the east part.
2. Heavy rains from Hurricane Katrina caused flooding across most of the county. Several streets had to be closed off and on throughout the day. Radar estimated that 3-5 inches of rain fell across the county.
3. Heavy rains caused temporary street flooding. Rainfall totals of three to four inches caused several

streets across rural parts of southwest Alabama to temporary flood. The streets had to be closed for several hours due to the high water.

4. Heavy rains washed out city streets.
5. Heavy rains lead to six inches of rain flowing across Bashi Road.

Table 4.41 Historical Hurricane Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Thomasville	08/03/1995	09:00 AM	Hurricane Erin	N/A	0	0	N/A	N/A
2. Thomasville	10/03/1995	12:00 AM	Hurricane Opal	N/A	0	0	N/A	N/A
3. Thomasville	09/25/1998	09:00 AM	Hurricane	N/A	0	0	N/A	N/A
4. Thomasville	09/13/2004	09:00 PM	Hurricane Ivan	N/A	0	0	N/A	N/A
5.Thomasville	06/10/2005	03:00 AM	TS Arlene	N/A	0	0	N/A	N/A
6. Thomasville	07/05/2005	0.3:00 AM	TS Cindy	N/A	0	0	N/A	N/A
7. Thomasville	07/09/2005	0.3:00 AM	Hurricane Dennis	N/A	0	0	N/A	N/A
8. Thomasville	08/31/2005	0.3:00 AM	Hurricane Katrina	N/A	0	0	N/A	N/A
				TOTALS:	0	0	N/A	N/A

1. Heavy rains and high winds from Hurricane Erin pounded Clarke County resulting in heavy tree damage and power outages.
2. Hurricane Opal's high winds resulted in power outages throughout the County. The heavy rains from the storm also hampered the County.
3. Hurricane George brought heavy rains that resulted in flash flooding in many areas of the county. There were also power outages due to tree damage.
4. Hurricane Ivan devastated Clarke County with high winds and spinoff tornadoes. There were four homes and 25 mobile homes destroyed. 199 homes and 52 mobile homes had major damage, while 80 homes and 21 mobile homes had minor damage. The County's timber damage was estimated to be $61.3 million by the Alabama Forestry Commission
5. Tropical Storm Arlene brought strong wind and soaking rain to the area.
6. Tropical Storm Cindy brought a substantial amount of rainfall to Clarke County.
7. Hurricane Dennis brought rain and strong winds to Clarke County. The County suffered significant tree damage and many areas loss power.
8. Hurricane Katrina brought strong winds and soaking rains to the Clarke County. Power outages and tree damage were reported.

Table 4.42 Historical Hail Occurrences (Severe Storms)

Location	Date	Time	Type	Magnitude (inches)	Deaths	Injuries	Property Damage	Crop Damage
1. Thomasville	03/06/1996	08:35 PM	Hail	0.75	0	0	0	0
2. Thomasville	04/22/1997	02:05 PM	Hail	0.75	0	0	0	0
3. Thomasville	04/22/1997	04:45 PM	Hail	1.00	0	0	0	0
4. Thomasville	05/06/1999	06:20 AM	Hail	0.75	0	0	0	0
5. Thomasville	05/02/2003	03:30 PM	Hail	0.75	0	0	0	0
6. Thomasville	12/24/2005	03:20 PM	Hail	1.00	0	0	0	0
7. Thomasville	05/10/2006	05:10 PM	Hail	2.75	0	0	$100,000.00	0
8. Thomasville	04/11/2007	02:53 PM	Hail	1.00	0	0	0	0
9. Thomasville	04/12/2009	10:22 PM	Hail	0.75	0	0	0	0
10. Thomasville	10/24/2010	7:44 PM	Hail	0.88	0	0	0	0
11. Thomasville	04/04/2011	7:30 PM	Hail	0.88	0	0	0	0
				TOTALS:	0	0	$100,000.00	0

1. Dime size hail was reported in the community.
2. Dime size hail fell around the city of Thomasville. The hail fell for thirteen minutes.
3. Hail fell around the city of Thomasville. This time the hail was as big as quarters.
4. Dime size hail was reported in the community.
5. Dime sized hail covered the ground, with drifts reported up to one foot deep at some locations around Thomasville.
6. None Reported
7. Large hail from a thunderstorm damaged numerous vehicles and several roofs just south of Thomasville. The local EMA director was on the phone with the National Weather Service reporting the hail, when his windshield was busted out by the baseball size hail. The large hail lasted for several minutes and caused widespread damage in the south part of town.
8. Severe thunderstorms produced hail and wind damage in southwest Alabama.
9. Storms produced 0/75 inch hail.

Table 4.43 Historical Lightning Occurrences (Severe Storms)

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Thomasville	06/16/2003	01:00 PM	Lightning	N/A	0	0	$10,000.00	0
				TOTALS:	0	0	$10,000.00	0

1. Lightning struck a home near Thomasville. The strike started a fire that damaged the home.

Table 4.44 Historical Thunderstorm and High Wind Occurrences (Severe Storms)

Location	Date	Time	Type	Magnitude (knots)	Deaths	Injuries	Property Damage	Crop Damage
1. Thomasville	03/07/1995	02:37 PM	Thunderstorm Winds	N/A	0	0	$2,000.00	0
2. Thomasville	05/28/1995	06:10 PM	Thunderstorm Winds	N/A	0	0	$1,000.00	0
3. Thomasville	11/11/1995	05:00 AM	Thunderstorm Winds	N/A	0	0	N/A	0
4. Thomasville	01/26/1996	02:05 PM	Thunderstorm Winds	50	0	0	$2,000.00	0
5. Thomasville	07/26/2000	04:50 PM	Thunderstorm Winds	55	0	0	$5,000.00	0
6. Thomasville	07/27/2000	04:50 PM	Thunderstorm Winds	60	0	0	$7,000.00	0
7. Thomasville	01/19/2001	07:45 AM	Thunderstorm Winds	60	0	0	$15,000.00	0
8. Thomasville	06/14/2001	01:10 PM	Thunderstorm Winds	55	0	0	$5,000.00	0
9. Thomasville	06/14/2001	02:00 PM	Thunderstorm Winds	60	0	0	$15,000.00	0
10. Thomasville	07/16/2004	1:40 PM	Thunderstorm Winds	50	0	0	$8,000.00	0
11. Thomasville	04/3/2005	04:56 AM	Thunderstorm Winds	50	0	0	$10,000.00	0
12. Thomasville	01/31/2008	05:57 PM	Thunderstorm Winds	50	0	0	$75,000.00	0
13. Thomasville	04/04/2008	01:35 PM	Thunderstorm Winds	50	0	0	$12,000.00	0
14. Thomasville	03/26/2009	03:50 AM	Thunderstorm Winds	52	0	0	$15,000.00	0
15. Thomasville	04/12/2009	10:22 PM	Thunderstorm Winds	50	0	0	$15,000.00	0
16. Thomasville	10/09/2009	04:39 AM	Thunderstorm Winds	52	0	0	0	0
17. Thomasville	10/24/2010	07:40 PM	Thunderstorm Winds	52	0	0	0	0
18. Thomasville	04/04/2011	07:27 PM	Thunderstorm Winds	50	0	0	0	0
19. Thomasville	05/26/2011	12:20 PM	Thunderstorm Winds	60	0	0	$5,000.00	0
20. Thomasville	08/22/2011	06:30PM	Thunderstorm Winds	52	0	0	$7,000.00	0

21. Thomasville	05/29/2012	04:07 PM	Thunderstorm Winds	61	0	0	$10,000.00	0
22. Thomasville	06/11/2012	09:05 PM	Thunderstorm Winds	52	0	0	0	0
23. Thomasville	02/11/2013	02:30 AM	Thunderstorm Winds	61	0	0	$10,000.00	0
24. Thomasville	07/23/2013	02:14 PM	Thunderstorm Winds	52	0	0	$4,000.00	0
				TOTALS:	0	0	$223,000.00	0

1. Trees were blown down in the Thomasville area.
2. Several trees were blown down along State Highway 5 just northeast of Thomasville.
3. Widespread straight-line wind damage was observed throughout the area. Most of the damage was from trees and power lines being blown down.
4. Several trees were blown down in the Thomasville area. Several people saw a funnel cloud, but it never touched down.
5. Trees and power lines were blown down south of the community.
6. High thunderstorm winds downed trees near the community.
7. Numerous trees and some power lines were blown down, and some minor roof damage also occurred as a line of severe thunderstorms moved across the area. Most of the wind damage occurred just east of Highway 43 along Basset Creek between Thomasville and Fulton.
8. Several trees were blown down by strong thunderstorm winds.
9. Strong thunderstorm winds blew down numerous trees in the Thomasville area. Some minor damage to several homes occurred as well, primarily when large limbs and downed trees fell onto rooftops. Some shingle damage was also noted.
10. High winds from a thunderstorm blew down several trees near Thomasville
11. Trees and power lines were blown down by high winds from a thunderstorm near Thomasville.
12. A thunderstorm produced high winds that damaged the High School sports complex and downed trees. A line of thunderstorms moved across southwest Alabama causing tree and power line damage and producing hail**.**
13. A thunderstorm produced high winds that blew down trees and powerlines.
14. A large oak tree fell on a mobile home causing a hole in the roof and breaking windows in winds estimated at 60 mph.
15. Winds estimated at 60 mph downed 12 to 15 trees along Gates Drive near Highway 5.
16. Trees reported blown down on Highway 5 south of Thomasville.
17. Several trees down along U.S. Highway 43.
18. Trees blown down and large power lines damaged by severe thunderstorm winds near 60 mph.
19. Winds estimated at 60 mph downed trees in Thomasville.
20. Winds estimated at 60 mph downed trees and power lines along County Road 44 near Tallahatta Springs. Several power poles were also knocked down in the area.
21. Winds estimated at 70 mph downed trees and powerlines and blew a roof off a house.
22. Wind gust estimated at 60 mph.
23. Winds estimated at 70 mph caused damage to two houses.
24. Winds estimated at 60 mph downed trees at Hwy 43 and Hwy 5, also Hwy 5 at Firetower Hill north of Thomasville.

Table 4.45 Historical Tornado Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Thomasville	04/15/1999	01:00 AM	Tornado	F0	0	0	$100,000.00	0
				TOTALS:	0	0	$100,000.00	0

1. A F0 tornado touched down along County Road 48 at Bashi Hwy or about 3 miles northwest of Thomasville. About 100 trees were blown down. Some trees were snapped off about 40 feet in the air; the branches below were completely stripped off. The tornado then skipped northeast, briefly touching down along U.S. Highway 43 or 3 miles north of Thomasville. Again, trees were blown down along with power lines and telephone wires. An automobile was damaged when it hit a tree across a road. No structural damage to any homes or injuries were reported. The tornado lifted back into the cloud just northeast of U.S. Highway 43. Most of the fallen trees were facing to the northeast.

Table 4.46 Historical Severe Winter Storm Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Thomasville	12/21/2000	05:00 AM	Winter Storm	N/A	0	0	N/A	N/A
2. Thomasville	01/01/2001	03:00 AM	Winter Storm	N/A	0	0	N/A	N/A
3. Thomasville	01/02/2002	12:00 AM	Winter Storm	N/A	0	0	N/A	N/A
4. Thomasville	01/09/2011		Ice Storm	N/A	0	0	0	0
5. Thomasville	01/28/2014		Ice Storm	N/A	0	0	0	0
				TOTALS:	0	0	N/A	N/A

1. No description available.
2. No description available.
3. No description available.
4. Widespread light icing was experienced throughout the county.
5. One inch of sleet and snow accumulation. All roads in the county were closed.

Hazard Profile by Jurisdiction
Unincorporated County

Tables 4.47-4.53 contain the available past occurrence data for the unincorporated Clarke County. It is evident from the data that the area has been affected by each hazard at varying degrees. Tornadoes and severe storms have produced most of the property damage, according to this data. It is important to identify that hurricanes also cause a significant amount of property damage in Clarke County, but county specific data on damages was not available. County specific data was also unavailable for extreme heat and snow and ice.

Table 4.47 Extreme Heat Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Countywide	07/01/2000		Excessive Heat	N/A	0	0	0	0
2. Countywide	08/08/2007		Excessive Heat	N/A	0	0	0	0
3. Countywide	08/03/2012		Excessive Heat	N/A	1	0	0	0
				TOTALS:	1	0	0	0

1. No description available.
2. Heat advisories were issued for a combination of high temperatures and high humidity. Heat index vales were between 110 and 115 degrees. Several public buildings and churches allowed people to come in and cool off during the heat of the day.
3. Excessive heat with a hear index around 105 led to the death of an archaeologist performing field work in the county.

Table 4.48 Historical Flood Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Scyrene	08/30/1996	09:15 AM	Flash Flood	N/A	0	0	$15,000.00	0
2. Countywide	01/30/1999	12:30 PM	Flash Flood	N/A	0	0	$5,000.00	0
3. North Portion	06/24/1999	04:00 AM	Flash Flood	N/A	0	0	$2,000.00	0
4. Central Portion	06/27/1999	05:30 PM	Flash Flood	N/A	0	0	$3,000.00	0
5. Countywide	03/03/2001	02:30 AM	Flash Flood	N/A	0	0	$365,000.00	0
6. Barlow Bend	07/02/2003	06:40 PM	Flash Flood	N/A	0	0	0	0

7. Southwest Portion	03/31/2005	08:30 AM	Flash Flood	N/A	0	0	0	0
8 Countywide	07/10/2005	05:30 PM	Flash Flood	N/A	0	0	0	0
9. Countywide	08/29/2005	12:00 PM	Flash Flood	N/A	0	0	0	0
10. Southwest Portion	07/06/2005	06:00 AM	Flash Flood	N/A	0	0	0	0
11. Jackson	10/22/2007	10:00 PM	Flash Flood	N/A	0	0	0	0
12. Coffeeville	04/11/2008	06:00 PM	Flash Flood	N/A	0	0	0	0
13. West Bend	09/23/2009		River Flood	N/A	0	0	$5,000.00	0
14. Salitpa	12/12/2009	4:30 PM	Flash Flood	N/A	0	0	0	0
15. Morvin	01/30/2013	10:40 AM	Flash Flood	N/A	0	0	$15,000.00	0
16. Scyrene	02/11/2013	1:00 AM	Flash Flood	N/A	0	0	$25,000.00	0
				TOTALS:	0	0	$435,000.00	0

1. Rainfall of around eight inches caused many roads in the east part of the county to become impassable. The rains started around 8:00 A.M. and continued into the afternoon. Many of the roads remained closed until the early evening hours. The hardest hit areas were Nettleboro, Scyrene and Chance. Most of the roads that had to be closed were dirt roads.
2. Heavy rainfall caused several streets to flood across the north part of the county and also in the Jackson area. Many of the roads were impassable for about two hours. Rainfall totals were estimated at 2.5 to 3.0 inches.
3. Heavy rainfall caused several secondary dirt roads to be temporarily closed due to high water.
4. Heavy rainfall caused temporary street flooding along secondary roads off of US Hwy 43 between Jackson and Grove Hill. Local weather radars estimated that three to four inches of rain fell in a three hour period. As the storms moved out of the area, the flooded roads quickly drained.
5. Heavy rainfall caused extensive washouts to secondary roads and bridges across the counties. Most of the water had drained by sunset and most of the roads were reopened. However, some of the roads and bridges, especially in Clarke county, had to be rebuilt and were closed for several days before they were reopened. Radar estimated four to six inches of rainfall fell across the area.
6. Heavy rains from a cluster of thunderstorms caused several roads around Barlow Bend to flood. The roads had to be closed for about an hour. Three to four inches of rainfall were estimated across the area in a one hour period.
7. Heavy rains caused several streets to flood in the southwest part of the county. Radar estimated that three to four inches of rain fell across the area. The streets had to be closed for about an hour due to the high water.
8. Heavy rains from Hurricane Dennis caused street flooding across most of the county. Radar estimated that 3-5 inches of rain fell across most of the county, with isolated amounts of 8-10 inches across the east part.
9. Heavy rains from Hurricane Katrina caused flooding across most of the county. Several streets had to be closed off and on throughout the day. Radar estimated that 3-5 inches of rain fell across the county.
10. Heavy rains from Tropical Storm Cindy caused flooding across the southwest part of the county. Several secondary roads across the southwest part of the county had to be closed due to high water. Radar estimated that 4-6 inches of rain fell across the southwest part of the county.

11. Heavy rains of 8-12 inches caused roadways to flood. Several roads had to be closed due to high water.
12. Heavy rains on April 11 caused temporary street flooding. Rainfall totals of three to four inches caused several streets across rural parts of southwest Alabama to temporary flood. The streets had to be closed for several hours due to the high water.
13. Three families were evacuated in the West Bend area due to the Tombigbee River flooding.
14. Water covered Bethlehem Road.
15. Part of Blacksmith Road was washed out due to flooding.
16. Thunderstorms led to flash flooding in the Scyrene community.

Table 4.49 Historical Hurricane Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Countywide	08/03/1995	09:00 AM	Hurricane Erin	N/A	0	0	N/A	N/A
2. Countywide	10/03/1995	12:00 PM	Hurricane Opal	N/A	0	0	N/A	N/A
3. Countywide	09/25/1998	09:00 AM	Hurricane George	N/A	0	0	N/A	N/A
4. Countywide	09/13/2004	09:00 PM	Hurricane/Typhoon Ivan	N/A	0	0	N/A	N/A
5. Countywide	06/10/2005	03:00 AM	TS Arlene	N/A	0	0	N/A	N/A
6. Countywide	07/05/2005	0.3:00 AM	TS Cindy	N/A	0	0	N/A	N/A
7. Countywide	07/09/2005	0.3:00 AM	Hurricane Dennis	N/A	0	0	N/A	N/A
8. Countywide	08/29/2005	0.3:00 AM	Hurricane Katrina	N/A	0	0	N/A	N/A
				TOTALS:	0	0	N/A	N/A

1. Heavy rains and high winds from Hurricane Erin pounded Clarke County resulting in heavy tree damage and power outages.
2. Hurricane Opal's high winds resulted in power outages throughout the County. The heavy rains from the storm also hampered the County.
3. Hurricane George brought heavy rains that resulted in flash flooding in many areas of the county. There were also power outages due to tree damage.
4. Hurricane Ivan devastated Clarke County with high winds and spinoff tornadoes. There were four homes and 25 mobile homes destroyed. 199 homes and 52 mobile homes had major damage, while 80 homes and21 mobile homes had minor damage. The County's timber damage was estimated to be $61.3 million by the Alabama Forestry Commission
5. Tropical Storm Arlene brought strong wind and soaking rain to the area.
6. Tropical Storm Cindy brought a substantial amount of rainfall to Clarke County.
7. Hurricane Dennis brought rain and strong winds to Clarke County. The County suffered significant tree damage and many areas loss power.
8. Hurricane Katrina brought strong winds and soaking rains to the Clarke County. Power outages and tree damage were reported.

Table 4.50 Historical Hail Occurrences (Severe Storms)

Location	Date	Time	Type	Magnitude (inches)	Deaths	Injuries	Property Damage	Crop Damage
1. Clarke	03/24/1975	06:55 AM	Hail	1.75	0	0	0	0
2. Clarke	12/05/1977	04:30 PM	Hail	3.50	0	0	0	0
3. Clarke	03/24/1984	01:32 PM	Hail	0.75	0	0	0	0
4. Clarke	04/03/1984	06:15 PM	Hail	1.75	0	0	0	0
5. Clarke	04/03/1984	06:30 PM	Hail	1.00	0	0	0	0
6. Clarke	04/03/1984	06:45 AM	Hail	1.00	0	0	0	0
7. Clarke	04/03/1984	07:15 PM	Hail	0.75	0	0	0	0
8. Clarke	12/02/1984	02:40 PM	Hail	0.88	0	0	0	0
9. Clarke	04/15/1985	12:04 AM	Hail	0.75	0	0	0	0
10. Clarke	04/15/1985	01:57 PM	Hail	1.00	0	0	0	0
11. Clarke	04/15/1985	03:15 PM	Hail	0.88	0	0	0	0
12. Clarke	01/18/1988	05:44 AM	Hail	1.00	0	0	0	0
13. Clarke	01/18/1988	06:20 AM	Hail	1.00	0	0	0	0
14. Clarke	04/25/1988	04:15 PM	Hail	0.75	0	0	0	0
15. Clarke	05/10/1988	01:25 PM	Hail	0.75	0	0	0	0
16. Clarke	05/24/1988	11:50 AM	Hail	0.75	0	0	0	0
17. Clarke	05/24/1988	1:10 PM	Hail	0.75	0	0	0	0
18. Clarke	04/04/1989	04:40 PM	Hail	1.75	0	0	0	0
19. Clarke	04/04/1989	06:25 PM	Hail	0.75	0	0	0	0
20. Clarke	06/28/1990	04:30 PM	Hail	0.75	0	0	0	0
21. Clarke	08/30/1990	12:05 PM	Hail	0.75	0	0	0	0
22. Dickinson-Fulton	03/15/1995	04:15 PM	Hail	0.88	0	0	0	0
23. Chance	03/30/1997	03:20 PM	Hail	0.75	0	0	0	0
24. Alma	05/27/1997	09:25 PM	Hail	0.75	0	0	0	0
25. Carlton	01/22/1998	05:30 AM	Hail	0.75	0	0	0	0
26. Whatley	03/05/1998	04:05 PM	Hail	1.75	0	0	0	0
27. Morvin	03/06/1998	07:15 PM	Hail	0.75	0	0	0	0
28. Gosport	04/09/1998	12:10 PM	Hail	0.75	0	0	0	0
29. Choctaw Bluff	05/03/1998	06:35 PM	Hail	0.75	0	0	0	0
30. Campbell	04/24/1999	04:59 PM	Hail	1.50	0	0	0	0
31. Alma	05/06/1999	05:20 AM	Hail	0.75	0	0	0	0
32. Alma	07/19/2000	02:05 PM	Hail	0.88	0	0	0	0

33. Opine	03/12/2001	06:20 AM	Hail	0.88	0	0	0	0
34. Bashi	06/19/2002	01:45 PM	Hail	0.88	0	0	0	0
35. Carlton	05/02/2003	08:55 PM	Hail	0.75	0	0	0	0
36. Carlton	05/03/2003	01:40 AM	Hail	1.00	0	0	0	0
37. Chance	05/03/2003	02:00 AM	Hail	0.75	0	0	0	0
38. Dickinson	05/10/2006	05:31 PM	Hail	1.75	0	0	$5,000.00	0
39. West Bend	05/21/2010	5:55 PM	Hail	1.75	0	0	0	0
40. Cunningham	03/02/2012	4:39 PM	Hail	1.00	0	0	0	0
41. West Bend	05/21/2012	1:30 PM	Hail	1.00	0	0	0	0
				TOTALS:	0	0	$5,000.00	0

1-21. No description available.
22. Hail up to the size of nickels was reported between Dickinson and Fulton.
23. Dime size hail was reported just west of Chance.
24. Dime size hail was reported along CR 27 about three miles west of Alma.
25. Dime size hail was reported just west of Carlton.
26. Golf ball size hail was reported near Whatley.
27. Dime size hail was reported near Morvin.
28. Dime size hail was reported near Gosport.
29. Dime size hail was reported near Choctaw Bluff.
30. Nickel to ping pong size hail was reported near Campbell.
31. Dime size hail was reported just west of Alma.
32. Nickel sized hail was reported as a thunderstorm moved through the community.
33. No description available.
34. No description available.
35. No description available.
36. No description available.
37. No description available.
38. Golfball size hail fell from a thunderstorm near Dickinson. The large hail damaged a few vehicles windshields.
39. Golfball size hail fell near West Bend.
40. Hail was reported in Cunningham.
41. Hail was reported in West Bend.

Table 4.51 Historical Thunderstorm and High Wind Occurrences

Location	Date	Time	Type	Magnitude (knots)	Deaths	Injuries	Property Damage	Crop Damage
1. Clarke	03/29/1960	01:00 PM	Thunderstorm Wind	N/A	0	0	0	0
2. Clarke	12/31/1973	12:52 PM	Thunderstorm Wind	N/A	0	0	0	0
3. Clarke	05/07/1976	09:50 PM	Thunderstorm Wind	N/A	0	0	0	0
4. Clarke	03/20/1980	09:00 PM	Thunderstorm Wind	N/A	0	0	0	0

5. Clarke	03/20/1980	09:05 AM	Thunderstorm Wind	N/A	0	0	0	0
6. Clarke	05/07/1982	04:30 PM	Thunderstorm Wind	N/A	0	0	0	0
7. Clarke	05/07/1982	04:30 PM	Thunderstorm Wind	N/A	0	0	0	0
8. Clarke	12/03/1983	05:20 AM	Thunderstorm Wind	N/A	0	0	0	0
9. Clarke	12/03/1983	05:35 PM	Thunderstorm Wind	N/A	0	0	0	0
10. Clarke	12/03/1983	05:50 PM	Thunderstorm Wind	N/A	0	0	0	0
11. Clarke	12/03/1983	05:50 PM	Thunderstorm Wind	N/A	0	0	0	0
12. Clarke	12/03/1983	05:50 PM	Thunderstorm Wind	N/A	0	0	0	0
13. Clarke	12/03/1983	06:00 PM	Thunderstorm Wind	N/A	0	0	0	0
14. Clarke	05/03/1984	04:40 PM	Thunderstorm Wind	N/A	0	0	0	0
15. Clarke	06/25/1985	07:20 PM	Thunderstorm Wind	N/A	0	0	0	0
16. Clarke	03/12/1986	09:00 PM	Thunderstorm Wind	N/A	0	0	0	0
17. Clarke	05/18/1986	10:58 PM	Thunderstorm Wind	N/A	0	2	0	0
18. Clarke	07/28/1986	04:38 PM	Thunderstorm Wind	N/A	0	0	0	0
19. Clarke	07/28/1986	04:55 PM	Thunderstorm Wind	N/A	0	0	0	0
20. Clarke	07/30/1986	03:25 PM	Thunderstorm Wind	N/A	0	0	0	0
21. Clarke	07/30/1986	03:45 PM	Thunderstorm Wind	N/A	0	0	0	0
22. Clarke	11/20/1986	09:05 AM	Thunderstorm Wind	N/A	0	0	0	0
23. Clarke	11/20/1986	09:05 AM	Thunderstorm Wind	N/A	0	0	0	0
24. Clarke	02/15/1987	02:30 PM	Thunderstorm Wind	N/A	0	0	0	0
25. Clarke	04/23/1988	1:30 PM	Thunderstorm Wind	N/A	0	0	0	0

26. Clarke	06/09/1988	03:01 PM	Thunderstorm Wind	N/A	0	0	0	0
27. Clarke	07/10/1988	03:50 PM	Thunderstorm Wind	N/A	0	0	0	0
28. Clarke	05/05/1989	07:30 PM	Thunderstorm Wind	N/A	0	0	0	0
29. Clarke	07/01/1989	12:35 AM	Thunderstorm Wind	N/A	0	0	0	0
30. Clarke	01/20/1990	02:30 PM	Thunderstorm Wind	N/A	0	0	0	0
31. Clarke	01/20/1990	04:30 PM	Thunderstorm Wind	N/A	0	0	0	0
32. Clarke	02/10/1990	02:30 AM	Thunderstorm Wind	N/A	0	0	0	0
33. Clarke	04/01/1990	03:42 PM	Thunderstorm Wind	N/A	0	0	0	0
34. Clarke	05/21/1990	1:35 PM	Thunderstorm Wind	N/A	0	0	0	0
35. Clarke	07/03/1990	05:05 PM	Thunderstorm Wind	N/A	0	0	0	0
36. Clarke	03/01/1991	12:45 AM	Thunderstorm Wind	N/A	0	0	0	0
37. Clarke	08/02/1993	03:20 PM	Thunderstorm Wind	N/A	0	0	0	0
38. Clarke	04/15/1994	05;15 PM	Thunderstorm Wind	N/A	0	0	$50,000.00	0
39. Alma	06/10/1994	06:40 PM	Thunderstorm Wind	N/A	0	0	$50,000.00	$5,000.00
40. Southwest Alabama	11/11/1995	05:00 AM	Thunderstorm Wind	N/A	0	0	$50,000.00	0
41. Manila And Gosport	12/18/1995	03:30 PM	Thunderstorm Wind	N/A	0	0	$50,000.00	0
42. Alma	01/26/1996	06:25 PM	Thunderstorm Wind	50	0	0	$2,000.00	0
43. Salitpa	01/07/1998	06:40 AM	Thunderstorm Wind	50	0	0	$2,000.00	0
44. Suggsville	01/07/1998	06:45 AM	Thunderstorm Wind	50	0	0	$5,000.00	0
45. Carlton	04/17/1998	06:25 PM	Thunderstorm Wind	50	0	0	$3,000.00	0
46. Countywide	06/05/1998	10:45 PM	Thunderstorm Wind	70	0	0	$500,000.00	0

47. Allen	06/20/1998	03:15 PM	Thunderstorm Wind	50	0	0	$3,000.00	0
48. Winn	04/24/1999	05:30 PM	Thunderstorm Wind	50	0	0	$4,000.00	0
49. Morvin	07/07/1999	06:00 PM	Thunderstorm Wind	50	0	0	$4,000.00	0
50. Morvin	08/08/1999	04:40 PM	Thunderstorm Wind	50	0	0	$4,000.00	0
51. Choctaw Bluff	04/03/2000	01:25 PM	Thunderstorm Wind	60	0	0	$5,000.00	0
52. Dickinson	04/03/2000	12:45 PM	Thunderstorm Wind	50	0	0	$5,000.00	0
53. Scyrene	11/08/2000	11:55 AM	Thunderstorm Wind	55	0	0	$5,000.00	0
54. Suggsville	11/24/2001	03:40 PM	Thunderstorm Wind	55	0	0	$10,000.00	0
55. Barlow Bend	07/20/2002	02:50 PM	Thunderstorm Wind	50	0	0	$8,000.00	0
56. Carlton	12/24/2002	02:40 AM	Thunderstorm Wind	50	0	0	$5,000.00	0
57. Gainestown	05/03/2003	08:45 AM	Thunderstorm Wind	55	0	0	$30,000.00	0
58. Whatley	04/30/2005	04:55 AM	Thunderstorm Wind	50	0	0	$15,000.00	0
59. Salitpa	04/14/2007	11:38 AM	Thunderstorm Wind	50	0	0	$40,000.00	0
60. Nettleboro	07/23/2007	14:20 PM	Thunderstorm Wind	50	0	0	$10,000.00	0
61. Walker Springs	01/31/2008	18:05 PM	Thunderstorm Wind	50	0	0	$12,000.00	0
62.Chilton	10/09/2009	04:25 PM	Thunderstorm Wind	52	0	0	0	0
63.Rural	10/09/2009	04:30 PM	Thunderstorm Wind	52	0	0	0	0
64.Rural	10/09/2009	04:39 PM	Thunderstorm Wind	52	0	0	0	0
65.Winn	01/24/2010	07:30 AM	Thunderstorm Wind	50	0	0	0	0
66.Salitpa	04/04/2011	07:07 PM	Thunderstorm Wind	50	0	0	0	0
67.Whatley	04/04/2011	07:48 PM	Thunderstorm Wind	50	0	0	0	0

68.Whatley	04/04/2011	07:48 PM	Thunderstorm Wind	50	0	0	0	0
69.Alma	08/22/2011	06:30 PM	Thunderstorm Wind	52	0	0	$5,000.00	0
70.McEntyre	01/30/2013	07:12 PM	Thunderstorm Wind	52	0	0	$10,000.00	0
71.Walker Springs	01/30/2013	10:28 AM	Thunderstorm Wind	52	0	0	$10,000.00	0
72.Talahatta	07/18/2013	07:25 PM	Thunderstorm Wind	50	0	0	$40,000.00	0
				TOTALS:	0	2	$945,000.00	$5,000.00

1-36. No description available.

37. Several trees were blown down near Fulton.
38. Trees were reportedly blown down all across Clarke County during a thunderstorm that occurred around 6:15 CST. A plane anchored at the Grove Hill airport was flipped and just east of the airport an old armory occupied by a tire company suffered roof damage. Several trees fell on buildings causing some structural damage. Much of the reported damage occurred in and around Grove Hill. About 1,500 electric customers were without power.
39. Thunderstorm wind damaged temporary classroom buildings and took off an awning at the Gillmore Elementary School in Jackson. In Alma, about eight miles east of Jackson, five trees were blown down by the wind and seven acres of corn was laid flat.
40. Widespread straight line wind damage was observed throughout the area. Most of the damage was from trees and power lines being blown down. In some instances the trees fell onto some homes causing damage.
41. High winds blew shingles from 10 homes in Wrights Corner which is near Manilla. Several trees were also blown down. A roof was also damaged by high winds near Gosport. Trees and power lines were also blown down. No injuries were reported at either location.
42. Several trees and power lines were blown down along County Road 19 near Alma.
43. Trees were blown down near Salitpa.
44. Trees and power lines were blown down near the community of Suggsville. One of the trees fell on a home and damaged the roof.
45. Trees and power lines were blown down near Carlton.
46. A line of severe thunderstorms moved through the county from west to east between 1045 pm and 1140 pm. Trees and power lines were blown down throughout the county. Some of the trees fell onto homes and businesses in the Jackson area where nine buildings were damaged. Electricity was out across much of the county because of downed power lines. Around 2:00 A.M. near Toddtown (between Jackson and Grove Hill) a family was using candles to light their home. Tragically the candle started a fire in the home and a wheelchair bound female was killed in the fire.
47. High winds blew trees down in the community.
48. Trees and power lines were blown down near Winn. Marble size hail was also reported.
49. High winds blew trees down along State Highway 69 near Morvin.
50. High winds blew several trees down near the intersection of County Road 44 and State Highway 69.
51. Strong thunderstorm winds blew several trees down in the community.
52. Trees and power lines were blown down between Dickinson and Fulton.
53. High thunderstorm winds blew down some trees and power lines near the community.
54. High thunderstorm winds blew trees down near the community.
55. High winds from a thunderstorm blew down several trees near Barlow Bend.
56. High winds from a thunderstorm blew down a few trees near Carlton.
57. High thunderstorm winds blew down several trees near Gainestown, one falling on the roof of a house, producing damage. Half dollar sized hail was also reported with this storm.
58. High winds from a thunderstorm blew down several trees and power lines near Whatley. Some of the trees fell on a house and caused minor damage to the roof.
59. High winds from a thunderstorm blew down several trees and power lines near Whatley. Some of the trees fell on a house and caused minor damage to the roof.

60. High winds from a thunderstorm downed several trees in northeastern Clarke county on County Road 1.High winds from from a thunderstorm downed trees in southwest Alabama.
61. A line of thunderstorms moved across southwest Alabama causing tree and power line damage and producing hail.
62. Trees blown down blocking County Road 9 near Chilton.
63. Two small trees down on Old Highway 5 South near Liberty Baptist Church.
64. Three trees blown down blocking Highway 154 near Sand Flat Road.
65. Two trees blown down briefly blocking U.S. Highway 43 one mile north of County Road 3.
66. Numerous trees blown down by severe thunderstorm winds near 60 mph on Highway 69 in Salitpa.
67. Several trees blown down by 60 mph thunderstorm winds near Whatley.
68. Tree blown down by severe thunderstorms winds near 60 mph
69. Winds estimated at 60 mph downed trees near Alma.
70. Winds estimated at 60 mph downed trees on Prospect Road near Highway 154.
71. Winds estimated at 60 mph downed trees on Walker Springs Road near Heritage Lane.
72. Clarke County Emergency Management reported trees and power lines blown down in severe thunderstorm winds on Tallahatta Road approximately 8 miles west of Thomasville. Also reported pea size hail.

Table 4.52 Historical Tornado Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Clarke	04/30/1909	N/A	Tornado	F2	1	1	N/A	N/A
2. Clarke	03/26/1911	N/A	Tornado	F3	3	50	N/A	N/A
3. Clarke	03/21/1913	N/A	Tornado	F4	0	60	N/A	N/A
4. Clarke	04/22/1928	N/A	Tornado	F2	3	1	N/A	N/A
5. Clarke	01/23/1953	05:00 AM	Tornado	F3	0	1	$25,000.00	0
6 Clarke	07/08/1956	08:00 AM	Tornado	F2	0	0	$3,000.00	0
7. Clarke	06/28/1957	08:30 AM	Tornado	F1	0	0	$3,000.00	0
8. Clarke	06/15/1960	10:00 PM	Tornado	F2	0	0	0	0
9. Clarke	09/15/1960	04:00 PM	Tornado	F0	0	0	N/A	N/A
10. Clarke	01/19/1963	02:00 PM	Tornado	F2	0	0	$3,000.00	0
11. Clarke	07/04/1970	03:35 PM	Tornado	F0	0	0	0	0
12. Clarke	03/02/1971	09:20 PM	Tornado	F3	0	0	$250,000.00	0
13. Clarke	11/25/1979	09:0 AM	Tornado	F2	0	2	$250,000.00	0
14. Clarke	03/17/1980	09:50 AM	Tornado	F1	0	0	$25,000.00	0
15. Clarke	03/17/1980	01:00 PM	Tornado	F1	0	0	$3,000.00	0
16. Clarke	05/19/1983	09:25 AM	Tornado	F2	0	0	$25,000.00	0
17. Clarke	11/14/1983	05:30 PM	Tornado	F0	0	0	$3,000.00	0
18. Clarke	12/03/1983	05:40 PM	Tornado	F1	0	0	$250,000.00	0
19. Clarke	03/01/1991	12:20 AM	Tornado	F0	0	0	0	0
20. Clarke	04/20/1992	12:28 AM	Tornado	F1	0	0	$25,000.00	0

21. Suggsville	03/18/1996	05:45 PM	Tornado	F1	0	0	$25,000.00	0
22. Bashi	11/05/2002	10:40 AM	Tornado	F0	0	0	$8,000.00	0
23. Walker Springs	12/24/2002	03:20 AM	Tornado	F0	0	0	$8,000.00	0
24. Chilton	11/24/2004	04:35 AM	Tornado	F1	0	2	$200,000.00	0
25. Walker Springs	07/06/2005	05:25 AM	Tornado	F0	0	0	$15,000.00	0
26. Talahatta	05/10/2006	05:08 PM	Tornado	F0	0	0	$15,000.00	0
27.Carlton	04/115/2011	10:20 AM	Tornado	EF1	0	0	$102,000.00	$3,000,000.00
28.Gainestown	04/15/2011	08:20 PM	Tornado	EF2	0	2	$145,000.00	0
29.Tallahatta Springs	11/16/2011	09:00 AM	Tornado	EF0	0	0	0	0
30.Winn	12/25/2012	06:00 PM	Tornado	EF2	0	0	0	0
31.Salitpa	02/10/2013	05:10 PM	Tornado	EF1	0	0	$30,000.00	0
32.Winn	02/10/2013	05:26 PM	Tornado	EF1	0	0	$10,000.00	0
33. Simmons Creek	04/28/2014	11:15 PM	Tornado	EF1	0	0		
				TOTALS:	0	7	$1,423,000.00	$3,000,000.00

1. Cunningham Landing: Three homes and one church was destroyed. The death occurred on a plantation. A mill was also damaged.
2. Gainestown: At least were destroyed and most of the injuries from the tornado occurred here.
3. Scyrene: Tornado destroyed homes and went on to kill 27 people in Lower Peach Tree.
4. A mother and her two sons were killed near Grove Hill when their house was destroyed.
5. Three homes were destroyed near the Warrior-Tombigbee Locks. 9 barns and outbuildings were also destroyed.
6. Several farm buildings and homes were damaged six miles North of Jackson.
7. One home was unroofed near Whatley.
8. No description available.
9. Brief tornado formed near Gosport due to a tropical system. The tornado destroyed one barn, damaged one home, and uprooted several trees.
10. Tornado briefly touched down destroying one home and damaging a barn near Grove Hill. Many trees were blown down.
11. No description available.
12. A school gym was severely damaged in Thomasville. A section of the school was unroofed. One service station was destroyed and at least 2 homes were damaged near Tallahatta Springs.
13. Salitpa-Bashi: 4 trailers and 2 houses were destroyed. 10 homes and a church sustained damage.
14. Whatley: Trees were uprooted and snapped off. Witnessed by NWS Observer.
15. Near Grove Hill: Several homes sustained roof damage and many outbuildings were destroyed. Numerous trees were downed.
16. No description available.
17. Fulton: Brief tornado touchdown with roof damage to one home and several trees blown down.
18. 3 SW Grove Hill-Whatley: Some buildings were unroofed, mobile homes were damaged, homes were damaged, and automobiles were damaged.
19. 2 N Thomasville: The tornado ripped the roof off a gym and damaged a school.
20. Carlton: A few homes sustained roof damage. One truck and several outbuildings were destroyed. Numerous trees were uprooted.
21. Another tornado touched down from the same storm that began in southeast Mississippi. The tornado touched down east of Coffeeville along County Road 3. The tornado then moved Northeast and crossed U.S.

Highway 84. A couple of homes were damaged here when large trees fell on them. The tornado continued moving northeast before lifting back into the cloud just east of County Road 21. Several homes were damaged just before the tornado lifted back into the cloud. As before homes were damaged when trees fell on them. Some homes also suffered roof damage when shingles were blown off them. The tornado stayed on the ground for about three miles.

22. Bashi: A weak tornado briefly touched down just east of the community near County Road 48. A few trees were blown down or uprooted by the tornado.
23. Walker Springs: A weak tornado briefly touched down near Walker Springs. Several trees were blown down.
24. An F1 tornado touched down just southwest of Highway 154 near Chilton. The tornado moved northeast along Highway 154 for about three miles before dissipating. The tornado damaged thirteen homes and destroyed three manufactured homes. Most of the homes were damaged when the tornado first touched down just southwest of Chilton. The area that the tornado struck is not heavily populated. No injuries were reported.
25. A tornado developed along the fringes of Tropical Storm Cindy. The tornado touched down west of Walker Springs and blew down trees and power lines for about half a mile.
26. A weak tornado briefly touched down along County Road 44 near Talahatta Springs. A funnel cloud was reported just a couple of minutes before near Opine. The weak tornado blew down several trees and power lines and damaged the roof of a small meat processing plant. No injuries were reported. Large hail was also reported with the storm.
27. Aerial survey by Alabama Forestry Commission indicated a 300 to 600 yard wide path of trees snapped or blown over on the Fred T. Stimpson State Game Preserve. Several power poles and lines were snapped, and a storage shed was destroyed. The timber losses of large longleaf pine and slash pine were estimated to be close to 3 million dollars.
28. The tornado touched down taking a large section of roof off of a wood frame single story home near the center of circulation, pulling a single-wide mobile home off of its foundation on the north side of the circulation, and lifting off the roof of a nearby double-wide mobile home on the south side of the circulation. The tornado circulation quickly widened to 200 yards and strengthened, rolling another single-wide mobile home 60 yards then causing it to disintegrate as it hit a large tree. The mobile home's bent undercarriage was left about 60 yards to the left of the tornado path. The tornado continued to the east and quickly lifted in a pine forest.
29. A weak EF-0 tornado developed from a thunderstorm and briefly touched down in a wooded area. There was a one-quarter mile swath of 6 inch diameter young pine tree trucks snapped off about 5 feet above the ground.
30. The tornado touched down on Todd Town Road, seven miles north of Jackson. It then moved northeast where it destroyed a farm out building then crossed Highway 43, approximately six miles southwest of Grove Hill. After it crossed Highway 43, the tornado was at its widest and caused extensive damage to farm equipment including a destroyed grain bin. Many large trees were uprooted in this area with minor structural damage to several homes as well. It continued northeast uprooting large trees as it crossed Highway 84, two miles southeast of Grove Hill. The tornado then weakened as the thunderstorm core collapsed causing a microburst which resulted in a half mile wide damage swath on Nettlesboro Road (13 miles northeast of Grove Hill). The tornado then reformed before exiting northeast Clarke County and moving into southwest Wilcox County. The tornado uprooted trees along the way before dissipating 12 miles southwest of Camden.
31. The tornado touched down in a deeply wooded area west of County Road 34 in eastern Washington County. The tornado quickly intensified to EF-1 strength as it crossed County Road 34 damaging the roofs of a few homes and blowing down numerous pine trees. The tornado continued northeast across the Tombigbee river crossing into Clarke County where it produced damage on old lock road to 3 wood frame homes (blowing one off of its masonry block foundation)...|rolling one single wide mobile home over onto its side...and blowing another single wide mobile home off of its blocks. The tornado continued east across highway 69 snapping several pine trees. The tornado then dissipated in a deeply wooded area east of highway 69|before reaching U.S. Highway 43 north of Jackson. A second brief tornado formed from this same thunderstorm a short distance farther southeast near Highway 43.
32. This very brief tornado touched down just east offcuts. Highway 43 north of Jackson near Camp Maubila Road. In this area the tornado peeled back the roof panels of a metal shed...|snapped several pine trees mid trunk. The tornado paralleled highway|43 for its short life...dissipating in a wooded area just east of Highway 43.
33. The NWS Survey Team found damage consistent with a small, short rack, weak tornado over central Clarke County to the south-southeast of Grove Hill. Damage indicated that the tornado tracked from the west-southwest toward the east-northeast for approximately 500 yards. The damage initially began as a straight line wind event. Numerous trees (both hardwood and softwood) were snapped and uprooted. Minor roof damage was observed on two homes and a barn.

Table 4.53 Historical Severe Winter Storms Occurrences

Location	Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
1. Clarke	12/21/2000		Winter Storm	N/A	0	0	0	0
2. Clarke	01/01/2001		Winter Storm	N/A	0	0	0	0
3. Clarke	01/02/2002		Winter Storm	N/A	0	0	0	0
4. Clarke	01/19/2008		Winter Storm	N/A	0	0	0	0
5. Clarke	01/09/2011		Ice Storm	N/A	0	0	0	0
6. Clarke	01/28/2014		Ice Storm	N/A	0	0	0	0
				TOTALS:	0	0	0	0

1. Light Freezing Rain occurred during the early morning hours, resulting in a thin layer of ice on the elevated surfaces of bridges and overpasses.
2. One-half to one inch of snowfall accumulated generally along and north of a Chatom to Camden line. Some locations between Butler and Thomasville reported snowfall accumulations of about one inch.
3. A band of sleet and snow fell across the region during the early morning hours Wednesday. Most of the snow fell prior to sunrise, but continued until late morning on a more isolated basis in some locations. Some of the heavier snowfall accumulations occurred in the Jackson and Whately areas of Clarke County, where 3 inches of snowfall was reported on the ground. Traveling became hazardous across the area, especially on secondary roads and bridges. Several secondary roads and bridges had to be temporarily closed and sanded; however, very few traffic accidents were reported.
4. A low pressure system moved northeast across the northern Gulf of Mexico and into northern Florida during the morning. This produced a large shield of moderate to heavy rain that changed to snow during the morning across portions of southwest Alabama. The heaviest snow fell across Choctaw County where amounts near 4 inches were observed over the west central part of the county. Snowfall amounts of 2 to 3 inches fell across the remainder of Choctaw, northern Washington, northern Clarke and northwestern Wilcox counties.
5. Widespread light icing was experienced throughout the county.
6. One inch of sleet and snow accumulation. All roads in the county were closed.

H. Probability of Future Occurrences

Tables 4.54-4.59 provides two sets of probabilities of occurrence for each jurisdiction. By calculating the probability of future occurrences one can empirically provide the probability that a certain type of hazard will occur. Clarke County EMA has decided to provide these probabilities, but due to the insufficient amount of past occurrence data available these should be used with caution. Some hazards do not have historic occurrences and/or damage values available; therefore, these are assigned a value of NA or not available. The formulas used in these tables are as follows:

Probability of Occurrence = Number of historic occurrences/ Time frame in which they occurred
Expected Damages= Damages from historic occurrences/ Number of historic occurrences.

The county has also decided to provide a general probability based on input from the mitigation planning meetings and local knowledge.

Table 4.54 Probability of Future Occurrence Based on Historical Data – Unincorporated County

Hazard	Past Occurrences	Time Frame	Past Damages ($)	Probability of Occurrence (Per year)/ Empirical	Expected Damages ($)	Generalized Probability
Avalanche						
Coastal Erosion						
Dam Failure	N/A	N/A	N/A	N/A	N/A	Unlikely
Earthquake	N/A	N/A	N/A	N/A	N/A	Likely
Expansive Soil						
Extreme Heat and Drought	3	12 years	N/A	N/A	N/A	Likely
Flooding (including flash floods)	16	17 years	435,000	94%	27,187	Likely
Hurricane	8	10 years	N/A	80%	N/A	Likely
Land Slide	N/A	N/A	N/A	N/A	N/A	Likely
Land Subsidence	N/A	N/A	N/A	N/A	N/A	Likely
Severe Storms (hail, winds, lightning and thunderstorms)	113	53 years	950,000	100%	8,407	Highly Likely
Severe Winter Storms	6	14 years	N/A	N/A	N/A	Likely
Soil Erosion	N/A	N/A	N/A	N/A	N/A	Likely
Tornado	29	61 years	4,423,000	48%	152,517	Likely
Tsunami						
Volcano						
Wildfire	N/A	N/A	N/A	N/A	N/A	Highly Likely

Table 4.55 Probability of Future Occurrence Based on Historical Data – Coffeeville

Hazard	Past Occurrences	Time Frame	Past Damages ($)	Probability of Occurrence (Per year)	Expected Damages ($)	Generalized Probability
Avalanche						
Coastal Erosion						
Dam Failure	N/A	N/A	N/A	N/A	N/A	Unlikely
Earthquake	N/A	N/A	N/A	N/A	N/A	Likely
Expansive Soil						
Extreme Heat and Drought	3	9 years	N/A	33%	N/A	Likely
Flooding (including flash floods)	4	9 years	5,000	44.4%	1,250	Likely
Hurricane	8	13 years	N/A	61%	N/A	Likely
Land Slide	N/A	N/A	N/A	N/A	N/A	Likely
Land Subsidence	N/A	N/A	N/A	N/A	N/A	Likely
Severe Storms (hail, winds, lightning and thunderstorms)	20	14 years	20,000	100%	1,000	Highly Likely
Severe Winter Storms (Snow and Ice)	5	8 years	N/A	62.5%	N/A	Likely
Soil Erosion	N/A	N/A	N/A	N/A	N/A	Likely
Tornado	4	12 years	50,000	33%	12,500	Likely
Tsunami						
Volcano						
Wildfire	N/A	N/A	N/A	N/A	N/A	Highly Likely

Table 4.56 Probability of Future Occurrence Based on Historical Data – Fulton

Hazard	Past Occurrences	Time Frame	Past Damages ($)	Probability of Occurrence (Per year)	Expected Damages ($)	Generalized Probability
Avalanche						
Coastal Erosion						
Dam Failure	N/A	N/A	N/A	N/A	N/A	Unlikely
Earthquake	N/A	N/A	N/A	N/A	N/A	Likely
Expansive Soil						
Extreme Heat and Drought	3	9 years	N/A	22.2%	N/A	Likely
Flooding (including flash floods)	4	9 years	5,000	33.3%	1,666	Likely
Hurricane	8	13 years	N/A	61.5%	N/A	Likely
Land Slide	N/A	N/A	N/A	N/A	N/A	Likely
Land Subsidence	N/A	N/A	N/A	N/A	N/A	Likely
Severe Storms (hail, winds, lightning and thunderstorms)	15	13 years	32,000	46%	10,666	Highly Likely
Severe Winter Storms	5	8 years	N/A	37.5%	N/A	Likely
Soil Erosion	N/A	N/A	N/A	N/A	N/A	Likely
Tornado	N/A	N/A	N/A	N/A	N/A	Likely
Tsunami						
Volcano						
Wildfire	N/A	N/A	N/A	N/A	N/A	Highly Likely

Table 4.57 Probability of Future Occurrence Based on Historical Data – Grove Hill

Hazard	Past Occurrences	Time Frame	Past Damages ($)	Probability of Occurrence (Per year)	Expected Damages ($)	Generalized Probability
Avalanche						
Coastal Erosion						
Dam Failure	N/A	N/A	N/A	N/A	N/A	Unlikely
Earthquake	N/A	N/A	N/A	N/A	N/A	Likely
Expansive Soil						
Extreme Heat and Drought	2	9 years	N/A	22%	N/A	Likely
Flooding (including flash floods)	3	8 years	6,000	40.2%	2,000	Likely
Hurricane	3	13 years	N/A	23%	N/A	Likely
Land Slide	N/A	N/A	N/A	N/A	N/A	Likely
Land Subsidence	N/A	N/A	N/A	N/A	N/A	Likely
Severe Storms (hail, winds, lightning and thunderstorms)	15	14 years	79,000	109%	5,266	Highly Likely
Severe Winter Storms	3	8 years	N/A	37.5%	N/A	Likely
Soil Erosion	N/A	N/A	N/A	N/A	N/A	Likely
Tornado	4	80 years	256,000	.07%	64,000	Likely
Tsunami						
Volcano						
Wildfire	N/A	N/A	N/A	N/A	N/A	Highly Likely

Table 4.58 Probability of Future Occurrence Based on Historical Data – Jackson

Hazard	Past Occurrences	Time Frame	Past Damages ($)	Probability of Occurrence (Per year)	Expected Damages ($)	Generalized Probability
Avalanche						
Coastal Erosion						
Dam Failure	N/A	N/A	N/A	N/A	N/A	Unlikely
Earthquake	N/A	N/A	N/A	N/A	N/A	Likely
Expansive Soil						
Extreme Heat and Drought	2	9 years	N/A	22.2%	N/A	Likely
Flooding (including flash floods)	8	11 years	5,000	72.7%	625	Likely
Hurricane	3	13 years	N/A	23%	N/A	Likely
Land Slide	N/A	N/A	N/A	N/A	N/A	Likely
Land Subsidence	N/A	N/A	N/A	N/A	N/A	Likely
Severe Storms (hail, winds, lightning and thunderstorms)	21	14 years	693,000	100%	33,000	Highly Likely
Severe Winter Storms	3	8 years	N/A	37.5%	N/A	Likely
Soil Erosion	N/A	N/A	N/A	N/A	N/A	Likely
Tornado	4	55 years	1,280,000	.07%	320,000	Likely
Tsunami						
Volcano						
Wildfire	N/A	N/A	N/A	N/A	N/A	Highly Likely

Table 4.59 Probability of Future Occurrence Based on Historical Data – Thomasville

Hazard	Past Occurrences	Time Frame	Past Damages ($)	Probability of Occurrence (Per year)	Expected Damages ($)	Generalized Probability
Avalanche						
Coastal Erosion						
Dam Failure	N/A	N/A	N/A	N/A	N/A	Unlikely
Earthquake	N/A	N/A	N/A	N/A	N/A	Likely
Expansive Soil						
Extreme Heat and Drought	2	9 years	N/A	22.2%	N/A	Likely
Flooding (including flash floods)	3	11 years	5,000	33.3%	1,666	Likely
Hurricane	3	13 years	N/A	23%	N/A	Likely
Land Slide	N/A	N/A	N/A	N/A	N/A	Likely
Land Subsidence	N/A	N/A	N/A	N/A	N/A	Likely
Severe Storms (hail, winds, lightning and thunderstorms)	14	14 years	15,000	100%	1,071	Highly Likely
Severe Winter Storms	3	8 years	N/A	37.5%	N/A	Likely
Soil Erosion	N/A	N/A	N/A	N/A	N/A	Likely
Tornado	1	55 years	100,000	11%	100,000	Likely
Tsunami						
Volcano						
Wildfire	N/A	N/A	N/A	N/A	N/A	Highly Likely

Summary of Changes Made in Plan Update
Section V. Assessing Vulnerability

The *Overview of Hazard Vulnerability and Impact* section was reviewed by the committee, the EMA, and the Alabama Tombigbee Regional Commission. Minimal changes were made to this section.

The *Overview of Affected Populations by Hazard* and the *Identification of Socially Vulnerable Populations* was revised. The most up-to-date data available for Clarke County is the 2012 American Community Survey estimates.

Edited the *Overview of County Building Stock* section.

The *Identification of Critical Facilities* section was reviewed by each participating jurisdiction. It was the responsibility of each jurisdiction to submit updated information. All changes were submitted to the Alabama Tombigbee Regional Commission and incorporated into the plan.

The Analyzing Development Trends section was updated by the Alabama Tombigbee Regional Commission and reviewed by the Clarke County EMA. Only minimal changes were made to this section.

V. Assessing Vulnerability

The Clarke County Hazard Steering Committee reviewed all risk assessment analysis. Upon review, the committee felt the following hazards were risks: dam failure, earthquake, extreme heat and drought, flooding (including flash floods), hurricanes, landslides, land subsidence, severe storms, severe winter storms, tornadoes, and wildfire. The City of Jackson and the Town of Grove Hill also identified soil erosion.

A. Overview of Hazard Vulnerability and Impact

Dam Failure

The Coffeeville Lock & Dam is a high risk dam located in Choctaw County, but its failure could affect areas in Clarke County. The direct effect would be the destruction of utilities and infrastructure. The failure could also affect the City of Jackson's water supply. The Claiborne Lock and Dam is also a high risk facility, which is located in Monroe County. The failure of this dam would significantly affect infrastructure in Clarke County.

Earthquake

The effects of earthquakes in Clarke County are expected to be minimal. The areas in and around the Town of Coffeeville and Fulton have historically experienced these quakes.

Extreme Heat and Drought

Both extreme heat and drought could occur at any location in the continental United States according to FEMA. Droughts would most greatly affect agriculture and water supply. Extreme heat could lead to heatstroke, heat cramps, and heat exhaustion. A widespread extreme heat event could possibly overcrowd local clinics and emergency rooms with persons suffering from the heat's effects. Increased use of electricity to run fans and air conditioners may also put a strain on electric utilities. In addition, during droughts the risk of wildfire is greater. All 25,207 residents of Clarke County are at risk to the effects of extreme heat and drought.

Flooding (including flash floods)

FEMA identified flood plains in Clarke County lie along the Alabama and Tombigbee Rivers. There are also areas along many creeks. These areas are largely uninhabited, but have a number of hunting and fishing camps within them. These camps, along with some agricultural land are at risk for flooding. There are no repetitive loss properties on file for Clarke County.

Flash floods may lead to property damage or loss depending on severity. Their rapid onset makes them even more deadly. Often waters rise so quickly that people have little time to protect themselves. These floods can also lead to death and injury. Flash flooding on roadways is a major risk. Many times drivers underestimate water depth and become stranded in floodwaters.

Hurricanes

Atlantic hurricane season is from June 1 to November 30. According to NOAA the highest number of Atlantic hurricanes to make landfall in the United States is six (in 1960 and 1985), while the lowest is zero, which has occurred often (http://www.aoml.noaa.gov/hrd/tcfaq/E9.html). Over the past fifty years Clarke County has been affected by hurricanes. Severe storms, tornadoes, high winds, hail, torrential rains, river flooding, and flash flooding are all associated with hurricanes. Potentially all of Clarke County is at risk. The effects of a hurricane are like those of a tornado. The

loss of life, property and possessions is common. Interruption of utility and communication service is expected. Clarke County is far enough inland that advance warning of the approaching storm can be heeded and residents can prepare themselves. In instances such spawned tornadoes and flash flooding where warning time may be short or nonexistent the risk factors are higher. In addition, low-lying areas and areas prone to flooding are at higher risk of hurricane related damage. Another concern regarding hurricanes is the large amount of debris that results. Debris blocks roadways and makes travel unsafe. Debris removal is a major cost with regards to hurricanes.

Landslides
Landslides occur along numerous roadways in the County during periods of heavy rain. These incidents are usually contained. The main threat from these landslides is the danger they pose to motorists.

Land Subsidence
An active area of land subsidence exists in the central portion of the County and it includes parts of the Town of Grove Hill and the City of Jackson. There is no evidence that this subsidence has had any effects on these areas.

Severe Storms
Damage from severe storms can have a wide range of severity. Common incidences are a result of falling trees and flying debris. Lightning can cause substantial property damage and death. Utility disruption and blocked roadways are common. Historically Clarke County has experienced these storms every year with varying frequency and intensity. Winds of 70 knots have been recorded during these events within the county. Hailstorms as large as 3.5 inches have occurred in the area with property damage resulting. Generally severe storms follow no common track or an exact pathway; therefore, the whole county is at risk.

Severe Winter Storms
Winter storms are a rare occurrence in Clarke County, but when they do occur they have a significant impact. Local governments do not have snow removal equipment on hand. Local drivers are not used to driving in those adverse conditions and automobile accidents are common occurrences. Ice and snow can weigh down limbs and power lines causing them to break under pressure, resulting in power failure and property damage. During extended times of power failure, residents and businesses are not equipped with backup generators. Also many homes may not be properly insulated leading to health concerns. The impacts of these storms are generally the result of the infrequency of their occurrence. All residents of Clarke County are vulnerable to severe winter storms because these storms have no defined track.

Soil Erosion
The City of Jackson, Town of Grove Hill and Clarke County have identified areas of soil erosion. Erosion can cause property and environmental damage. The City of Jackson has pursued projects to rectify this problem.

Tornadoes
There are two tornado seasons in Alabama; these are in May and November. Tornadoes are not constrained to follow any definite path, so every area and every resident of Clarke County is at risk. A tornadoes path is generally 300-400 yards wide and four miles long (NOAA 1973). Areas within that path may suffer from slight to severe damage depending on the tornadoes strength. Injury and

death can occur as a result of even the weakest tornado. In Clarke County, historically there have been F0, F1, F2, F3, and F4 tornados recorded. Table 5.1 gives wind speeds and general damage descriptions for the Fujita –Pearson scale which measures tornado strength.

The effects of any tornado may be far reaching. Life, property, and personal items are all at risk. Interruption of electric, telephone and other utility and communications services may occur. Transportation corridors may be blocked or in some cases destroyed. Debris must be removed and this is often a costly task. Citizens may suffer from posttraumatic syndrome, depression, anxiety, and grief for lost loved ones. Also another concern in rural areas, such as Clarke County, is the lack of emergency response personnel. When large storms with widespread damage and injuries occur, these areas have a more difficult time responding to all calls they receive.

The highest potential for death or injuries resulting from tornadoes occurs in areas with higher population densities. As reviewed in the County Profile section of this report, the areas that are the most densely populated are Thomasville and Jackson. The occurrence of dense housing also increases the probability of not only death or injury, but also property damage. Thomasville and Grove Hill have the highest housing densities in the county. Other areas that are more vulnerable to damage from a tornado include areas with high percentages of mobile homes. These structures are not capable of withstanding the strong winds associated with tornadoes as well as traditional housing. In Clarke County there are high percentages of mobile homes in the northeast and southern portions of the county. In both areas over forty percent of the housing stock consists of mobile homes.

Table 5.1 Fujita- Pearson Tornado Scale

FUJITA SCALE			DERIVED EF SCALE		OPERATIONAL EF SCALE	
F Number	**Fastest 1/4-mile (mph)**	**3 Second Gust (mph)**	**EF Number**	**3 Second Gust (mph)**	**EF Number**	**3 Second Gust (mph)**
0	40-72	45-78	0	65-85	**0**	**65-85**
1	73-112	79-117	1	86-109	**1**	**86-110**
2	113-157	118-161	2	110-137	**2**	**111-135**
3	158-207	162-209	3	138-167	**3**	**136-165**
4	208-260	210-261	4	168-199	**4**	**166-200**
5	261-318	262-317	5	200-234	**5**	**Over 200**

http://www.spc.noaa.gov/faq/tornado/ef-scale.html

Wildfire

Due to the large areas of forest-covered land in Clarke County, wildfires are a real threat to all residents of Clarke County. These fires can ignite and spread quickly, charring everything in their path. In Clarke County, wildfires are a threat to the residents' property and health. Fires can encroach on homes and destroy subdivisions. These fires not only threaten the lives of residents, but also may cause respiratory problems for many residents. Smoke from these fires may lead to limited visibility along roadways increasing the probability of accidents. In addition to these effects, wildfires in Clarke County threaten the economic livelihood of the county. The economy has a large timber component that could be damaged by wildfire.

B. Overview of Affected Populations by Hazard

The population affected by natural disasters varies by hazard type. Table 5.2 gives a broad overview of the estimated populations that are at risk from each designated hazard.

Table 5.2 Population Affected by Individual Hazards

Hazard	Unincorporated County	Coffeeville	Fulton	Grove Hill	Jackson	Thomasville	Total
Avalanche	--	--	--	--	--	--	--
Coastal Erosion	--	--	--	--	--	--	--
Dam Failure	--	--	--	--	--	--	--
Earthquakes	--	--	--	--	--	--	--
Expansive Soil	--	--	--	--	--	--	--
Extreme Heat & Drought	13,190	448	368	1,788	5,206	4,207	25,207
Floods (Including flash floods)	13,190	448	368	1,788	5,206	4,207	25,207
Hurricane	13,190	448	368	1,788	5,206	4,207	25,207
Landslides	--	--	--	--	--	--	25,207
Land Subsidence	--	--	--	--	--	--	25,207
Severe Storms (lightning, hail, wind and thunderstorms)	13,190	448	368	1,788	5,206	4,207	25,207
Severe Winter Storms	13,190	448	368	1,788	5,206	4,207	25,207
Tornado	13,190	448	368	1,788	5,206	4,207	25,207
Tsunamis	--	--	--	--	--	--	--
Volcano	--	--	--	--	--	--	--
Wildfire	13,190	448	368	1,788	5,206	4,207	25,207

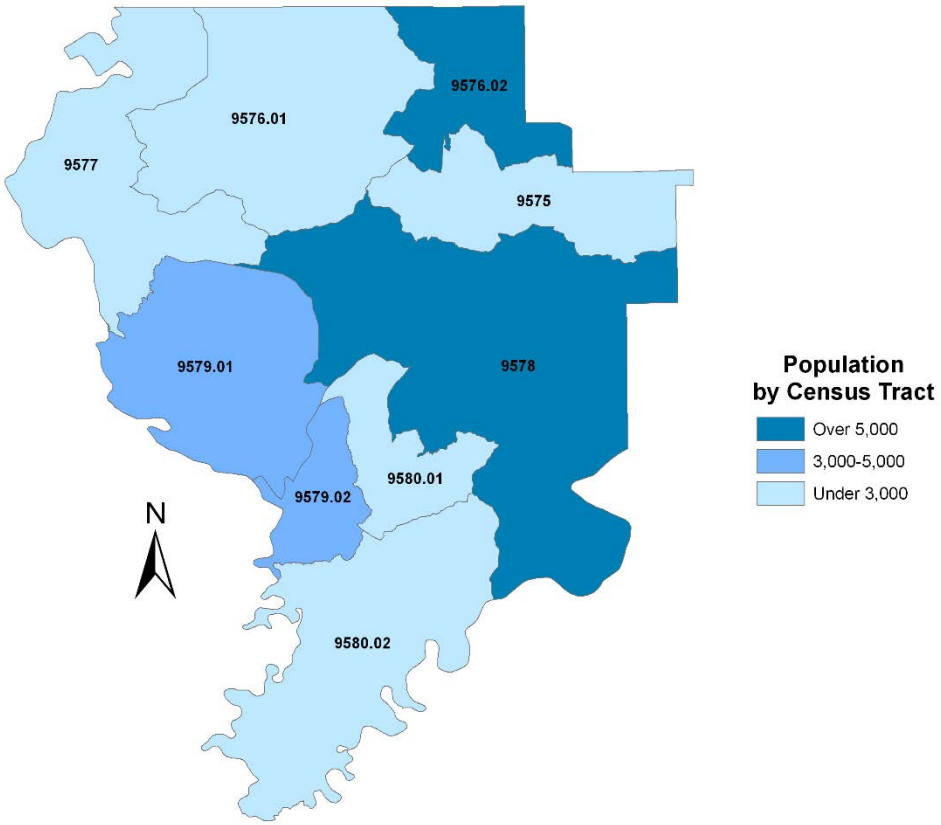
C. Identification of Socially Vulnerable Populations

Table 5.2 shows vulnerability due to physical location. Location is not the only factor in determining vulnerability. Social and economic characteristics can also be studied to determine vulnerability. Certain populations are generally more affected by any type of natural hazard and their after effects. These populations can be defined in terms of social, racial, and economic characteristics. The following section identifies Clarke County's socially vulnerable populations by Census Tract.

Vulnerability Characteristics by Census Tract

Clarke County is broken down into nine census tracts. Figure 5.1 shows the population from Census 2010, broken down by census tract. In terms of vulnerability, the larger the population of an area the more people and structures that could possibly be damaged or destroyed. Tract 9576.02, which includes the City of Thomasville, is the most populated tract. The second most populated is Tract 9578, which includes the Town of Grove Hill. The remaining tracts all have populations under 5,000 with Tract 9576.01 being the least populated.

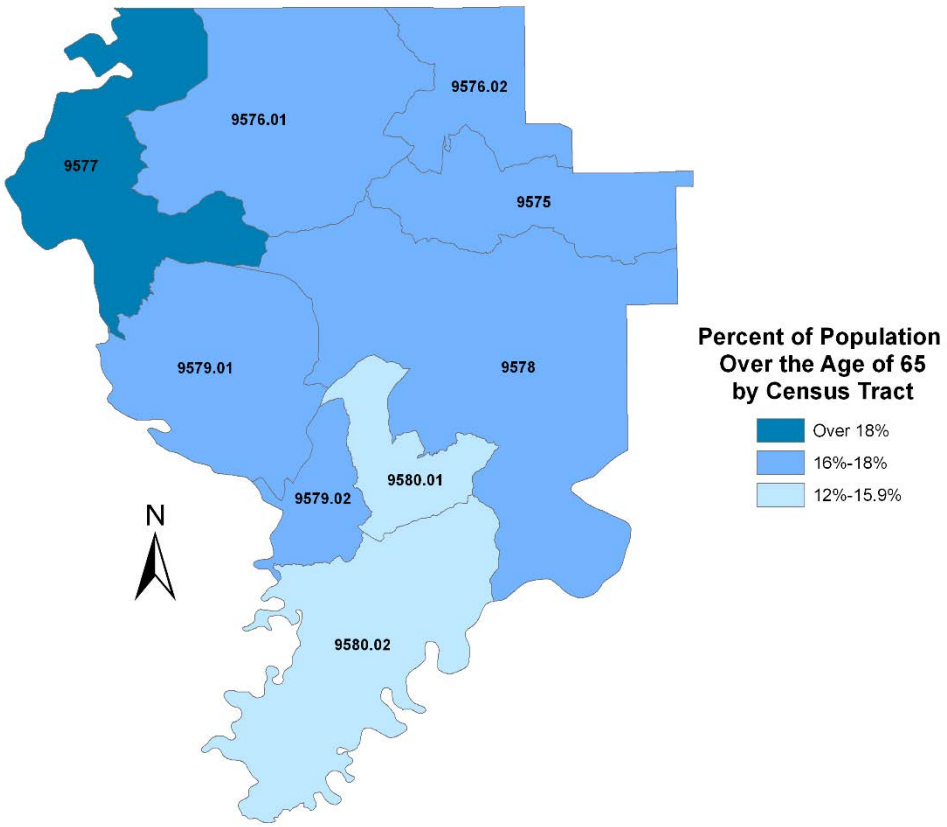
Figure 5.1 Clarke County Population by Census Tract



Tract	9575	9576.0	9576.02	9577	9578	9579.01	9579.02	9580.01	9580.02
Population	1,760	998	5,515	1,329	5,488	3,493	4,230	1,289	1,731

The population over sixty-five years of age and under eighteen years of age is especially vulnerable to natural hazards due to their age. These groups are at a higher risk for injury and medical complications that may occur during or as a result of a natural disaster. Also, these groups often need evacuating and special shelter. The areas with the highest percentage of these populations are illustrated below in Figures 5.2 and 5.3. Tract 9577 has the highest percent of its population age 65 and over with just over twenty percent. The Town of Coffeeville is located within this tract.

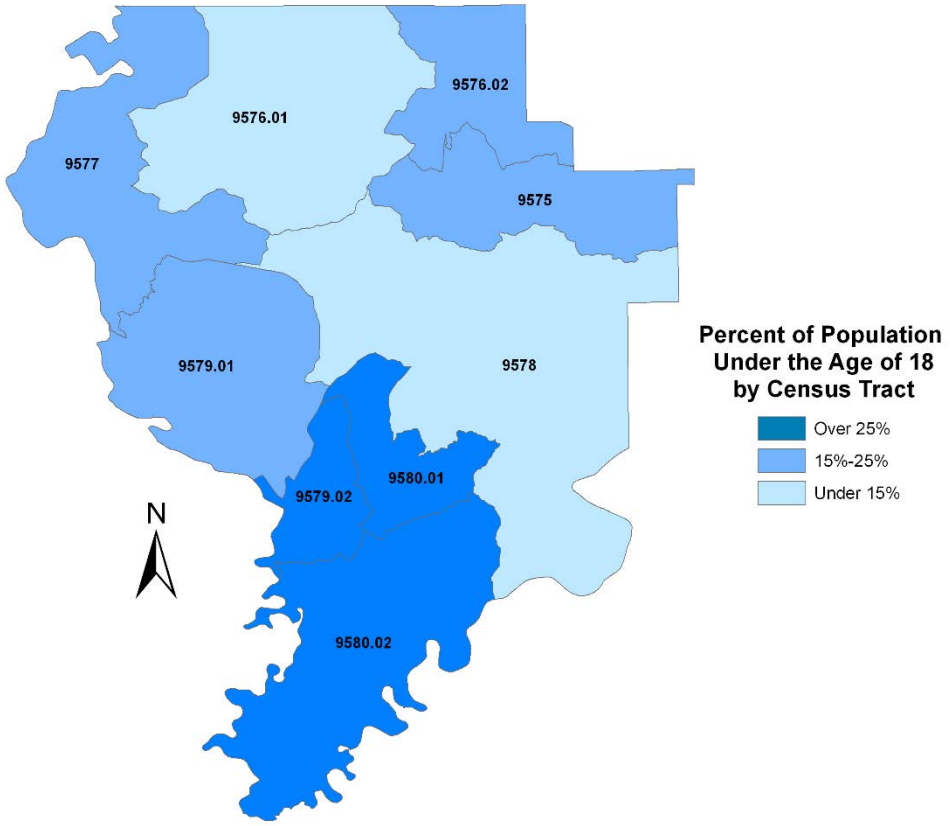
Figure 5.2 Clarke County Population Age 65 Years or Older by Census Tract



Tract	9575	9576.01	9576.02	9577	9578	9579.01	9579.02	9580.01	9580.02
Percent of Tract Population Over 65	17.5	18.0	16.0	20.2	16.0	16.7	16.4	13.4	12.0

Figure 5.3 illustrates that the area with the largest percent of its population under eighteen years of age is Tract 9580.02 with twenty-nine percent being under eighteen.

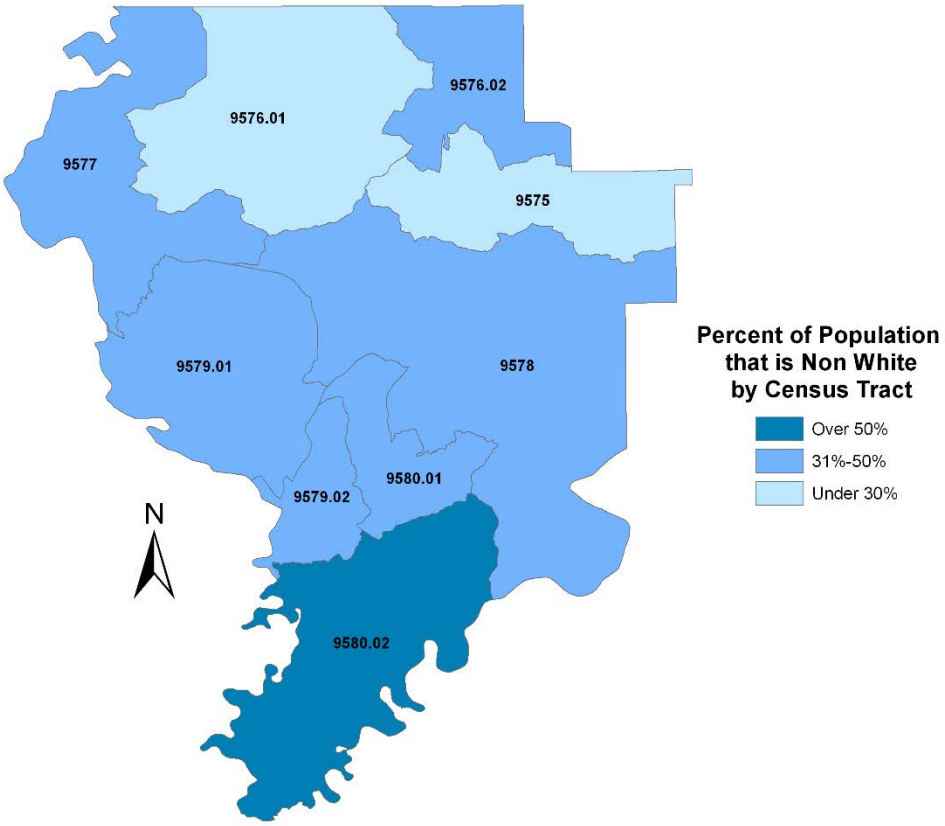
Figure 5.3 Clarke County Population under the Age of 18 by Census Tract



Tract	9575	9576.01	9576.02	9577	9578	9579.01	9579.02	9580.01	9580.02
Percent of Tract Population Under 18	22	13.6	15.6	22	13.7	24.3	25.6	26.8	29.1

Minority populations are also generally considered to be more vulnerable. These populations may not have the resources necessary to recover as quickly or completely from natural disasters. Generally minorities have higher percentages of inadequate medical coverage, inadequate property or housing insurance, and inadequate home construction. Figure 5.4 shows the percent of the population that is non-white by census tract. Within Clarke County the areas with the highest percentages of these populations is Tracts 9578, 9580.01, and 9580.02. All of which have significant minority populations. Each of these tracts has at least half of its population belonging to a minority group. The remaining tracts also have substantial percentages of minority populations with only two tracts having less than one-third of its population belonging to a minority.

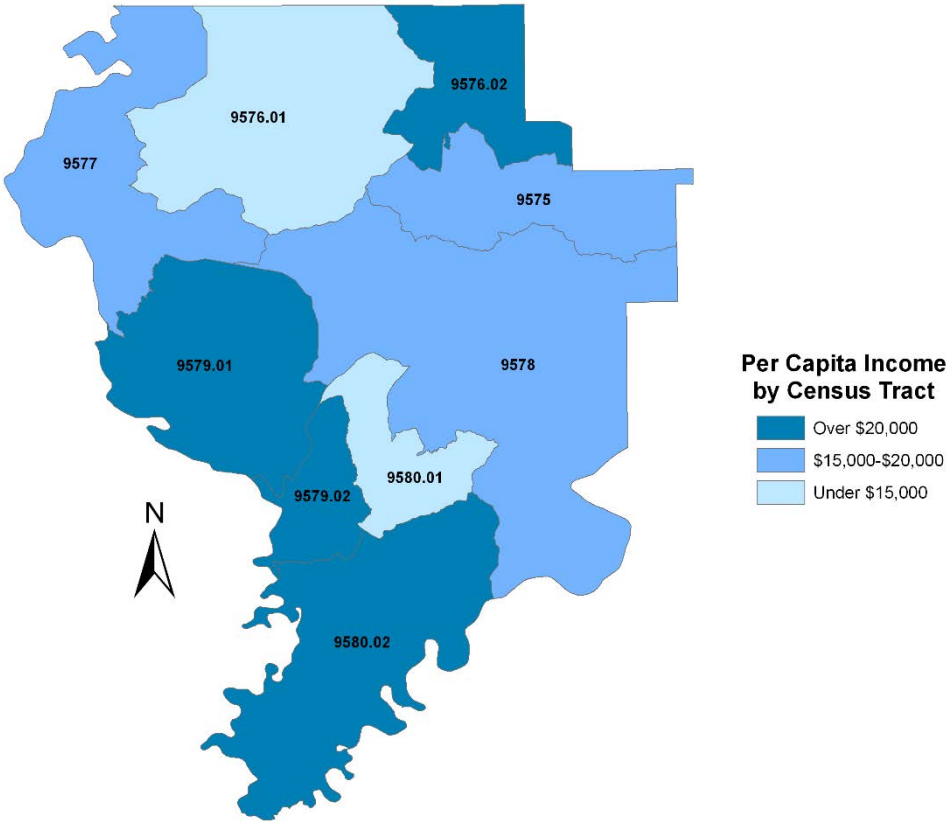
Figure 5.4 Clarke County Population that is Non White by Census Tract



Tract	9575	9576.01	9576.02	9577	9578	9579.01	9579.02	9580.01	9580.02
Percent of Tract Population that is Non White	23	27	45	45	50	33	49	50	80

In addition to the racial and age composition within the county, income levels are also important when identifying vulnerable populations. Lower income individuals may not have the resources to prepare or recover from natural disasters. Figures 5.5 and 5.6 show the per capita and median incomes for Clarke County census tracts, respectively. Per capita income is the average obtained by dividing aggregate income by the total population of an area. Clarke County's per capita income was $20,806, which is lower than both the state ($23,101) and federal ($27,385) averages. Within the county there is a range of $10,682 between per capita incomes. Tract 9576.01 has the lowest per capita income, it is located in the northern part of the county. Tract 9579.01, in the western part of the county, has the highest per capita income at $23,531.

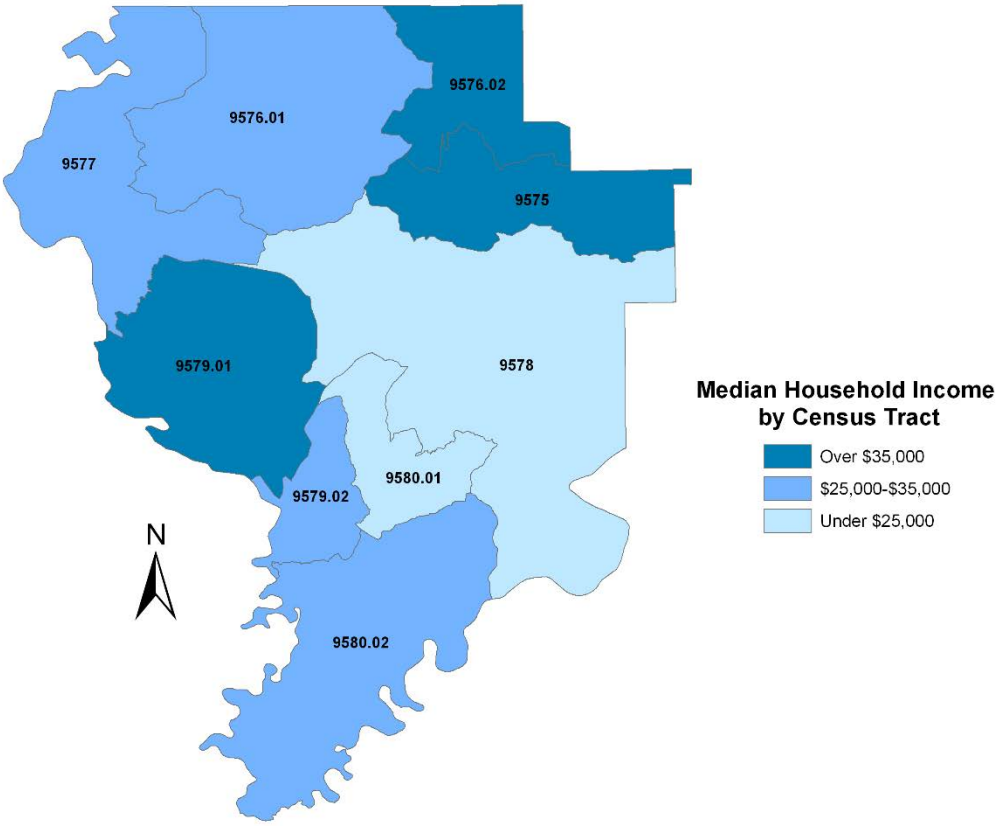
Figure 5.5 Clarke County Per Capita Income by Census Tract



Tract	9575	9576.01	9576.02	9577	9578	9579.01	9579.02	9580.01	9580.02
Per Capita Income	$18,732	$12,849	$22,073	$15,580	$17,373	$23,531	$21,139	$11,364	$20,489

Median income divides the income distribution into two equal groups, one having incomes above the median, and other having incomes below the median. In Clarke County the median household income countywide was $31,143, this figure is substantially lower than both the state ($42,054) and national ($51,771) averages. Within the county there is also a large disparity between census tracts. Figure 5.6 illustrates this disparity. The range of median incomes between census tracts is $27,803. Tract 9579.01 is the only tract within the county with a median income that equals or exceeds the state average. A portion of the City of Jackson is located within this tract. Tract 9580.01 has the lowest median incomes in the county. No tracts in Clarke County have median incomes that equal or exceed the national average.

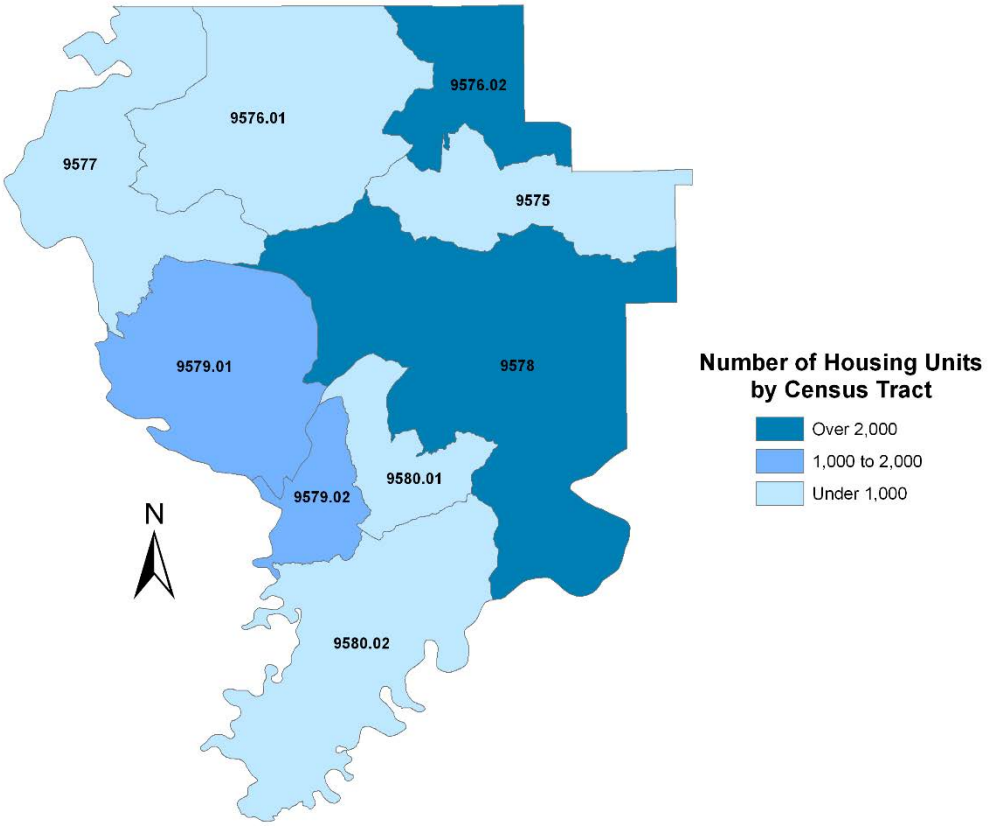
Figure 5.6 Clarke County Median Household Income by Census Tract



Tract	9575	9576.01	9576.02	9577	9578	9579.01	9579.02	9580.01	9580.02
Median Income	$37,794	$30,096	$36,806	$30,000	$23,966	$47,386	$33,684	$19,583	$29,844

Housing is always a concern in mitigation planning. The concentration and type of housing are two main concerns. In Clarke County there are a total of 12,638 housing units. Not surprisingly, the concentrations of housing coincide with the more populated areas. Figure 5.7 shows the number of housing units per tract for Clarke County. The census tracts including the City of Thomasville and the Town of Grove Hill contain the highest number of housing units.

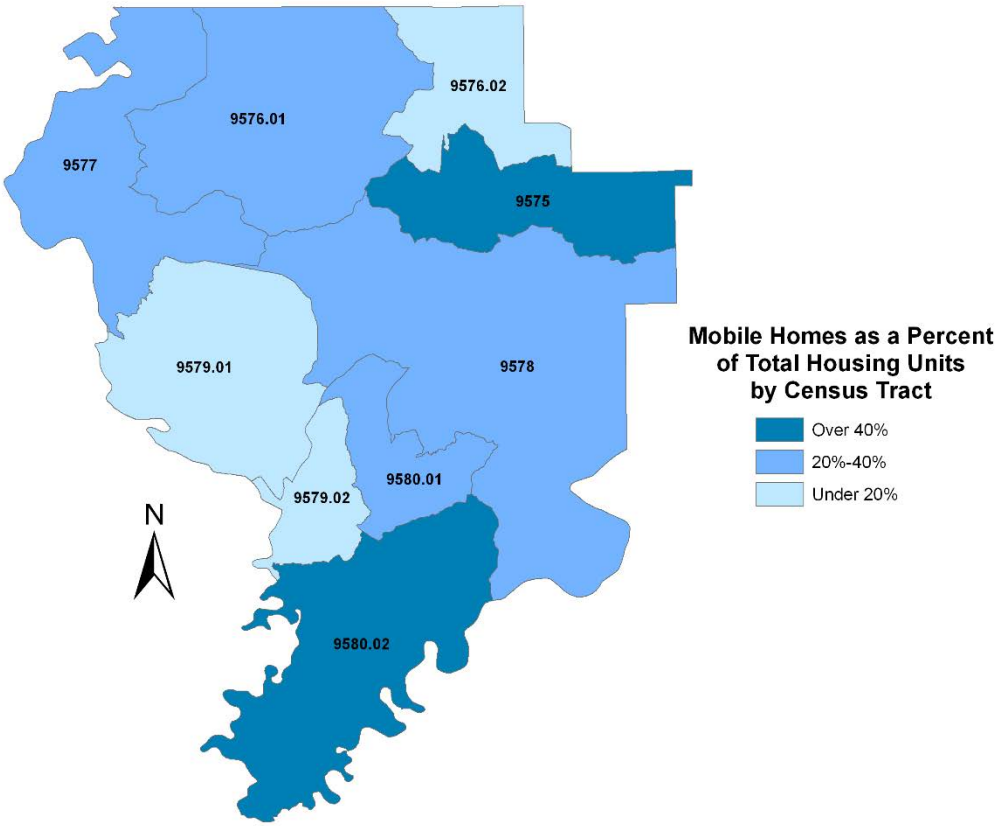
Figure 5.7 Clarke County Housing Units by Census Tract



Tract	9575	9576.01	9576.02	9577	9578	9579.01	9579.02	9580.01	9580.02
Housing Units per Census Tract	872	495	2,560	924	2,699	1,650	1,973	578	887

Not only are concentrations of units important, but also type of unit is important. Figure 5.8 shows the percentage of housing stock that is mobile homes by tract. Within Clarke County there are a significant number of mobile homes. These homes are more vulnerable to damage from natural hazards. Tracts 9575, 9576.01, and 9580.02 have at least a third of their housing stock being mobile homes. The number of multiple unit structures was also compiled for each tract, but there were no significant percentages belonging to this designation

Figure 5.8 Clarke County Percent of housing that is Mobile Homes by Census Tract

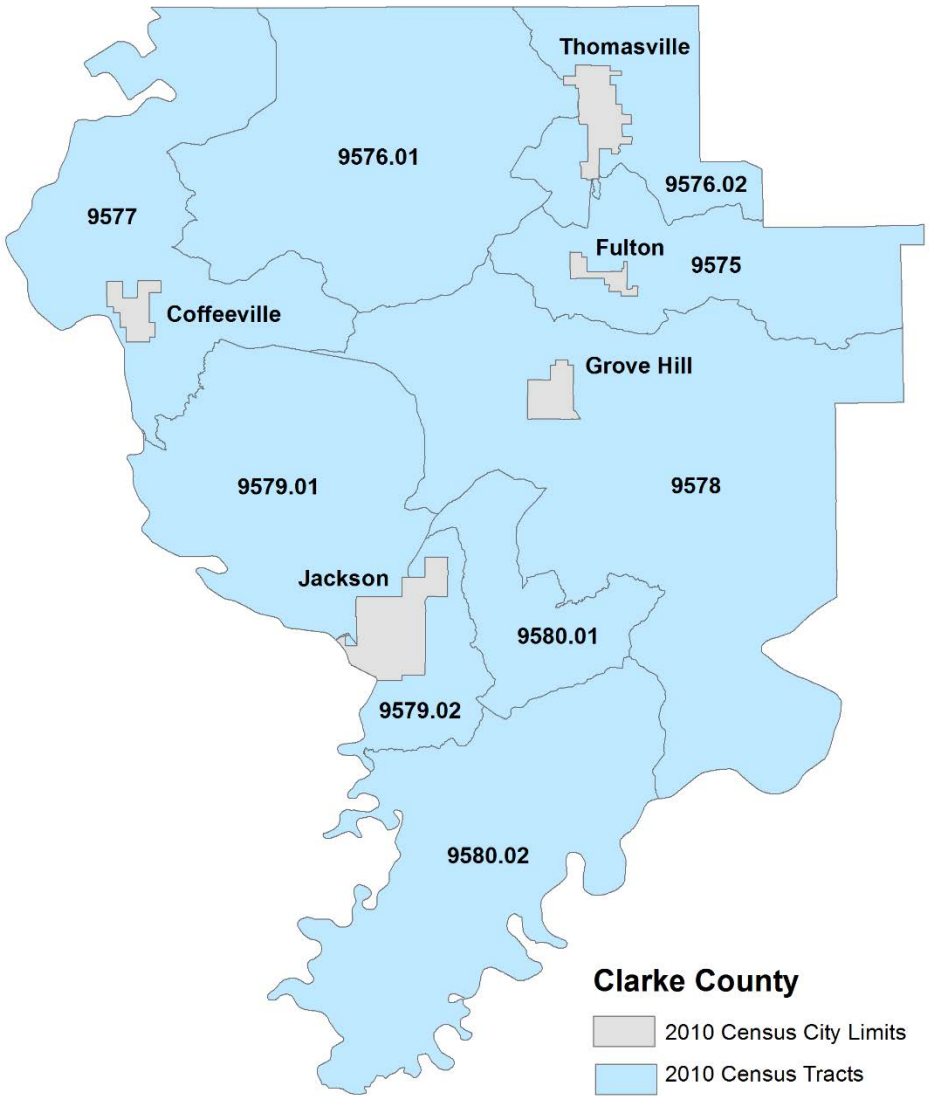


Tract	9575	9576.01	9576.02	9577	9578	9579.01	9579.02	9580.01	9580.02
Percent Mobile Homes	43.3	39.2	16.0	23.7	24.6	19.7	13.1	29.9	43.6
Percent Ten Units or More	0	0	1.5	0	0	0	4.5	0	0

D. Overview of County Building Stock

In addition to populations, it is also important to examine the structures that may be damaged by natural hazards. Figure 5.9 is provided for reference. Census tracts 9576, 9578, 9579.01, and 9579.02 have been identified as the areas in the county with the larger building stocks. These areas have the majority of the residential areas in the county. These areas also have the bulk of the commercial, industrial, religious, educational, and governmental building types also. Grove Hill, the county seat, is located in Tract 9578; all buildings essential to the county government are located here. The County's largest city, Jackson, is located in Tracts 9579.01 and 9579.02. The City's second largest city, Thomasville, is located in Tract 9576. The building stock throughout the rest of the county is varied and not as dense as the areas identified above.

Figure 5.9 Clarke County Census Tracts and Municipal Limits



E. Identification of Critical Facilities

The Clarke County Hazard Mitigation Steering Committee identified critical facilities in the following six categories:

A. A critical facility is critical to the health and welfare of the entire jurisdiction. They become essential in the event of a natural disaster. These facilities include police stations, fire stations, schools, and hospitals.
B. Critical facilities are lifelines that provide the jurisdiction with necessities such as potable water.
C. Critical facilities include the transportation corridors necessary to keep the jurisdiction connected.
D. Critical facilities include those facilities that house persons with special needs (jails, nursing homes). They may also include locations where large groups often meet.
E. Critical facilities include locations with hazardous materials. These materials may pose a threat to health and safety if disrupted.
F. Critical facilities include those in which potential losses, both human and economic, are high.

Tables 5.3-5.9 provide information on critical facilities by category. Figure 5.10 accompanies Table 5.7 in identifying transportation corridors.

Table 5.3 Critical Facilities Vital to the Health and Welfare: Educational Facilities (Category A)

Name	City
Alabama Southern Community College	Thomasville
Clarke County High School	Grove Hill
Clarke Prep School	Grove Hill
Faith Christian Academy	Thomasville
Grove Hill Elementary School	Grove Hill
Jackson Academy	Jackson
Jackson High School	Jackson
Jackson Intermediate School	Jackson
Jackson Middle School	Jackson
Gillmore Elementary	Jackson
Thomasville Elementary School	Thomasville
Thomasville High School	Thomasville
Thomasville Middle School	Thomasville
Wilson Hall Middle School	Grove Hill

Table 5.4 Critical Facilities Vital to the Health and Welfare: Hospitals (Category A)

Name	City
Grove Hill Memorial Hospital	Grove Hill
Jackson Medical Center	Jackson

Table 5.5 Critical Facilities Vital to the Health and Welfare: Police Departments (Category A)

Name	City
Clarke County Sheriff's Department	Grove Hill
Coffeeville Police Department	Coffeeville
Fulton Police Department	Fulton
Grove Hill Police Department	Grove Hill
Jackson Police Department	Jackson
Thomasville Police Department	Thomasville

Table 5.6 Critical Facilities Vital to the Health and Welfare: Potable Water Providers (Category B)

Name
Town of Coffeeville
City of Jackson
Town of Grove Hill
City of Thomasville
North Clarke Water Authority
Mid Clarke Water System
McVay Water System
Mid Central Water
CWM Water Authority

Figure 5.10 Critical Facilities: Transportation Corridors (Category C)

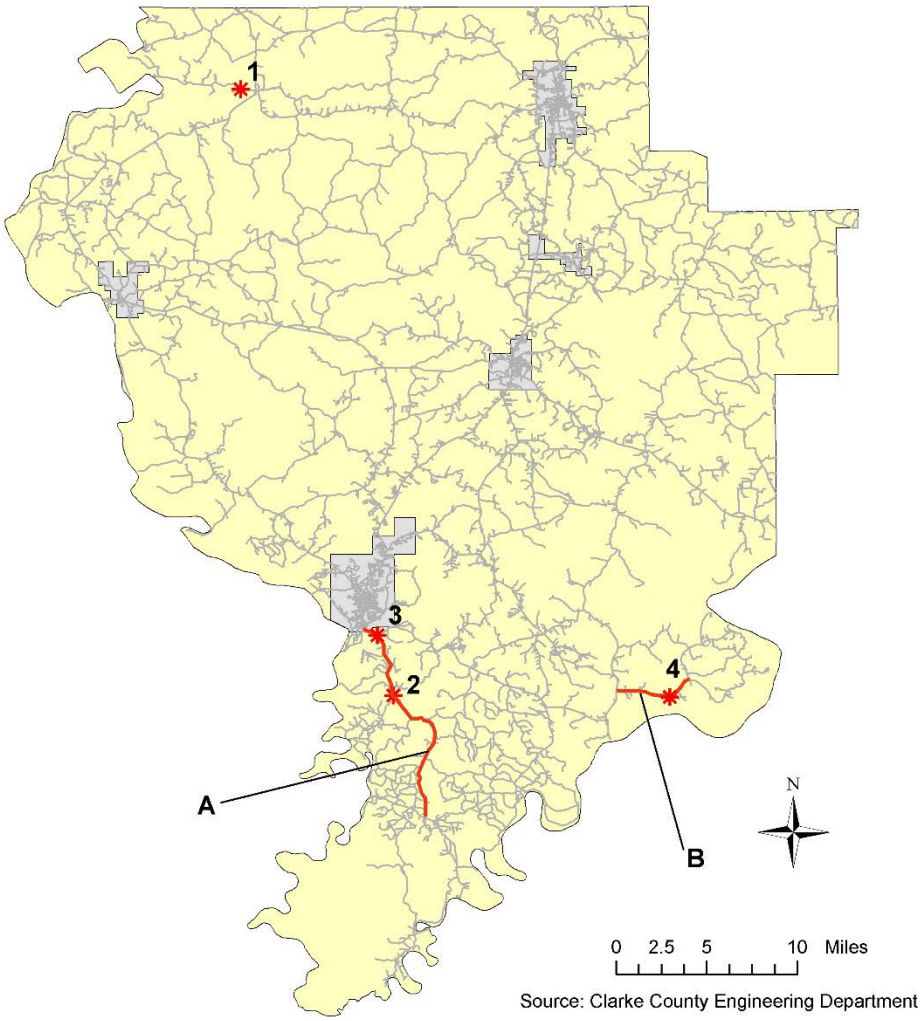


Table 5.7 Critical Facilities: Transportation Corridors (Category C)

Facility Name	Location
Bridge	Tallahatta Creek on Woods Bluff Road
Bridge	Salt Creek on County Route 15
Bridge	Bassetts Creek on County Route 15
Bridge Culvert	Nixon Creek on County Route 33
County Route 33	Refer to map
County Route 15	Refer to map

The transportation infrastructure identified is considered critical due to citizens being stranded or isolated if it were to be damaged. United States Highway 43, United States Highway 84, State Highway 5, State Highway 69, and State Highway 178 can also be considered critical due to their importance to the economy of the county.

Table 5.8 Critical Facilities: Special Needs and/or Meeting Places (Category D)

Facility Name	Location
Country Oaks Assisted Living Facility	Thomasville
Country Oaks Assisted Living Facility	Thomasville
Clarke County Jail	Grove Hill
Gates Drive Park Complex	Thomasville
Grove Hill Senior Center	Grove Hill
Gymnasium (behind City Hall)	Thomasville
Jackson Community Center	Jackson
Jackson Health Care Facility	Jackson
McFadden Park	Thomasville
Nutrition Center- Legion Hall	Coffeeville
Nutrition Center, Alternative School, Boys and Girls Club	Thomasville
Pine City Park	Jackson
SP Hudson Park	Grove Hill
Stephens Park Complex	Thomasville
Teen Center	Thomasville
Thomasville Nursing Home	Thomasville
Tucker Park	Thomasville
Thomasville Civic Center	Thomasville

Table 5.9 Critical Facilities: Hazardous Materials (Category E)

NAME	Don's Body Shop
Abandoned Wood Treater	Greater Gulf Development, Inc.
Alabama Timber Industries	Grove Hill Chevron Station
Auto Beauty Shop of Thomasville	Jackson Cabinet and Manufacturing
Boise Cascade Corporation	Mobile Asphalt
Boise Cascade Sawmill	OMS No. 23
City of Jackson STP	Pruet Construction Company
City of Thomasville WWSB HCR	Scotch Lumber
Coastal Lumber Company	Scotch Plywood
Crosby Lumber Company	SW Alabama Construction
Damon Harris	Teledyne Brown Engineering
Dixie Automotive Parts Company	US Army Jackson/OMS 23
	Webb Body Shop

Source: HAZUS M-H

F. Critical Facilities by Jurisdiction

Tables 5.10-5.18 break down critical facilities by the jurisdiction/entity which owns them. Table 5.18 provides a list of other facilities considered critical, but are either privately owned or volunteer organizations. Cost estimates are given for the facilities on which they were available. The municipalities provided estimates for their facilities. Other values were provided, where they were available, by the individual entities. All categories of critical facilities are included, except category E. There was very limited data available for those facilities.

Table 5.10 Clarke County Commission Critical Facilities

Facility	Estimated Value
National Guard Armory	$750,000.00
Sheriff's Department and County Jail	$11,592,000.00
County Courthouse	$18,000,000.00
County Road and Bridge Department	$3,500,000.00
TOTAL VALUE OF CRITICAL FACILITIES	**$33,842,000.00**

Table 5.11 Town of Coffeeville Critical Facilities

Facility	Estimated Value
City Hall/ Police Department	$300,000.00
Fire Department -Building and Equipment	$250,000.00
Fire Department –Trucks	$350,000.00
Water System Facilities	$3,000,000.00
Coffeeville Healthcare Clinic	$250,000.00
Coffeeville High School Building	$1,500,000.00
Nutrition Center- Legion Hall	$300,000.00
TOTAL VALUE OF CRITICAL FACILITIES	**$5,950,000.00**

Table 5.12 Town of Fulton Critical Facilities

Facility	Estimated Value
Town Hall	$150,000.00
Water Tank	$1,000,000.00
Fire Department Station #1	$750,000.00
Fire Department Station #2	$750,000.00
Police Department	$100,000.00
Sewage Treatment Facilities	$5,000,000.00
TOTAL VALUE OF CRITICAL FACILITIES	**$7,750,000.00**

Table 5.13 Town of Grove Hill Critical Facilities

Facility	Estimated Value
Grove Hill Library	$750,000.00
Senior Center	$650,000.00
Police Department	$450,000.00
Fire Department	$4,000,000.00
Town Hall	$600,000.00
Grove Hill Water Works	$8,000,000.00
James Creek Wastewater Treatment Plant	$8,000,000.00
TOTAL VALUE OF CRITICAL FACILITIES	**$22,450,000.00**

Table 5.14 City of Jackson Critical Facilities

Facility	Estimated Value
City Hall	$1,172,092.00
Fire Departments-College Avenue	$1,379,561.00
Fire Departments- Church Street	$5,264,270.00
Fire Department- Commerce Street	$135,462.00
Police Station	$2,456,650.00
Court Building	$624,894.00
Water Utilities-Treatment Plants	$10,000,000.00
Water Utilities-Lines	$2,500,000.00
Water Utilities-Water Tanks	$2,000,000.00
Water Utilities-Water Pumping Station (Tombigbee River)	$1,500,000.00
Water Utilities-Water Pumping Station (Hoven Springs)	$400,000.00
Rescue Squad Building	$500,000.00
Public Works Department	$2,310,084.00
Senior Center	$819,546.00
AV -Storage	$2,678,800.00
Office Trailer/Scales	$766,315.00
Erosion Center at Intake Pump at Water Treatment Plant	$1,500,000.00
Community Center	$2,224,800.00
TOTAL VALUE OF CRITICAL FACILITIES	**$38,232,474.00**

Table 5.15 City of Thomasville Critical Facilities

Facility	Value
Civic Center/City Hall	$6,009,999.00
Police/Court Building	$1,595,381.00
Nutrition Center/RSVP	$928,818.00
Boys & Girl Club	$655,637.00
Library	$1,150,000.00
Fire Station # 1	$257,883.00
Fire Station # 2	$382,454.00
Fire Station # 3	$710,272.00
Kennel/Storage	$27,319.00
Gates Park Complex	$81,955.00
Stephens Complex	$81,955.00
Tucker Field	$81,955.00
McFadden Park	$156,573.00
Teen Center	$174,836.00
Pavilion- Teen Center	$5,464.00
Gymnasium	$655,636.00
Strickland Field	$32,000.00
Simplex Building	$2,379,300.00
Armory - Police	$1,500,000.00
Wilkinson Building	$655,636.00
Public Works Building	$163,909.00
Public Works Shop	$546,363.00
Water Tanks	$3,000,000.00
Storage Building	$273,182.00
Lift Pumps	$213,213.00
Spray Field	$275,000.00
Lagoon	$500,000.00
Treatment Plant	$10,100,000.00
Generator	$217,975.00
Intake Facility	$8,080,000.00
Generator	$170,000.00
TOTAL VALUE OF CRITICAL FACILITIES	**$41,062,715.00**

Table 5.16 Clarke County School Systems

Facility	Estimated Value
Coffeeville Elementary School	$7,000,000.00
Wilson Hall Middle School	$9,000,000.00
Grove Hill Elementary School	$15,000,000.00
Clarke County High School	$25,000,000.00
Jackson Middle School	$15,000,000.00
Jackson High School	$30,000,000.00
Jackson Intermediate School	$12,000,000.00
TOTAL VALUE OF CRITICAL FACILITIES	**$113,000,000.00**

Table 5.17 Thomasville City School Systems

Facility	Estimated Value
Thomasville Elementary School	$9,339,739.00
Thomasville Middle School	$9,228,201.00
Thomasville High School	$12,315,072.00
Central Office	$406,260.00
Transportation Building	$381,399.00
Total Value of Critical Facilities	**$31,670,671.00**

Table 5.18 Other Critical Facilities

Facility	Estimated Value
Alma VFD	$500,000.00
Antioch VFD	$670,000.00
Helwestern VFD	$500,000.00
Opine Tallahatta Springs VFD	$639,397.00
Salitpa VFD	$500,000.00
Scyrene-Chance VFD	$500,000.00
Tri-Community VFD	$500,400.00
West Bend-Bethel VFD	$890,000.00
Winn VFD	$900,000.00
Tallahatta Creek on Woods Bluff Road (bridge)	
Salt Creek on County Route 15 (bridge)	
Bassetts Creek on County Route 15 (bridge)	
Nixon Creek on County Route 33 (bridge)	
County Route 33	
Clarke County Forestry Office	
County Route 15	
Scotch Lumber Company	
Scotch Plywood Company	
Clarke County Health Department	
Department of Human Resources	
Clarke Place Mental Health Treatment	
Clarke Prep	
Grove Hill Memorial Hospital	
Boise Cascade	
Jackson Academy	
Thomasville Nursing Home	
Alabama Southern Community College	
LP Mill	

G. Future Critical Facilities

Table 5.19 gives a list of planned future critical facilities. This list gives a descriptive title, the jurisdiction responsible, and estimated cost.

Table 5.19 Future Critical Facilities

Facility	Location	Estimated Cost
Sewer System & Treatment Facility	Coffeeville	$4,000,000.00
Shelter/multi-purpose building	Clarke County/Grove Hill	$8,000,000.00
Clarke County Wireless	Clarke County	$6,000,000.00
County Animal Shelter	Grove Hill	$75,000.00
Regional Airport	Thomasville	$12,800,000.00
Gilmore Elementary	Jackson	$12,000,000.00
Totals		**$42,075,000.00**

H. Critical Facilities by Hazard

Due to the nature of the hazards identified by Clarke County, all critical facilities are at the same risk level. The only two exceptions to this are soil erosion and flash flooding. The area at risk for soil erosion is still undetermined due to progress made by recent projects. Flash flooding occurs mainly in areas where drainage structures are old or undersized. These areas are primarily in the downtown areas of Thomasville, Grove Hill, and Jackson. The main effect in these areas is yard flooding, which could lead to property damage. There are also a number of areas in the unincorporated areas of the County where flash flooding occurs during heavy rainfall. Table 5.20 breaks these facilities down by potential loss to each hazard. The sum value of all critical facilities affected by each hazard was used to compute these numbers. The values were calculated by location of facility, not owner therefore school values have been factored into each municipality.

Table 5.20-Potential Losses of Critical Facilities by Hazard

	Unincorporated*	Coffeeville	Fulton	Grove Hill	Jackson	Thomasville	Total
Extreme Heat and Drought	N/A	N/A	N/A	N/A	N/A	N/A	**N/A**
Flash Flood	N/A	$12,950,000	$7,750,000	$105,292,000	$95,232,474	$72,733,386	**$293,957,860**
Hurricane	N/A	$12,950,000	$7,750,000	$105,292,000	$95,232,474	$72,733,386	**$293,957,860**
Severe Storms	N/A	$12,950,000	$7,750,000	$105,292,000	$95,232,474	$72,733,386	**$293,957,860**
Snow and Ice	N/A	N/A	N/A	N/A	N/A	N/A	**N/A**
Soil Erosion				N/A	N/A		**N/A**
Tornado	N/A	$12,950,000	$7,750,000	$105,292,000	$95,232,474	$72,733,386	**$293,957,860**
Wildfire	N/A	N/A	N/A	N/A	N/A	N/A	**N/A**

*Insufficient data, no value calculated

Tables 5.21 and 5.22 give estimates of potential housing losses by jurisdiction. Housing unit totals in Table 5.21 were taken from Census 2000.

Table 5.21-Housing Units by Jurisdiction by Hazard

	Unincorporated	Coffeeville	Fulton	Grove Hill	Jackson	Thomasville	Total
Extreme Heat and Drought	7,113	271	183	962	2,213	1,890	**12,632**
Flash Flood	175	25	30	75	125	250	**680**
Hurricane	7,113	271	183	962	2,213	1,890	**12,632**
Severe Storms	7,113	271	183	962	2,213	1,890	**12,632**
Snow and Ice	7,113	271	183	962	2,213	1,890	**12,632**
Soil Erosion				N/A	N/A		**N/A**
Tornado	7,113	271	183	962	2,213	1,890	**12,632**
Wildfire	7,113	271	183	962	2,213	1,890	**12,632**

For Table 5.22 potential loss totals were calculated by multiplying by the median value of a housing unit in each jurisdiction by the number of units in that jurisdiction.

Example:
Fulton Potential Housing Losses =
Number of units in Town of Fulton
(183) * Median Value of Housing Unit in Town of Fulton ($50,000)
= $9,150,000.00

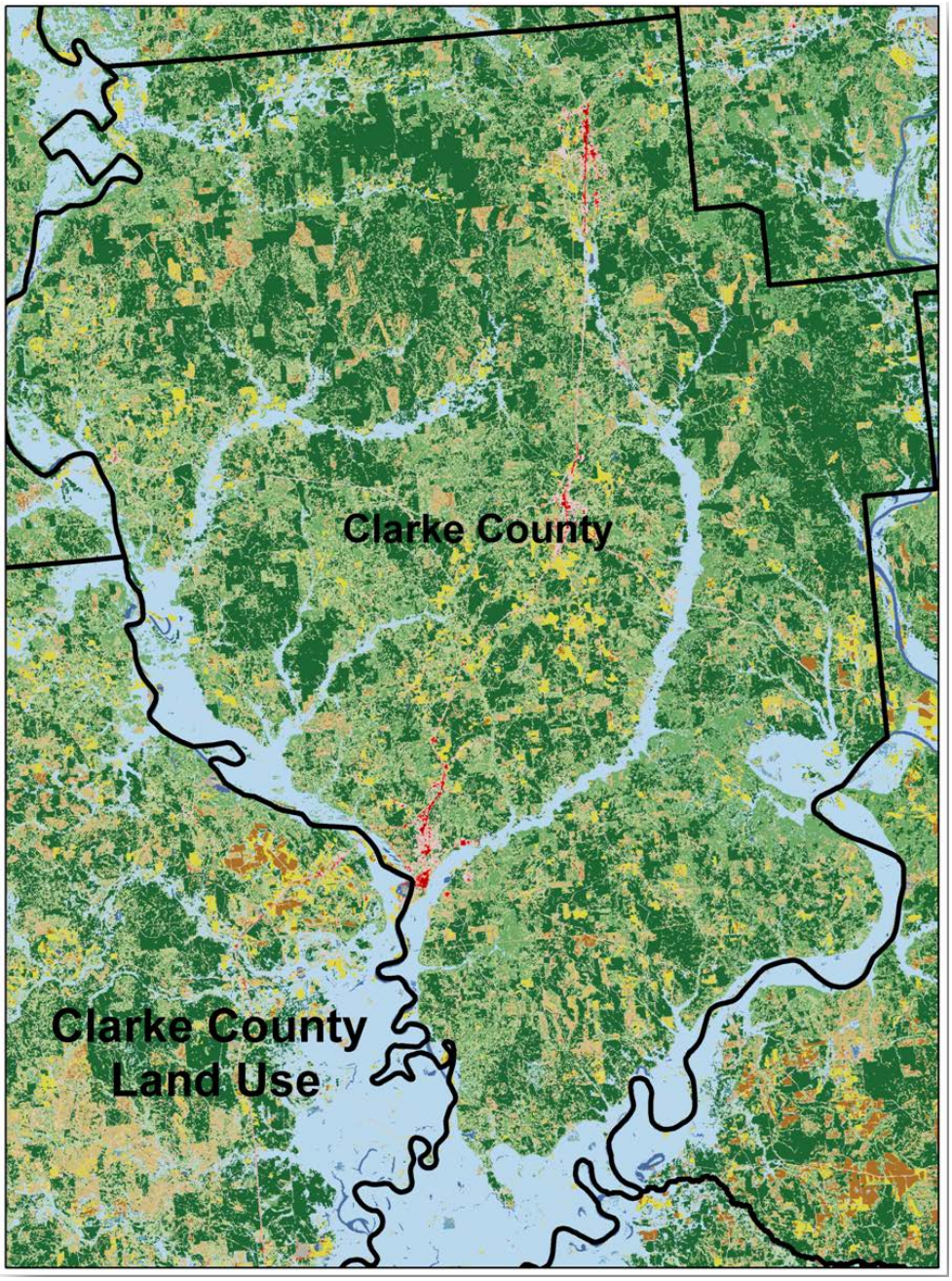
Table 5.22-Dollar Exposure of Housing Facilities by Hazard

	Unincorporated	Coffeeville	Fulton	Grove Hill	Jackson	Thomasville	Total
Extreme Heat and Drought							
Flash Flood	$14,840,000.00	$1,845,000.00	$1,500,000.00	$9,412,500.00	$11,687,500.00	$30,225,000.00	**$69,510,000.00**
Hurricane	$603,182,400.00	$19,999,800.00	$9,150,000.00	$120,731,000.00	$206,915,500.00	$228,501,000.00	**$1,188,479,700.00**
Severe Storms	$603,182,400.00	$19,999,800.00	$9,150,000.00	$120,731,000.00	$206,915,500.00	$228,501,000.00	**$1,188,479,700.00**
Snow and Ice							
Soil Erosion					N/A		**N/A**
Tornado	$603,182,400.00	$19,999,800.00	$9,150,000.00	$120,731,000.00	$206,915,500.00	$228,501,000.00	**$1,188,479,700.00**
Wildfire	$603,182,400.00	$19,999,800.00	$9,150,000.00	$120,731,000.00	$206,915,500.00	$228,501,000.00	**$1,188,479,700.00**

I. Analyzing Development Trends

Clarke County is largely rural county in Southwest Alabama. Over ninety percent of the land is forested. Figure 5.11 is a land use/ land cover map of the county. After forestland, one can see that residential uses compose the next largest category. It is also apparent that within the county there are many land types unsuitable for development, such as flood plain areas and wetlands. The presence of these land types constrains where development can occur. Land use patterns in the county are not expected to change significantly in the next five to ten years.

Figure 5.11 Land Use/ Land Cover Map of Clarke County
USGS



Data from the United States Census Bureau (Table 5.23) shows that there are no significant increases in population expected within the next twenty five years. The county is projected to have a 17.5% decrease in population between 2010 and 2040. Based on these figures, no significant increase in residential construction is expected. There are also no expected increases in commercial or industrial land uses expected.

Table 5.23 Population Projections 2005-2025

Clarke County Population Projections 2015-2040							
Census 2010 Population	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**	**Percent Change 2010-2040**
25,833	24,958	24,160	23,397	22,666	21,970	21,322	-17.5

Source: United States Census Bureau & Center for Business and Economic Research, The University of Alabama

Future land use and development trends will likely stay the same. Growth can be expected in the municipalities of Grove Hill, Jackson and Thomasville, but at a manageable rate. No significant growth is expected in Coffeeville or Fulton. No significant changes in land use are anticipated countywide. Forested land will continue to make up the majority of land use. Residential land use will increase, but this will also be at a manageable, expected rate.

Summary of Changes Made in Plan Update
Section VI. Ongoing Mitigation Assessment

- **Section VI was reviewed and updated to reflect the use of social media.**

VI. Ongoing Mitigation Assessment

A brief capability assessment was conducted before goals, objectives, and strategies were discussed.

County Resources:
Law Enforcement Agencies: 6
Fire Departments: 15
Hospitals: 2
Hazard Materials Team: no
Search and Rescue Team: yes

Clarke County Emergency Management Agency
The Clarke County EMA Director is available 24 hours a day. The EMA is located in the Emergency Operations Center in Grove Hill. The Clarke County EMA is capable of communicating with all law enforcement, emergency medical, fire, search and rescue personnel, amateur radio users, adjacent jurisdictions, and the State Emergency Operations Center by phone and radio. Clarke County EMA uses the Weather Channel, NOAA weather radio, and EAS weather information. Doppler radar is also received at the Emergency Operations Center.

Other mitigation related activities within the county:

- Both hospitals have emergency contingency plans
- Both private and public schools have both NOAA weather radios and EAS
- Many nursing homes, daycares, and the health department have NOAA weather radios and EAS

The Clarke County EMA is also exploring social media options to help keep citizens aware. The office currently has a Facebook page and posts notifications regarding weather and closings. The EMA is also developing a smart phone app for both android and apple platforms.

Summary of Changes Made in Plan Update
Section VII. Mitigation Goals, Objectives, and Strategies

The *Mitigation Goals, Objectives, and Strategies* section from the original plan was reviewed by the participating jurisdictions. Each jurisdiction reviewed their section to assess if their information was still valid. It was the responsibility of the jurisdictions to provide the information for this section.

VII. Mitigation Goals, Objectives, and Strategies

After the risk assessment for the county was completed, each jurisdiction was asked to prioritize the list of hazards which they felt should be profiled. Prioritization was based on information from the risk assessment and personal knowledge of their jurisdiction. They were also asked to provide goals, objectives, and strategies based on the findings. FEMA's definitions of goals and objectives were used.

"Goal: General guidelines that explain what you want to achieve. They are usually broad policy-type statements that are long term and represent global visions."

"Objective: Define strategies or implementation steps to attain the identified goals."

Each committee member and everyone attending the committee meetings were asked to reevaluate the goals, objectives, and strategies for the jurisdiction they represented. A copy of the list from the last plan was presented to aid in the process. The reevaluation of goals was based solely on what the individual felt the jurisdiction needed. Objectives were reviewed based on determining ways to work towards achieving the stated goals.

Each jurisdiction was also asked to review the mitigation strategies they identified in the current plan. The individual jurisdictions were responsible for submitting updated mitigation strategies. In the selection of mitigation strategies, each jurisdiction was reminded 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 things such as social effects. Simply put, if a project's benefits outweighed its' cost and did so in a reasonable amount of time, the project was considered to be a good strategy for the jurisdiction.

Once strategies had been identified based on these criteria, each jurisdiction was asked to prioritize them. Ongoing, Low, Medium, or High priority was assigned to each strategy. Prioritization was also based on the before mentioned considerations. Strategies with Low priority have a time frame of 5-8 years, Medium priority strategies have timeframes of 3-5years, and High priority strategies will be undertaken within the next three years if funding is available. These timeframes were adjusted from the previous plan to be more realistic in terms of funding. All new strategies are to be considered only possibilities at this point. These actions must be considered only possibilities due to budgetary and political concerns.

Most jurisdictions also had ongoing existing authorities, policies, programs and resources in place. Jackson, Grove Hill, and Thomasville all have zoning ordinances, building codes, and subdivision regulations in place. These jurisdictions can revise and expand these regulations when necessary.

The following pages detail the mitigation goals, objectives, and strategies. The goals have remained the same from the previous plan but they were re-evaluated and determined to remain valid and effective.

Clarke County
Prioritized Threat by Jurisdiction (1=highest priority)

1 Severe Storms & Tornadoes
2. Hurricanes
3 Extreme Heat and Drought
4. Flood
5. Wildfire
6. Severe Winter Storms

Goals

- *Minimize losses due to natural disasters in Clarke County.*
- *Minimize injury and death due to natural disasters in Clarke County.*
- *Improve public awareness of safety issues concerning natural hazards.*
- *Achieve a plan that will insure the continuity of county government will not be significantly disrupted by disasters.*
- *Enhance training equipment and availability of first responders to emergencies.*
- *Minimize the impact of natural disasters on the economic vitality of the county.*
- *Minimize vulnerability to natural hazards.*

Objectives

- *Research and identify funding opportunities for mitigation related activities.*
- *Educate citizens on safety issues related to natural hazards.*
- *Educate local business owners on how businesses may be affected by natural hazards.*
- *Research and identify funding opportunities for local first responders.*
- *Research and identify strategies to help minimize vulnerability to hazards.*

The following charts lists the project pursued, ongoing projects, and mitigation strategies. Many of the strategies are the same as the ones included in the current plan, due to their nature and/ or budgetary constraints.

Projects Pursued

Mitigation Action	Hazards Addressed	Responsible Agency	Funding
Purchase generators for water and sewer systems	All	Clarke County EMA, Water and Sewer Systems (partially complete)	HMGP, Water Systems, Sewer Systems
Purchase generators for Mid Central Water and Fire Protection Authority's wells and pump stations	All	Mid Central Water and Fire Protection Authority COMPLETED	HMGP, Mid Central Water and Fire Protection Authority

Completed/Continuing Mitigation Actions

Priority	Mitigation Action	Hazards Addressed	Responsible Agency	Estimated Cost	Funding
Completed/ Continuing	Continue to participate in the National Flood Insurance Program	Flood	Clarke County	--	Clarke County
Completed/ Continuing	Continue to clear debris from roads and drainage ways	All	County Road and Bridge Department	--	Clarke County
Completed/ Continuing	Continue to improve and maintain county road system	All	County Road and Bridge Department	--	Clarke County
Completed/ Continuing	Continue to offer shelter to individuals and families affected by natural hazards	All	Clarke County Emergency Management	--	Clarke County
Completed/ Continuing	Provide the public information on actions to take during severe weather through newspaper, publications and radio announcements	All	Clarke County Emergency Management	--	Clarke County
Completed/ Continuing	Promotion of safe rooms in new residences	Tornado, Severe Storms	Clarke County Emergency Management	--	Clarke County

Completed/ Continuing	Promotion of safe rooms/individual shelters in new residences.	Tornado, Severe Storms	Clarke County Emergency Management	--	Clarke County
Completed/ Continuing	Provide information to municipalities regarding natural hazards and general principles outlining procedures	All	Clarke County Emergency Management	--	Clarke County
Completed/ Continuing	Contact utilities in the event of natural hazard so they can inspect their infrastructure for damage	All	Clarke County Emergency Management	--	Clarke County
Completed/ Continuing	Encourage jurisdictions to commit matches for grants dealing with mitigation	All	Clarke County Emergency Management	--	Clarke County
Completed/ Continuing	Educate local governments and groups on mitigation activities and grant funding	All	Clarke County Emergency Management	--	Clarke County
Completed/ Continuing	Provide information to the public through social media	All	Clarke County Emergency Management	--	Clarke County

Completed/ Continuing	Provide storm event data to the National Weather Service for events in Clarke County	All	Clarke County Emergency Management	--	Clarke County

Mitigation Strategies

Priority	Mitigation Action	Hazards Addressed	Responsible Agency	Estimated Cost	Funding
High	Purchase generators for water and sewer systems	All	Clarke County EMA, Water and Sewer Systems	850,000	HMGP, Water Systems, Sewer Systems
High	Replace generators at Clarke County EOC	All	EMA	150,000	Grants
High	Community Storm Shelters/multi-purpose buildings	Severe Storms, Tornadoes, Hurricanes	Clarke County Emergency Management	8,000,000	Grants
High	Purchase at least 2 emergency gas storage tanks	All	Clarke-Mobile Gas District	500,000	HMGP, Clarke-Mobile Gas District
High	Place fixed site generators at communications towers	All	Clarke County Emergency Management	60,000	HMGP, Clarke County

High	Apply for funding to update mitigation plan as needed	All	Clarke County EMA/Commission	-------	Clarke EMA/ Commission, HMGP, PDM
High	Purchase generators for critical facilities and fire stations	All	Clarke County	1,200,000	Grants
High	Continue to explore ways to use social media to provide information	All	Clarke County	-------	Grants
Medium	Drainage projects in areas identified as being prone to flooding	Flood	Clarke County	4,000,000	Grants
Medium	Storm water Management Projects throughout county	Flood, rain	Clarke County	5,000,000	Grants
Medium	Retrofitting critical facilities	Wind events	Clarke County	4,000,000	Grants
Medium	Purchase of Tornado Sirens	Tornado	Clarke County	250,000	Grants
Medium	Individual Storm Shelters	Severe storms, tornadoes, hurricanes	Clarke County Emergency Management	10,000,000	Grants, HMGP

Low	Purchase of NOAA weather radios for community residents	Tornado, hurricane, severe storms, severe winter storms	Clarke County Emergency Management	-------	Grants
Low	Research procedures for keeping historical storm data with location, magnitude, and loss values for each event	All	Clarke County Emergency Management	-------	Clarke County
Low	Begin maintaining an inventory of critical facilities with value and contact information	All	Clarke County Emergency Management	-------	Clarke County

Town of Coffeeville
Prioritized Threat by Jurisdiction (1=highest priority)

1. Hurricane
2. Tornado
3. Severe Storms
4. Wildfire
5. Extreme Heat and Drought
6. Flood
7. Severe Winter Storms

Goals

- *Minimize losses due to natural disasters in the Coffeeville area.*
- *Minimize injury and death due to natural disasters in the Coffeeville area.*
- *Minimize vulnerability to natural hazards.*

Objectives

- *Provide warning system for Coffeeville residents.*
- *Educate the public regarding natural hazards, including mitigation activities.*

The following charts lists the project pursued, ongoing projects, and mitigation strategies. Many of the strategies are the same as the ones included in the current plan, due to their nature and/ or budgetary constraints.

Projects Pursued

Priority	Mitigation Action	Hazards Addressed	Responsible Agency	Estimated Cost	Funding
COMPLETED	Join the National Flood Insurance Program	Flooding	Town of Coffeeville	--------	Town of Coffeeville

Completed/Continuing Mitigation Actions

Priority	Mitigation Action	Hazards Addressed	Responsible Agency	Estimated Cost	Funding
Completed/ Continuing	Continue to actively participate in the National Flood Insurance Program (NFIP)	Flooding	Town of Coffeeville	--------	-------

Completed/ Continuing	Continue to send law enforcement and fire personnel to emergency response training	All	Town of Coffeeville	--------	Town of Coffeeville
Completed/ Continuing	Continue to apply for grants to fund training and equipment for Coffeeville Fire Department	All, specifically wildfire	Fire Department	------	Grants

Mitigation Strategies

Priority	Mitigation Action	Hazards Addressed	Responsible Agency	Estimated Cost	Funding
High	Purchase generators for Town Hall (including police station and fire department)	All	Town of Coffeeville	--------	Town of Coffeeville
High	Repair erosion damage	All	Town of Coffeeville	--------	Town of Coffeeville, HMGP, NRCS
Medium	Purchase of NOAA weather radios for community residents	Tornado, hurricane, severe storms, severe winter storms	Town of Coffeeville	$75,000	Grants
Medium	Post extreme heat warnings with health risks outlined	Extreme Heat	Town of Coffeeville	--------	Town of Coffeeville

	in public areas				
Medium	Post drought notices in area businesses and City Hall	Drought	Town of Coffeeville	--------	Town of Coffeeville
Medium	Purchase of Tornado Sirens	Tornado	Town of Coffeeville	75,000	Grants
Medium	Community Storm Shelter	Severe Storms, Tornadoes, Hurricanes	Town of Coffeeville	750,000	Grants
Medium	Drainage Projects	Flood, heavy rain	Town of Coffeeville	500,000	Town of Coffeeville
Medium	Storm water management projects	Flood, heavy rain	Town of Coffeeville	350,000	Town of Coffeeville
Low	Promotion of safe rooms in new residences.	Tornado, Severe Storms	Town of Coffeeville	--------	Town of Coffeeville

Town of Fulton
Prioritized Threat by Jurisdiction (1=highest priority)

1. Tornado
2. Hurricane
3. Wildfire
4. Severe Storms
5. Extreme Heat and Drought
6. Flood
7. Severe Winter Storms

Goals

- *Improve public awareness of safety issues concerning natural hazards.*
- *Improve training of first responders.*
- *Minimize vulnerability to natural hazards.*

Objectives

- *Educate citizens on safety issues related to hazards.*
- *Provide more extensive training for first responders.*

The following charts lists the project pursued, ongoing projects, and mitigation strategies. Many of the strategies are the same as the ones included in the current plan, due to their nature and/ or budgetary constraints.

Projects Pursued

Mitigation Action	Hazards Addressed	Responsible Agency	Funding
Purchase generators for water and sewer systems	All	Town of Fulton Fulton Utilities Board	HMGP, Fulton Utilities Board

Ongoing Mitigation Actions

Priority	Mitigation Action	Hazards Addressed	Responsible Agency	Estimated Cost	Funding
Completed/ Continuing	Participation in the National Flood Insurance Program	Flood	----------	----------	----------

Completed/ Continuing	Continue to send law enforcement and fire personnel to emergency response training	All	Town of Fulton	----------	Town of Fulton
Completed/ Continuing	Research funding opportunities for first responder training	All	Town of Fulton	----------	Town of Fulton
Completed/ Continuing	Continue to enforce flood ordinance	Flood	Town of Fulton	----------	----------

Mitigation Strategies

Priority	Mitigation Action	Hazards Addressed	Responsible Agency	Estimated Cost	Funding
Medium	Purchase of NOAA weather radios for community residents	Tornado, hurricane, severe storms, severe winter storms	Town of Fulton	75,000	Grants
Medium	Post extreme heat warnings with health risks outlined in public areas	Extreme Heat	Town of Fulton	----------	Town of Fulton
Medium	Purchase of Tornado Sirens	Tornado	Town of Fulton	50,000	Grants
Medium	Community Storm Shelter	Severe Storms, Tornadoes, Hurricanes	Town of Fulton	750,000	Grants

Medium	Drainage	Heavy rain, flood	Town of Fulton	350,000	Grants
Medium	Storm water management	Heavy rain, flood	Town of Fulton	250,000	Grants
Medium	Generators	All	Town of Fulton	125,000	Grants

City of Grove Hill
Prioritized Threat by Jurisdiction (1=highest priority)

1. Hurricane
2. Tornado
3. Drought and Extreme Heat
4. Severe Storms
5. Wildfire
6. Severe Winter Storms

Goals

- *Achieve a plan that will insure the continuity of local government will not be significantly disrupted by disasters.*
- *Enhance training equipment and availability of first responders to emergencies and educate the public with regards to the emergency response system.*
- *Minimize vulnerability to natural hazards.*

Objectives

- *Prepare plans and identify resources to facilitate establishing city operations after a disaster.*
- *Provide the public information regarding natural hazards and in particular the emergency response system.*

The following charts lists the project pursued, ongoing projects, and mitigation strategies. Many of the strategies are the same as the ones included in the current plan, due to their nature and/ or budgetary constraints.

Completed/Continuing Mitigation Actions

Priority	Mitigation Action	Hazards Addressed	Responsible Agency	Estimated Cost	Funding
Completed/ Continuing	Continue to enforce flood ordinance and participate in National Flood Insurance Program (NFIP)	Flood	Town of Grove Hill	----------	----------
Completed/ Continuing	Continue enforcing City of Grove Hill zoning regulations	All	Town of Grove Hill	----------	----------

Completed/ Continuing	Continued enforcement of Grove Hill building codes	All	Town of Grove Hill	----------	----------
Completed/ Continuing	Continued enforcement of Grove Hill subdivision regulations	All	Town of Grove Hill	----------	----------

Mitigation Strategies

Priority	Mitigation Action	Hazards Addressed	Responsible Agency	Estimated Cost	Funding
High (Partially Completed)	Drainage Projects	Heavy rain, floods	Town of Grove Hill	500,000	----------
High (Partially Completed)	Storm water management	Heavy rain, floods	Town of Grove Hill	350,000	----------
High	Safe room in Senior Center	Severe storms, tornadoes, hurricanes	Town of Grove Hill	350,000	----------
High	Community Shelter	Severe storms, tornadoes, hurricanes	Town of Grove Hill	500,000	----------
High	Purchase generators for Town Hall, Police Department, and Fire Department	All	Town of Grove Hill	75,000	Town of Grove Hill, HMGP

Medium	Prepare an Emergency Response Plan for the City of Grove Hill	All	Town of Grove Hill	8,000	Town of Grove Hill
Medium	Purchase of NOAA weather radios for community residents	Tornado, hurricane, severe storms, severe winter storms	Town of Grove Hill	50,000	Grants
Medium	Tornado Sirens	Tornado	Town of Grove Hill	----------	Town of Grove Hill
Medium	Research possible grants for first responder training and equipment	All	Town of Grove Hill	----------	Grants
Medium	Generators	All	Town of Grove Hill	175,000	----------
Low	Provide information regarding the Emergency Response System to the public in the form of a brochure or handout	All	Town of Grove Hill	----------	Town of Grove Hill Clarke County EMA

City of Jackson
Prioritized Threat by Jurisdiction (1=highest priority)

1. Hurricane
2. Tornado
3. Soil Erosion
4. Extreme Heat and Drought
5. Wildfire
6. Severe Winter Storm

Goals

- *Minimize loss of life and facilities due to natural disasters in the City of Jackson.*
- *Decrease the impact natural disasters have on the economic vitality of the community.*
- *Maintain the continuity of City of Jackson operations in the event of a natural disaster.*
- *Minimize vulnerability to natural hazards.*

Objectives

- *Protect structures in Jackson from natural disasters.*
- *Educate citizens about natural disaster preparedness.*
- *Prepare plans and identify resources to facilitate reestablishing city operations after ad disaster.*

The following charts lists the project pursued, ongoing projects, and mitigation strategies. Many of the strategies are the same as the ones included in the current plan, due to their nature and/ or budgetary constraints.

Completed/Continuing Mitigation Strategies

Priority	Mitigation Action	Hazards Addressed	Responsible Agency	Estimated Cost	Funding
Completed/ Continuing	Participation in the National Flood Insurance Program	Flood	----------	----------	----------
Completed/ Continuing	Continue to enforce flood ordinance	Flood	City of Jackson	----------	City of Jackson

Completed/ Continuing	Sponsor a community fire prevention program.	Wildfire	City of Jackson, Volunteer Fire Department	----------	City of Jackson, Volunteer Fire Department
Completed/ Continuing	Continue to enforce building codes	All	City of Jackson	----------	City of Jackson
Completed/ Continuing	Continue to enforce subdivision regulations	All	City of Jackson	----------	City of Jackson
Completed/ Continuing	Continue to enforce zoning ordinances	All	City of Jackson	----------	City of Jackson
Completed/ Continuing	Continue to send law enforcement and fire personnel to emergency response training	All	City of Jackson	----------	City of Jackson

Mitigation Strategies

Priority	Mitigation Action	Hazards Addressed	Responsible Agency	Estimated Cost	Funding
High	Construct a Community Shelter at the Municipal Complex at 324-400 Commerce Street	All	City of Jackson	2,300,000	HMGP, City of Jackson
High	Location: Raw water intake structure Replace and stabilize riverbank with	Flooding	City of Jackson, City of Jackson Water Works	1,052,835	HMGP, City of Jackson

	fill dirt and riprap, raise access roads elevation above normal flood levels		and Sewage Board		
High	Purchase generators for water and sewer system	All	City of Jackson, City of Jackson Water Works and Sewage Board	150,000	HMGP, City of Jackson, City of Jackson Water Works and Sewage Board
High	Purchase generators for City Hall, Police Department, and Fire Stations	All	City of Jackson	120,000	City of Jackson
High	Research funding opportunities for first responder training	All	City of Jackson	----------	City of Jackson
High	Safe room at Senior Center	Severe Storms, Tornadoes, Hurricanes	City of Jackson	350,000	Grants
High	Drainage	Heavy rain, floods	City of Jackson	750,000	Grants
High	Storm water management	Heavy rain, floods	City of Jackson	500,000	Grants

Medium	Identify areas of soil erosion and techniques that can be used to correct the problem.	Erosion	City of Jackson	1,000,000	City of Jackson Grants
Medium	Purchase of NOAA weather radios for community residents	Tornado, hurricane, severe storms, severe winter storms	City of Jackson	100,000	Grants
Medium	Post extreme heat warnings with health risks outlined in public areas	Extreme Heat	City of Jackson	----------	City of Jackson
Medium	Purchase of Tornado Sirens	Tornado	City of Jackson	125,000	Grants
Medium	Community Storm Shelters	Severe Storms, Tornadoes, Hurricanes	City of Jackson	800,000	Grants
Medium	Generators	All	City of Jackson	150,000	Grants
Medium	Retrofit critical facilities	All	City of Jackson	1,000,000	Grants

City of Thomasville
Prioritized Threat by Jurisdiction (1=highest priority)

1. Tornado
2. Severe Storms
3. Extreme Heat and Drought
4. Severe Winter Storm
5. Wildfire
6. Flood

Goals

- *To decrease injury, death, and property loses from natural hazards.*
- *Maintain the continuity of City of Thomasville operations in the event of a natural disaster.*
- *Minimize the impact of natural disasters on the economic vitality of the City of Thomasville.*
- *Minimize vulnerability to natural hazards.*

Objectives

- *Prepare plans and identify resources to facilitate establishing city operations after a disaster.*
- *Research and identify funding opportunities for mitigation related activities.*
- *Educate citizens on safety issues related to natural hazards.*
- *Educate local business owners on how businesses may be affected by natural hazards.*

The following charts lists the project pursued, ongoing projects, and mitigation strategies. Many of the strategies are the same as the ones included in the current plan, due to their nature and/ or budgetary constraints.

Projects Pursued

Mitigation Action	Hazards Addressed	Responsible Agency	Funding
Purchase generator to pump water from storage tanks to system in case of power outages	All	Thomasville Water Works and Sewer Board	City of Thomasville
Purchase generators for water and sewer system	All	Thomasville Water Works and Sewer Board	City of Thomasville

Drainage and Storm water Management Projects Downtown	Flash Flooding	City of Thomasville	City of Thomasville
Construction of city water system with raw water intake	All	City of Thomasville	City of Thomasville

Completed/Continuing Mitigation Strategies

Priority	Mitigation Action	Hazards Addressed	Responsible Agency	Estimated Cost	Funding
Completed/ Continuing	Continued participation in national Flood Insurance Program	Flooding	City of Thomasville	----------	----------
Completed/ Continuing	Continue to enforce flood ordinance	Flood	City of Thomasville	----------	City of Thomasville
Completed/ Continuing	Continued enforcement of International Building Codes	All	City of Thomasville	----------	City of Thomasville
Completed/ Continuing	Continue to send Building Inspector to building code related workshops	All	City of Thomasville	----------	City of Thomasville
Completed/ Continuing	Continue to enforce subdivision regulations	All	City of Thomasville	----------	City of Thomasville

Completed/ Continuing	Continue to enforce zoning ordinances	All	City of Thomasville	----------	City of Thomasville
Completed/ Continuing	Continue maintaining permanent open space as parks	All	City of Thomasville	----------	City of Thomasville
Completed/ Continuing	Continue to send law enforcement/fire to hazardous materials training	All	City of Thomasville	----------	City of Thomasville
Completed/ Continuing	Continue to send law enforcement to Emergency Response Training	All	City of Thomasville	----------	City of Thomasville
Completed/ Continuing	Continue drainage maintenance and cleaning program	All	City of Thomasville	----------	City of Thomasville
Completed/ Continuing	Continue utility right of way permitting , considering emergency vehicle access	All	City of Thomasville	----------	City of Thomasville
Completed/ Continuing	Continue the road repair/ construction program considering evacuation and natural hazard response	All	City of Thomasville	----------	City of Thomasville
Completed/ Continuing	Sidewalks and drainage along Old Highway 5 in Thomasville	Flash flooding	City of Thomasville	1,500,000	City of Thomasville, grants

Completed/ Continuing	Downtown revitalization along Street, includes drainage and restoring older buildings to better withstand hazards	Flash flooding	City of Thomasville	5,000,000	City of Thomasville, grants
Completed/ Continuing	Sidewalks and Drainage along Martin Luther King, Jr. Street	Flash flooding	City of Thomasville	1,500,000	City of Thomasville
Completed/ Continuing	Repaving of city streets	Flash flooding	City of Thomasville	6,000,000	City of Thomasville

Mitigation Strategies

Priority	Mitigation Action	Hazards Addressed	Responsible Agency	Estimated Cost	Funding
High	Purchase generators for City Hall, Police Station, and Fire Stations	All	City of Thomasville	125,000	City of Thomasville
High	Promote the use of voluntary standards for single family residences to exceed minimal building code requirements for wind design	Tornado, Hurricane	City of Thomasville	----------	City of Thomasville
Medium	Purchase of Tornado Sirens	Tornado	City of Thomasville	125,000	Grants

Medium	Purchase of NOAA weather radios for community residents	Tornado, hurricane, severe storms, severe winter storms	City of Thomasville	75,000	Grants
Medium	Community Storm Shelters	Severe Storms, Tornadoes, Hurricanes	City of Thomasville	1,200,000	Grants
Medium	Storm water management	Heavy rain, flood	City of Thomasville	450,000	Grants
Medium	Drainage	Heavy rain, flood	City of Thomasville	3,500,000	Grants
Medium	Retrofit critical facilities	All	City of Thomasville	1,000,000	Grants
Medium	Generators	All	City of Thomasville	175,000	Grants

Clarke County Schools
Prioritized Threat (1=highest priority)

1. Severe storms and tornadoes
2. Hurricanes
3. Extreme heat and drought
4. Flood
5. Wildfire
6. Severe Winter Storm

Goals

- *Provide better warning system to students.*
- *Minimize the loss of life and injury to students.*
- *Ensure continuity of education system.*
- *Ensure safety of campuses from hazards.*
- *Minimize vulnerability to natural hazards.*

Objectives

- *Get weather sirens at schools.*
- *Storm shelters at schools.*
- *Retrofit school buildings.*
- *Correct drainage/storm water management issues on campuses.*

The following charts lists the project pursued, ongoing projects, and mitigation strategies. Many of the strategies are the same as the ones included in the current plan, due to their nature and/ or budgetary constraints.

Possible Mitigation Actions

Priority	Mitigation Action	Hazard Addressed	Responsible Agency	Funding
High	Provide storm shelters at schools	All	Clarke County School Board, Clarke County	Grants
High	Purchase generators for critical facilities and fire stations	All	Clarke County School Board	Grants
High	Retrofitting of schools	Wind Events	Clarke County School Board	Grants
High	Correct storm water management/drainage issues on school grounds	Flood	Clarke County School Board	--
High	Train and exercise regarding all hazards	All	Clarke County School Board	Grants
High	Install security surveillance and other notification technology on school campuses	All	Clarke County School Board	Grants

Thomasville City Schools
Prioritized Threat (1=highest priority)

1. Severe storms and tornadoes
2. Hurricanes
3. Extreme heat and drought
4. Flood
5. Wildfire
6. Severe Winter Storms

Goals

- *Provide better warning system to students.*
- *Minimize the loss of life and injury to students.*
- *Ensure continuity of education system.*
- *Ensure safety of campuses from hazards.*
- *Minimize vulnerability to natural hazards.*

Objectives

- *Get weather sirens at schools.*
- *Storm shelters at schools.*
- *Retrofit school buildings.*
- *Correct drainage/storm water management issues on campuses.*

The following charts lists the project pursued, ongoing projects, and mitigation strategies. Many of the strategies are the same as the ones included in the current plan, due to their nature and/ or budgetary constraints.

Possible Mitigation Actions

Priority	Mitigation Action	Hazard Addressed	Responsible Agency	Funding
High	Provide storm shelters at schools	Tornado	Thomasville City School Board	Grants
High	Purchase generators for critical facilities and fire stations	All	Thomasville City School Board	Grants
High	Retrofitting of schools	Wind Events	Thomasville City School Board	Grants
High	Correct storm water management/ drainage issues on school grounds	Flood	Thomasville City School Board	---------
High	Train and exercise regarding all hazards	All	Thomasville City School Board	---------
High	Install security surveillance and other notification technology on school campuses	All	Thomasville City School Board	Grants

Summary of Changes Made in Plan Update
Section VII. Plan Maintenance

The *Plan Maintenance* section was reviewed with the steering committee and the Clarke County EMA. No changes were made to this section.

VIII. Plan Maintenance

The planning cycle for the Clarke County Hazard Mitigation Plan is five years. The Natural Hazards Steering Committee determined this planning cycle based on FEMA's guidelines. If the FEMA guidelines change the committee has decided to adjust their guidelines accordingly. In addition the plan maintenance section was compiled using suggestions from both the Natural Hazards Steering Committee and the Local Government Subcommittee.

Hazard Mitigation Committee Structures

The structure of committees will be kept as they were for the development of this plan. The Local Municipal Hazard Mitigation Committee will consist of the mayors of all municipalities located within the county. If the mayor so chooses he/she can designate a representative to serve as their municipality's representative. The Natural Hazard Steering Committee will be appointed by position. The following is the list of agencies or positions that will be requested to serve on the committee:

- Emergency Management Agency, Director
- Public Health Department, Director
- Regional Planning Agency, Planner
- County Fire Association, President
- Superintendents of school systems
- Chamber of Commerce-all municipalities, Director
- Public Safety Officials
- County Engineer
- Alabama Department of Transportation Officials
- Public Utilities Officials
- Representatives from each hospital
- Department of Human Resources, Director
- Alabama Forestry Commission, Forester
- Utility Providers
- Representatives from employers of over 90 persons in the county.

*All municipalities and the county commission may also appoint a member to this committee if they choose to do so.

Monitoring and Evaluation of the Plan

The County's EMA director will be in charge of monitoring and evaluating the plan. Annually, the EMA will contact each jurisdiction and agency to monitor the implementation of the mitigation plan. After the EMA has monitored the progress of all jurisdictions and/or agencies involved in implementing mitigation strategies, the information gathered will be used in the evaluation of the mitigation plan. The following criteria will be used will be used to monitor the plan's effectiveness:

- Do the goals and objectives outlined in the plan still apply to current conditions?
- Has the nature, magnitude, and/or type of risk changed?
- Are the resources currently available to implement the plan appropriately?
- Has any jurisdiction had implementation problems and if so, what is the nature of them (technical, political, funding, etc.)?
- Have the outcomes from implemented strategies been the expected outcomes?

- Has each jurisdiction or agency worked toward its hazard mitigation goals?

After this evaluation if the EMA director feels that the plan is not satisfying the above criteria, he/she will call a meeting of the Natural Hazards Steering Committee. The Local Municipal Natural Hazards Committee shall also be notified.

Updating the Plan

The Clarke County Natural Hazards Mitigation Plan will be updated every five years as required by FEMA. The EMA director will begin making arrangements for the plan's update. The process of updating the plan will be undertaken in the same way as the development of the plan. Both the Local Municipal Natural Hazards Committee and the Natural Hazards Mitigation Steering Committee will help in the updating of the plan. The public participation component will also be included. At least two public meetings will be held to involve the public in the update process. Drafts of the updated plan will also be available for public comment.

Within the five-year cycle, a jurisdiction may request to update the plan. If the jurisdiction would like to update only a jurisdiction specific portion, such as mitigation goals/strategies it may do so. Any jurisdiction MUST contact the EMA director in order to ensure he has an amended copy of their part of the plan. Private citizens and/or local businesses may request an update within the five-year planning cycle also. All request made by private citizens and/or local businesses must be made directly to the EMA

Incorporation into Existing Planning Mechanisms

The Clarke County Hazard Mitigation Plan will be incorporated into existing planning mechanisms in all participating jurisdictions. Those jurisdictions with building codes or zoning ordinances will incorporate hazard mitigation strategies into existing codes. These updates will occur as budgets and time allow. Those jurisdictions without building codes or zoning ordinances, that decide to adopt new ordinances, will be required to reflect the goals and objectives they set forth in the plan. Those jurisdictions updating comprehensive plans will also have to reflect their hazard mitigation goals and objectives in their plan. Since the last update, no updates to comprehensive plans, zoning ordinances, or building codes have been completed in any participating jurisdiction.

Continued Public Involvement

Hard copies of the plan will be available to the public by submitting a request to the EMA. The plan will also be available for download online. Copies of the plan will also be available in each jurisdiction. Information regarding where to send comments on the plan is provided inside of the front cover of the document. The EMA will be responsible for keeping a file of all comments received. All comments will be considered during the next regularly scheduled plan update.