

East Alabama Regional Multi- Jurisdictional Hazard Mitigation Plan: Phase One

A HAZARD MITIGATION PLAN FOR AEMA DIVISION D COUNTIES: LEE COUNTY AND
RUSSELL COUNTY AND ELIGIBLE LOCAL JURISDICTIONS

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Section 1 - Hazard Mitigation Plan Introduction

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- 1.1 Plan Scope
- 1.2 Authority
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- 1.4 Purpose

1.1 Plan Scope

The East Alabama Regional Multi-Jurisdictional Hazard Mitigation Plan is a plan that details the multitude of hazards that affect the Alabama Emergency Management Agency (AEMA) Division D area. This region includes Autauga, Bullock, Chambers, Chilton, Coosa, Elmore, Lee, Lowndes, Macon, Montgomery, Russell and Tallapoosa counties and the municipalities, as well as other jurisdictions, within these counties. The first phase (version) of this plan covers Lee and Russell counties. The remaining counties will be inserted in future updates. This plan fulfills the requirements set forth by the Disaster Mitigation Act of 2000 (DMA 2000). DMA 2000 requires counties to formulate a hazard mitigation plan in order to be eligible for mitigation grants made available by the Federal Emergency Management Agency (FEMA).

Each of the twelve counties in AEMA Division D has an existing multi-jurisdictional hazard mitigation plan. This plan will compile information from each of those existing plans and documents the incorporation of hazard mitigation objectives into the region, as a whole. The AEMA Division D has a diversity of economical and physical development, but many of the hazards affecting the region have similar impacts throughout the area. A regional hazard mitigation plan is able to encapsulate these similarities in risk and vulnerability impact, with regional stakeholders being able to discuss mitigation techniques for these similar impacts.

1.2 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. These plans should be approved by FEMA and updated every five years.

1.3 Funding

Funding for the East Alabama Regional Multi-Jurisdictional Hazard Mitigation Plan was made available through the Hazard Mitigation Grant Program (HMGP), under Disaster Recovery Declaration 1971 (DR-1971). Supplemental funding was supplied by the county commissions of Lee and Russell counties, and the Lee-Russell Council of Governments.

1.4 Purpose

The East Alabama Regional Multi-Jurisdictional Hazard Mitigation Plan is an effort to evaluate and identify all prioritized hazards which may affect AEMA Division D. It presents mitigation strategies that address the hazards identified. This plan is only one of many steps jurisdictions in East Alabama will take to protect the welfare of residents by achieving a safer environment for its residents.

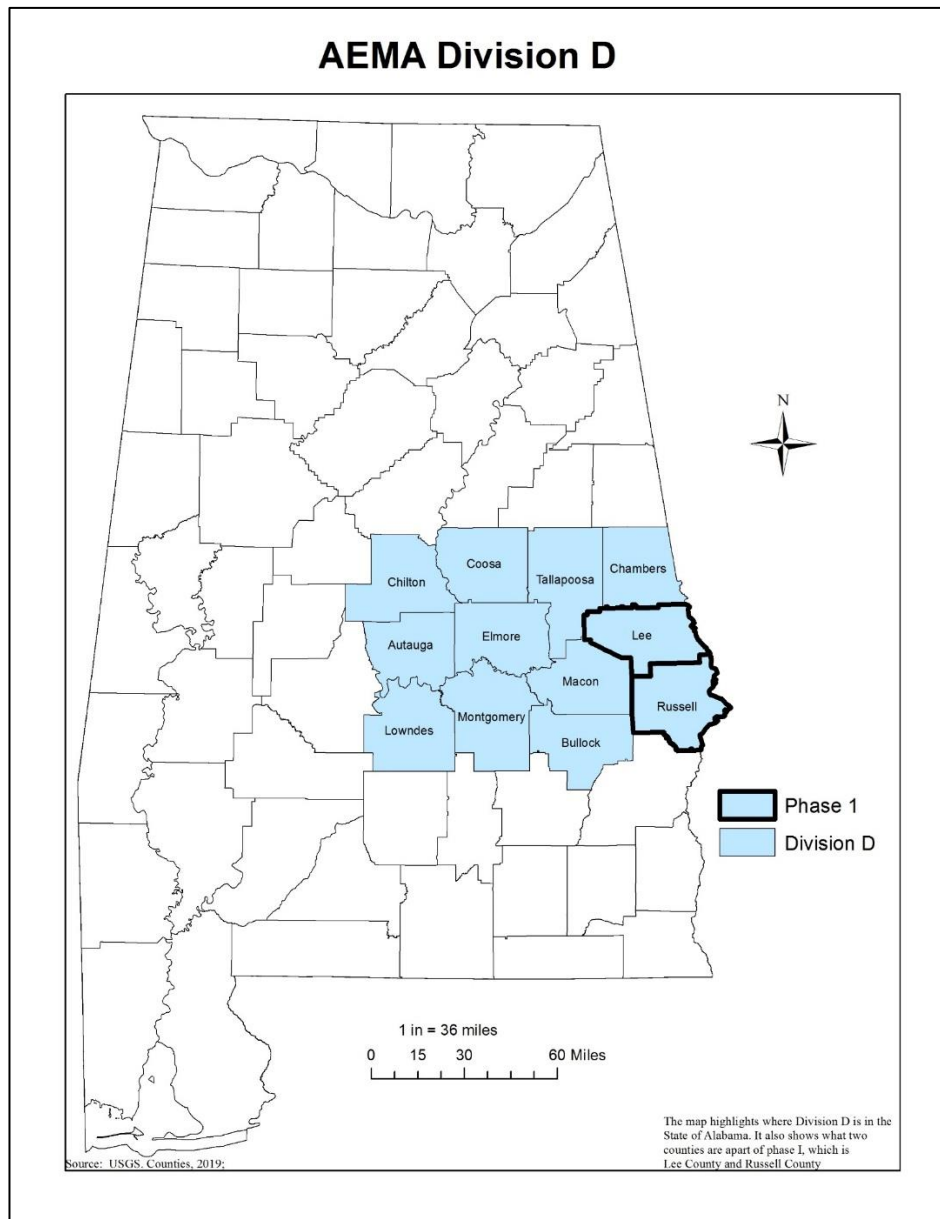
Section 2 - Regional Profile

Section Contents

- 2.1 Background
- 2.2 Demographics
- 2.3 Business and Industry
- 2.4 Infrastructure
- 2.5 Land Use and Development Trends

2.1 Background

The planning area is defined by Alabama Emergency Management Agency (AEMA) as Division D, which is one of seven emergency management divisions within the state. AEMA Division D is located in eastern Alabama (Figure 2.1). AEMA Division D is comprised of the following twelve counties: Autauga, Bullock, Chambers, Chilton, Coosa, Elmore, Lee, Lowndes, Macon, Montgomery, Russell, Tallapoosa and the jurisdictions in those counties. This version of the multi-jurisdictional hazard mitigation plan covers two of the twelve AEMA Division D counties and the jurisdictions in Lee and Russell Counties. The additional ten counties and the jurisdictions in the AEMA Division D are currently covered by their own hazard mitigation plan but will be fully included in subsequent update(s). Information for Lee and Russell County are the only counties included. Please refer to Figure below to see where in Alabama Division D is located.



Lee and Russell counties are located in East Central Alabama along the Chattahoochee River, which is the western boundary of the State of Georgia. Lee County occupies 608 of the 50,744 square miles of Alabama, while Russell County occupies 647 acres. The following Table presents the land area of each county and that of its municipalities.

Table 2.1 Total Area by County

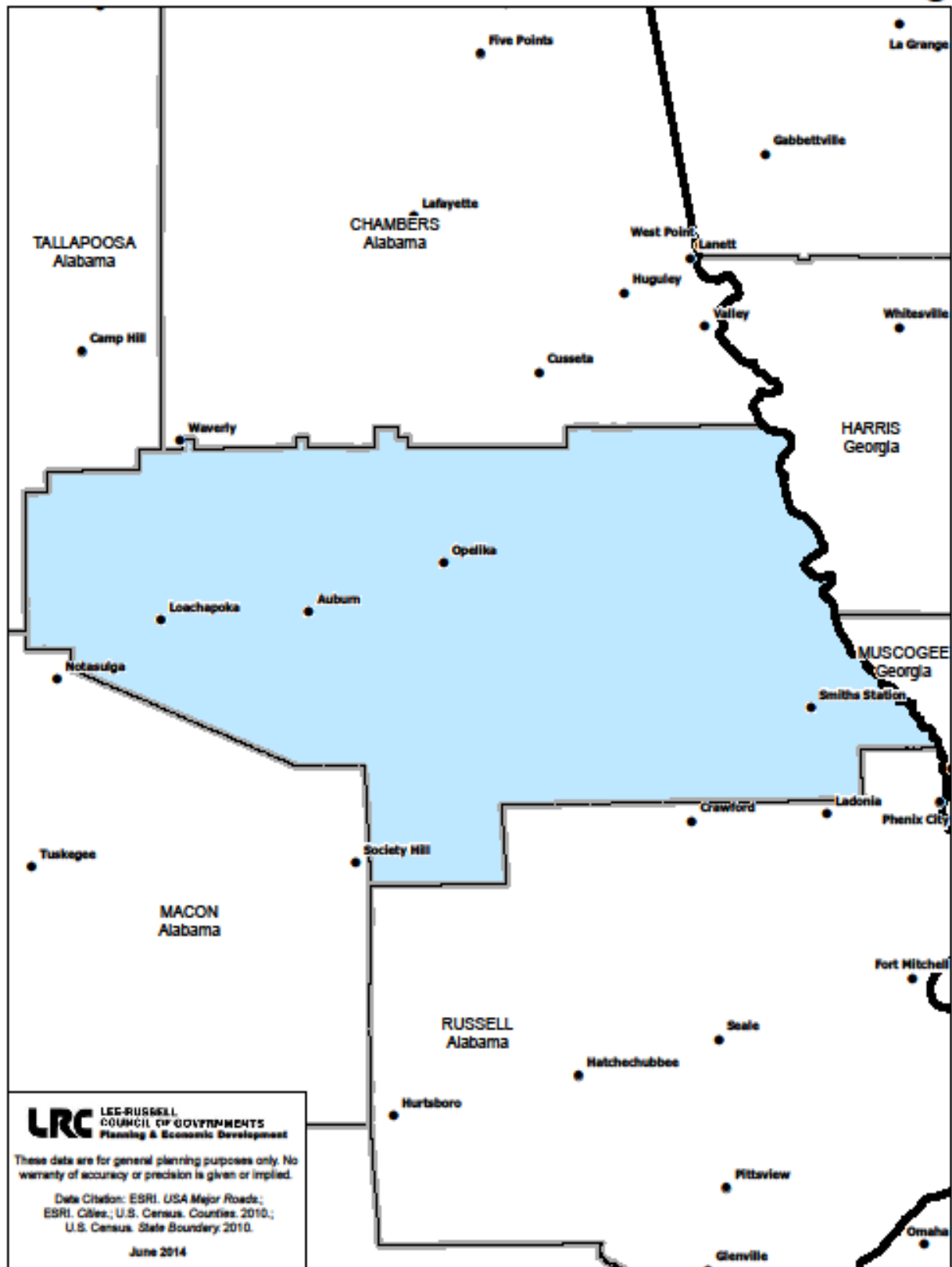
Jurisdiction	Total Area
Lee County (entire)	608
City of Auburn	59.375
Town of Loachapoka	1.18
City of Opelika	59
City of Smiths Station	6.59
Unincorporated County	481.855
Russell County (entire)	647
Town of Hurtsboro	1
City of Phenix City	24
Unincorporated County	622

Source: *United States Census Bureau, Total Area*

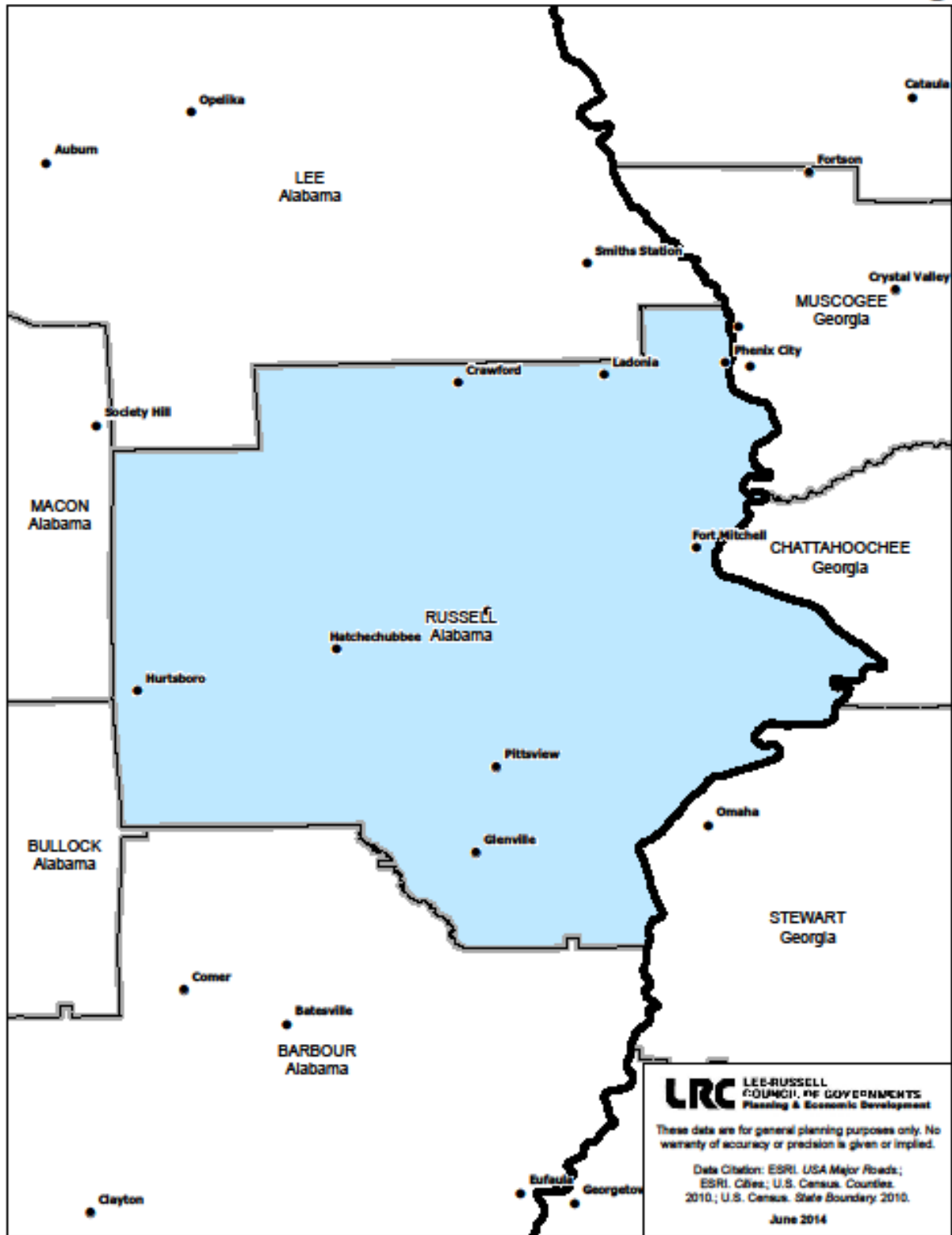
Lee County and the northern portion of Russell County is part of the Piedmont Plateau, largely characterized by hilly topography with gentle to steep slopes. The terrain in the southern portion of Russell County is largely level to gently rolling, as it is located in the Coastal Plain. The soil varies from rocky, red clay in the north to a sand clay mixture in the center and a more sand soil in the south.

The Chattahoochee River borders Lee and Russell counties on the east, forming the border between the State of Alabama and the State of Georgia. There are many large creeks in Lee County including Holland Creek, Mill Creek, Pepperall Creek, Rocky Creek, Saugahatchee Creek and Town Creek. The main creeks in Russell County include Uchee Creek, Little Uchee Cree, Halawakee Creek and Wachoochee Creek.

Map 3.1 - County Overview



Map 3.1 - County Overview



2.2 Demographics

According to the 2010 Census, the combined population of the Lee-Russell region was 193,194 persons. The following table provides the 2010 population according to the US Census Bureau as well as the latest estimates for each jurisdiction. As evidenced in Table 2.2, the Lee-Russell county region is experiencing population growth.

Table 2.2: Jurisdiction Population

Jurisdiction	2010 Census Population	2018 Census Estimate	% Change
Lee County	140,247	163,941	16.89%
City of Auburn	53,380	65,738	23.15%
Town of Loachapoka	180	200	11.11%
City of Opelika	26,477	30,555	15.40%
City of Smiths Station	4,926	5,427	10.17%
Russell County	52,947	57,781	9.13%
Town of Hurtsboro	550	586	6.55%
City of Phenix City	32,822	36,435	11.00%

Source: *United States Census Bureau (2010 Census and 2018 Population Estimates)*

Based on the 2010 Census, the median age for residents within this region ranges from 23.3 years of age in Auburn to 47 years of age in Loachapocka. Much of the lower median age in Auburn can be attributed to Auburn University. Racial and ethnic characteristics from 2010 by county are presented below in Table 2.3:

Table 2.3: Racial and Ethnic Demographics by County

County	White%	Black %	Other %	Hispanic % (*)
Lee County	71.3%	22.7	4.0%	3.3
Russell County	53.7%	41.8%	2.9%	3.7%

Source: *United States Census Bureau, 2010 Census*

(*Hispanic Population may be of any race)

According to the U.S. Census Bureau's 2013-2017 ACS 5-Year Population Estimate, there are 89,257 total housing units in the Lee-Russell region. Housing information estimates, including more vulnerable housing such as mobile homes and aging housing, are presented by county in Table 2.4 below:

Table 2.4: Housing Conditions by County

County	Occupied Housing Units	Mobile Homes, (%)	Housing 38+ Years, (%)
Lee County	59,001	9,622; (16.3%)	16,613; (28.2%)
Russell County	22,690	3,419; (15.06%)	10,091; (44.5%)

Source: *U.S. Census Bureau (2013-2017 ACS 5-Year Estimates)*

Unemployment rates for the Lee-Russell region are represented in the following Table 2.5:

Table 2.5: Average Unemployment Rate by County

County	Unemployment Rate (Jan-Sept. 2019)
Lee County	3.0%
Russell County	3.2%

Source: Alabama Department of Labor (2019)

Based on the U.S. Census Bureau's 2013-2017 ACS 5-Year Population Estimate, Lee County has a total of 59,001 households and Russell County has 22,690 households. The U.S. Census Bureau defines a "household" to include all people who occupy one unit of residence, such as an apartment, single room, mobile home, or a house. Table 2.6 represents the median income for the Lee-Russell region:

Table 2.6: Household Median Income by County

County	Income
Lee County	\$47,564
Russell County	\$38,988

Source: U.S. Census Bureau (2013-2017 ACS 5-Year Estimates)

The U.S. Census Bureau determines poverty based on the poverty threshold. If the total income is greater than the poverty threshold, then the family or person is not considered in below the poverty line. The U.S. Census Bureau uses the following two equations to determine poverty status: $Income / Threshold = X$ or $Income - Threshold = X$. Table 2.7 displays the total number of an individual below the poverty line and the percent below the poverty line.

Table 2.7: Individuals below the Poverty Line by County

County	Individuals Below Poverty Line	% Below Poverty Line
Lee County	33,132	22%
Russell County	12,024	20.9%

Source: U.S. Census Bureau (2013-2017 ACS 5-Year Estimates)

According to the U.S. Census Bureau's 2013-2017 ACS 5-Year Population Estimate there are 92,452 persons in Lee County and 38,710 persons in Russell County 25 years or older. Table 2.8 shows the total number and rate for highest education attained (high school graduate or less) of person 25 and older.

Table 2.8: Highest Education Attained (High school Graduate or Less) by County

County	Individuals (25+) with High School Graduate or Less	% of Individuals (25+) with High School Graduate or Less
Lee County	31,963	34.6%
Russell County	19,154	49.5%

Source: U.S. Census Bureau (2013-2017 ACS 5-Year Estimates)

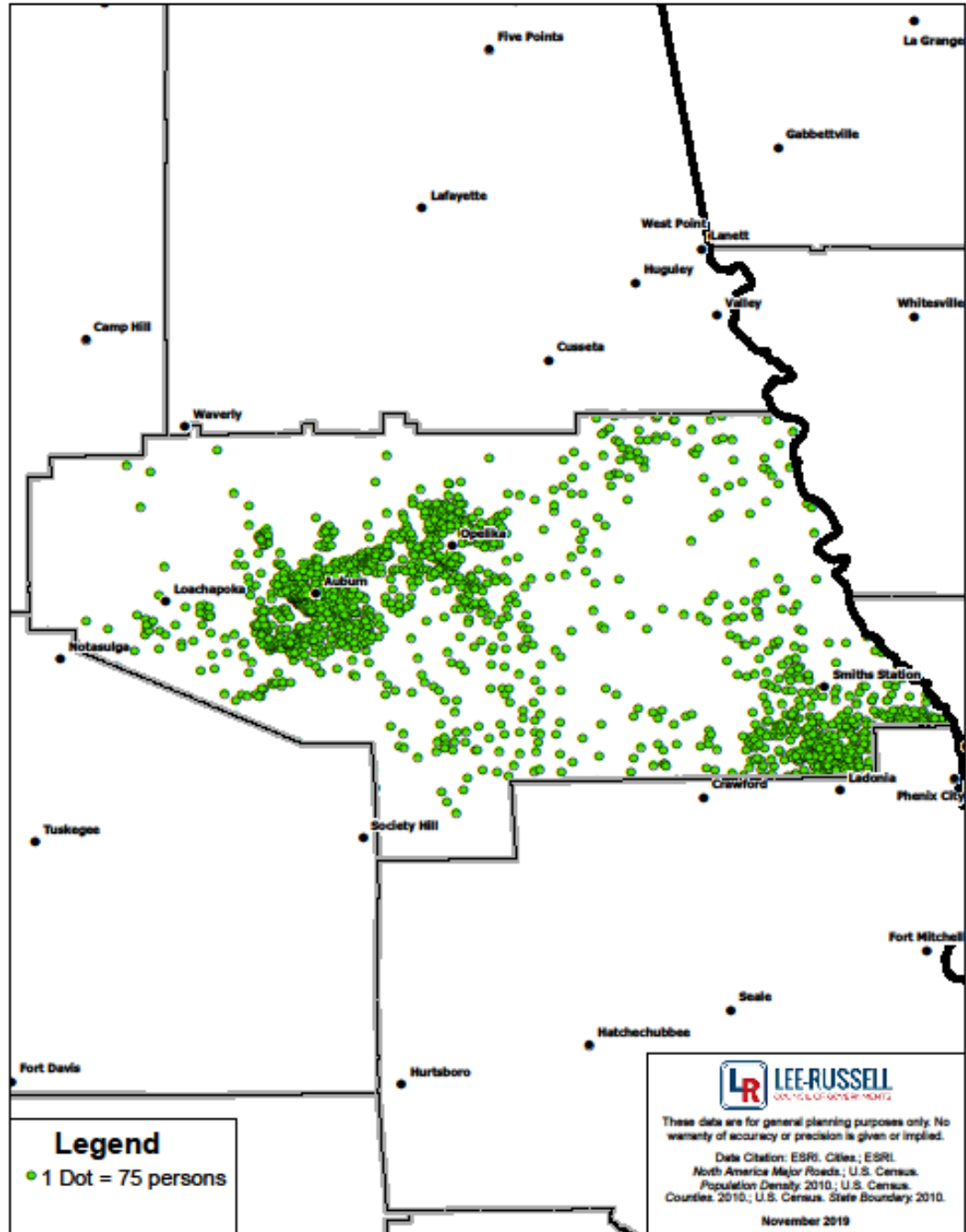
Based on the U.S. Census Bureau's 2010 Census there were 5,189 (Lee County) and 2,905 (Russell County) persons 75 years or older. The 2013-2017 ACS 5-Year Population Estimate reported 7,321 (Lee County) and 3,281 (Russell County) persons 75 years or older. From 2010 to 2018 in Lee County there was a 41.09% increase in the population of 75 years or older, and a 12.94% increase in Russell County. The large increase in the persons 75 years or older can be attributed to the large Baby Boomer population reaching 75 years old.

Table 2.9 represents the number of people 75 years or older in 2010 and 2018

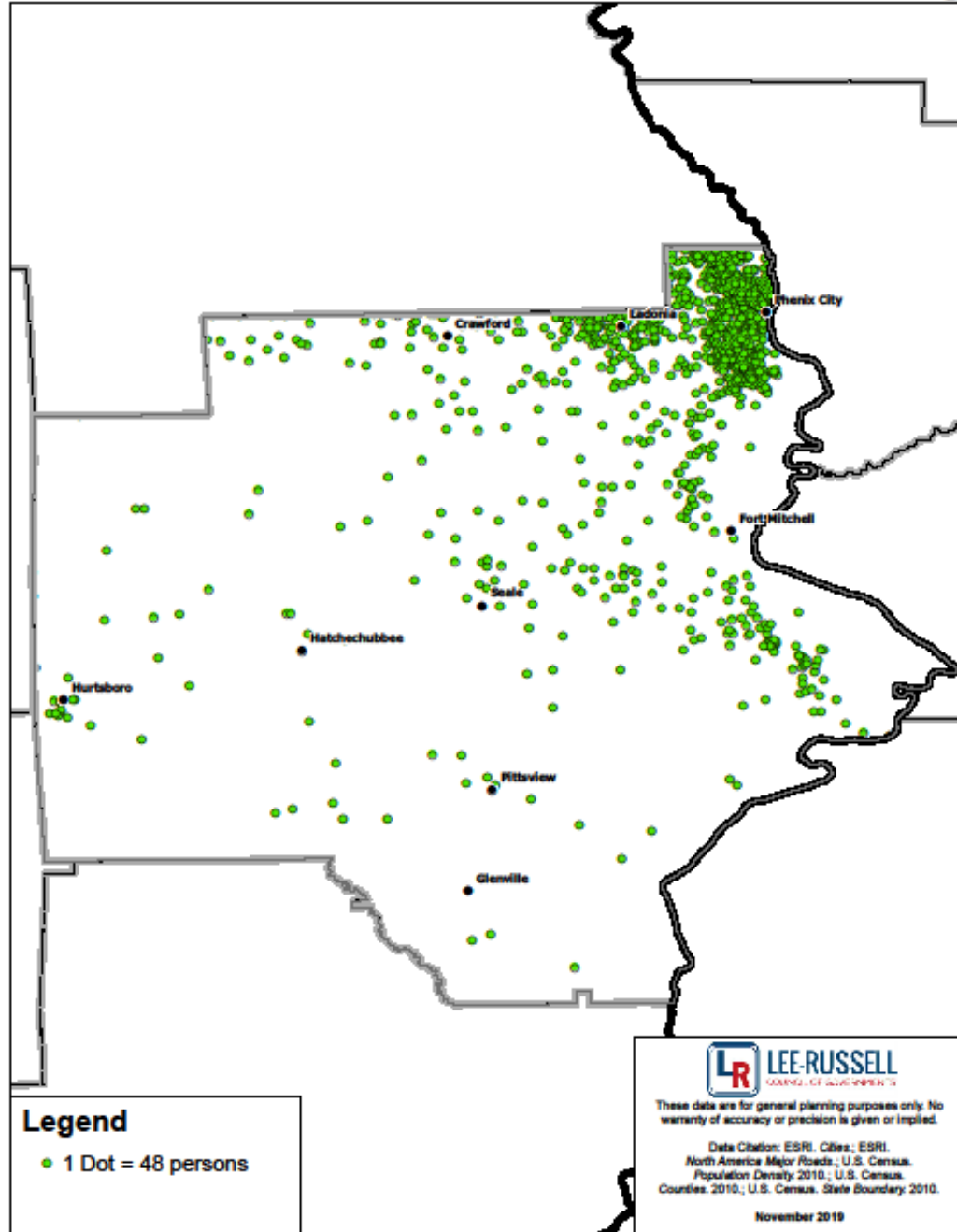
County	2010	2018
Lee County	5,189	7,321
Russell County	2,905	3,281

Source: *U.S. Census Bureau (2010 Census and 2018 Population Estimates)*

Map 3.4 - Population Density



Map 3.4 - Population Density



2.3 Business and Industry

The Lee-Russell region supports a wide variety of industrial and commercial stakeholders. The area is home to a large, widely diverse economic base, with automotive, aviation, medical, and other manufacturing and high tech industry. The region is also home to a world class whitewater course on the Chattahoochee River as well as being home to Auburn University, the state's original land grant university is located in Lee County.

Table 2.10: Major Employers (Over 400 employees)

Employer	County	Product	#Employees
Auburn University	Lee	Land-Grant Public Research University	7,100
East Alabama Medical Center	Lee	Regional Hospital	3,200
Lee County Schools	Lee	Education	1,260
Auburn City Schools	Lee	Education	1,010
Phenix City Board of Education	Russell	Education	983
WestRock	Russell	Kraft Container Board	870
Walmart Distribution Center	Lee	Grocery Distribution Center	825
AlaTrade Foods, LLC	Russell	Food Processing	800
City of Auburn	Lee	Local Government	725
Opelika City Schools	Lee	Education	590
Afni, Inc	Lee	Call Center	540
Briggs & Stratton Corp.	Lee	Gasoline Engines	505
Mando America Corp.	Lee	Automotive – Brakes, Steering	499
Russell Co. Board of Education	Russell	Education	445
CSP Technologies North America, LLC	Lee	Specialty Plastics Packaging	400

Source: *Economic Development Partnership of Alabama, Local Economic Development Contact*

The individual industries are susceptible to the same natural hazards as the remainder of the region, i.e., high wind events, tornadoes, flooding, etc. The economic impact of losing any industry is directly related to the size/type of business and the duration/severity of the loss.

2.4 Infrastructure

Transportation

The region is bisected by Interstate 85 and lies midway between the capital cities of both Alabama and Georgia. Atlanta, Georgia is one hour northeast and Montgomery, Alabama is one hour to the west. I-85 is the main transportation corridor between the Port of Mobile and the east coast. The region is also convenient to Birmingham, the largest metropolitan area in Alabama, and Columbus, Georgia to include the Fort Benning Military Installation. Major highways that are

located in the region are U.S. Highway 280, 29 and 431. There are no commercial airports in the region; residents must drive to Columbus, GA, Montgomery, AL, Atlanta, GA or Birmingham, AL. The Robert J. Pitts airport in Auburn provides services to private planes and corporate jets. Rail lines serving the region include Norfolk Southern and CSX Transportation.

Utilities

Electrical service in the Lee and Russell County region is provided by Alabama Power, Tallapoosa River Electric Cooperative, Opelika Power and Light and Dixie Electric Cooperative. Natural Gas service is provided by the Alabama Gas Corporation.

Water and sewer service is provided by a mixture of municipal and county utility authorities. Most populated areas have public water service; however, most unincorporated areas rely on septic systems for sewer disposal.

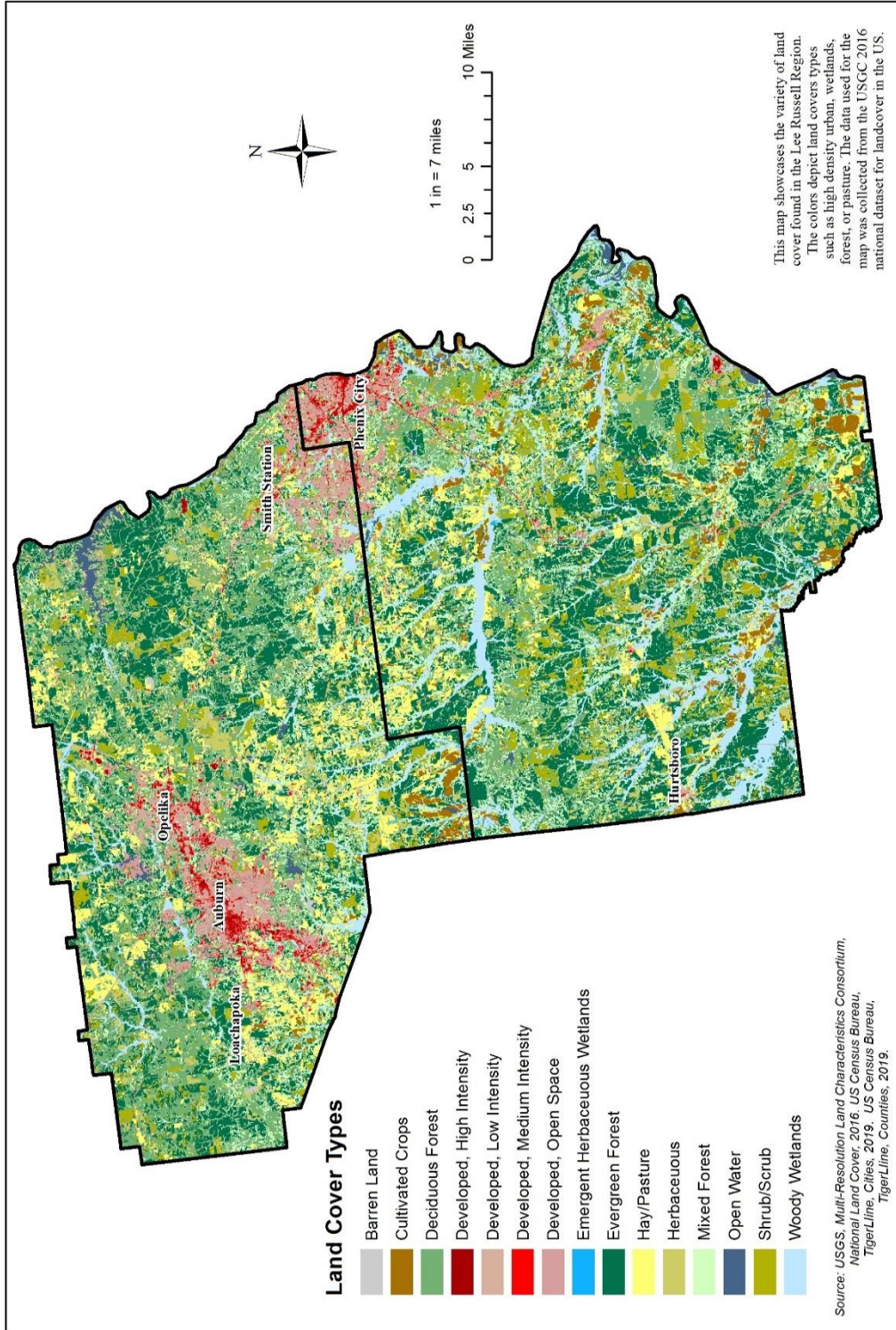
2.5 Land Use and Development Trends

The Lee-Russell Region is semi-rural predominantly composed of evergreen forest, deciduous forest, pasture, and urban areas. Lee County has a larger urban footprint than Russell County due to the size of Auburn and Opelika. Russell county is completely rural except for Phenix City. The largest urban area in the Lee-Russell Region is Auburn with the population of 65,738, which continues to be a fast growing metropolitan area in the East Central portion of Alabama. Auburn is the economic driver for the region due to Auburn University, which is the largest employer in the region.

Based on the data collected from the U.S. Census Bureau the EMA Division D area grew by 14.76% from 2010 to 2018. The largest growth from 2010 to 2018 occurred in Auburn (23.15%), Opelika (15.40%), and Phenix City (11.11%). These areas continued to expand their urban footprint. As the population in these areas continues to grow the so does the vulnerability o natural hazards. An increase in population increases the vulnerability a population has towards natural hazards as well as the opportunity to damage or destroy the newly built urban environment associated with growth.

Every community in the region, particularly the fast growing areas, should work towards building in compatible areas that are not susceptible hazards such as flooding and other location-specific hazards in their long-range development plans in order to make communities more resilient to hazards.

Land Cover for Lee-Russell Region



Section 3 – Planning Process

The Planning Process section of the Plan addresses requirements of Section 201.6(c)(1) through providing the planning process used to develop the plan, including how it was prepared, who was involved in the process and how the public was involved.

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- 3.1 Multi-Jurisdictional Plan Adoption
- 3.2 Multi-Jurisdictional Plan Participation
- 3.3 Hazard Mitigation Planning Process
- 3.4 Public and Other Stakeholder Involvement
- 3.5 Integration with Existing Plans

3.1 Multi-Jurisdictional Plan Adoption

Each participating jurisdiction will adopt the plan when it is deemed “approvable pending adoption” by the Federal Emergency Management Agency (FEMA). Eligible jurisdictions include regional planning councils and local governing bodies, including municipal councils, county commissions and local school districts.

3.2 Multi-Jurisdictional Planning Participation

Each eligible local jurisdiction in Lee and Russell counties provided participation in the development of this regional hazard mitigation plan. Local jurisdictions within the region participated according to the standards set forth by the Regional Hazard Mitigation Planning Committee.

The remaining counties in AEMA Division D will be fully integrated within the regional hazard mitigation plan in a phased process. The first phase includes Lee and Russell counties. The second phase will include Autauga, Elmore and Montgomery counties and the third phase will include Tallapoosa, Lowndes, Macon, Chilton, Coosa, Chambers and Bullock counties. At the conclusion of the phased process, there will be a regional AEMA Division D Hazard Mitigation Plan with the same deadline/update cycle.

3.3 Hazard Mitigation Planning Process

The AEMA Division D Multi-Jurisdictional Hazard Mitigation Plan has been developed through interaction between AEMA Division D EMA Directors, the AEMA Division D Coordinator and the Lee-Russell Council of Governments, which comprised the Division D Core Team.

Members of the AEMA Division D Core Team developed county-level planning subcommittees primarily based on past Hazard Mitigation Plan update participants and the Local Emergency Planning Committees. The review of previous local hazard mitigation plans and development of the requirements for participating within the regional planning process was developed by the Division D Core Team.

Each jurisdiction is expected to participate in the planning update process by:

- Attend scheduled meetings, or if unable to attend, send a designee or make themselves available to discuss the agenda through phone conversation, email or in-person meeting.
- Represent their jurisdiction’s interests, including gathering information and providing feedback, including providing survey comments or marking up information on their existing hazard mitigation plan.
- Provide an assessment of prioritized projects that have been completed or are ongoing, or changes to prioritization.
- Adopt the Hazard Mitigation Plan.

The AEMA Division D Core Team developed the phased process of preparing the Regional Hazard Mitigation Plan based upon the staggered deadlines for each jurisdiction. The AEMA Division D Core Team met to compare the identified hazards in each individual jurisdiction plan in order to

reach a consensus of the identified Regional Hazard Profiles. The AEMA Division D Core Team also met to discuss Division D Mitigation Goals/Strategies based on these items found in each individual jurisdiction plan.

The discussions with the AEMA Division D Core Team led to county-level meetings with Lee and Russell counties to review the Risk, Vulnerability and Mitigation components of the Hazard Mitigation Plan. During the summer and fall of 2019, the Hazard Mitigation Plan and the Hazard Mitigation Plan Action Strategies were sent to each participant of the county-level subcommittee prior to the meetings held in 2019. The scope of the meetings was to assess the progress of each jurisdiction’s mitigation goals and objectives and to determine recent hazard events and how they affected the jurisdictions. From these meetings, hazard profiles were consolidated and updated for the regional scope of the plan and risk analysis updates were conducted using historical and local documentation. Plan drafts were distributed to stakeholders and local jurisdictions for review and the plan draft was discussed in the realm of public meetings before submission to AEMA and FEMA.

Table 3.1 AEMA Division D Core Team

Organization	Contact
Autauga County EMA	Ernie Baggett
Bullock County EMA	Josh Powell
Chambers County EMA	Jessica Yeagar
Chilton County EMA	Derrick Wright
Coosa County EMA	Terri Q. Hale
Elmore County EMA	Keith Barnett
Lee County EMA	Jonny Langley/ Rita Smith
Lowndes County EMA	David Butts
Macon County EMA	Frank Lee
Montgomery County EMA	Christina Thornton
Russell County EMA	Robert “Bob” Franklin
Tallapoosa County EMA	Jason Moran
AEMA Division D Coordinator	Monique Smith
Lee-Russell Council of Governments	Lisa Sandt/Tracie Hadaway

Source: *Alabama Emergency Management Agency, County EMA Directory*

Table 3.2 Phase One Regional Hazard Mitigation Plan subcommittee

Participant	Jurisdiction	Sector	Attended Meeting	Provided Written Comments	In-Person / Phone Consultation
Lee County Representatives					
Blake Simpkins	Beulah	Fire Chief			
Joe Walden	Smith Station	Volunteer Fire Chief			
Alice McCall	Lee County	Deputy Administrator			
Erica Norris	Lee County	HR Director			
Roger Rendleman	Lee County	County Administrator			
Justin Hardee	Lee County	County Engineer			
Chris Wallace	Lee County Sherriff	Captain			
Jeff Pitts	Lee County Sherriff	Chief Deputy			
“Bubba” Copeland	Smith Station	Mayor			
Will Matthews					
Paul Register	Auburn City Schools	Safety Director			
Gary Fuller	City of Auburn	Mayor			
Mike Hilyer	City of Opelika	Director of Public Works			
Ron Anders	City of Auburn	City of Auburn			
Wendy Swann	Lee County	Governmental Relations Coordinator			
Richard LaGrand	Lee County	Commissioner			
Austin Bayles		GIS Supervisor			
Bill Harris	Lee County	Corner			
Scott Cummings	City of Auburn	Construction and Maintenance: Public Works Director			
Megan McGowen Crouch	City of Auburn	Assistant City Manager			
James C. Buston	City of Auburn	City Manager			
Rod Cater	Alabama Power Company	Community Relations Manager			

Brooke Harris	Auburn Opelika Tourism	Digital Marketing Manager			
Tim Woody	City of Auburn	Public Works Director			
Cristen Herring	Auburn City Schools	Superintendent			
Douglas Hubbard	Lee County Emergency Agency	Financial Planner			
Bill Meadows	Lee County	911 Director			
Billy Browdy	East Alabama Medical Center	Hospital Safety			
Chance Corbett	Auburn University	Associate Director Emergency Management			
Chandler Barrett	United Way of Lee County	Initiatives			
Gary Long	Lee County	Commissioner			
Rita Smith	Lee County Emergency Agency	Emergency Management Specialist			
Jonny Langley	Lee County Emergency Agency	Deputy Director			
Austin Jones	Lee County Emergency Agency	Emergency Management Specialist			
Jay Jones	Lee County Sherriff	Sherriff			
John Wild	Auburn Opelika Tourism	President			
Johnny Lawrence	Lee County	Commissioner			
Randy Causey	East Alabama Medical Center	Director Support Svcs			
Robert Ham	Lee County	Commissioner			
Sheila Eckman	Lee County	Commissioner			
Carson Stroud	Lee County	Commissioner			
Daniel Sexton	Smith Station Fire	Deputy Fire Chief			
Stan Cox	Lee Scott Academy	Headmaster			
Chris Hardman	Auburn City School	Safety Coordinator			

Kenneth Burton	Opelika City School	Assistant Superintendent Buildings/ Student Services			
Lee Lindsay					
Dennis Veronese	Auburn City Schools	Assistant Superintendent/ Chief Financial Officer			
Leigh Krehling	City of Opelika	Public Relations			
David Dorton	City of Auburn	Public Relations			
John Konstant	City of Opelika	Fire Chief			
Bill English	Lee County	Probate Judge			
John Lankford	City of Auburn	Police Chief			
Byron Prather	City of Opelika	Fire Chief			
Cecil Rogers	Salem VED	Chief			
Josh Datnoff	Lee County Fire Fighters Association	President			
Bradley Bowen	Fire Fighter	City of Opelika			
Mike Holden	Beauregard VED	Fire Chief			
Mike Gardner					
Matt Jordan	Auburn Fire Department	Deputy Chief			
Steve Tucker	Auburn Fire Department	Firefighter			
Robert Wallace					
LeeAnn Bolt	Smith Station Fire	Assistant Fire Chief			
Justin Farmer	Auburn Fire	Firefighter			
Russell County Representatives					
William Alexander		Sheriff Department			
Health Taylor		Sheriff			
Jarrod Barr		Sheriff Department			
H. Ward Dudley		Russell Co. Schools			
Bob Franklin		Russell Co. EMA			
David Martin		Russell Co. EMA			

Samantha Cato		Russell Co. EMA			
Shawn Blakeney		Russell Co. Engineering			
Ray Martin		Russell Co. Engineering			
Peggy Martin		County Commission			
LeAnn Horne		County Administrator			
Naomi Elliott		Revenue Commissioner			
Wanda Hardie		County Sanitation Dept.			
Jennifer Davidson		Extension Office			
Ashley Haden		Russell Co. Forestry			
Todd Hodges		Russell Co. Water Authority			
Brenda Coley		Supt., Russell Co. Schools			
Randy Wilkes		Supt., Phenix City Schools			
Joe Blevins		Assist. Supt. Phenix City Schools			
Eddie Lowe		Mayor, Phenix City			
Wallace Hunter		City Manager, Phenix City			
Angel Moore		City Engineer, Phenix City			
Ray Smith		Chief of Police, Phenix City			
Gail Green		Phenix City Police			
Kristin Kennedy		Fire Chief, Phenix City			
Tommy Cox		Phenix City Fire Dept.			
Stephen Smith		Phenix City Utilities			
Todd Hughes		Phenix City Parks and Recreation			
David Gibson		Phenix City Schools			

David Ellis		Fort Mitchell Water System			
Vivian		Mayor, City of Hurtsboro			
Victor Cross		Russell Country Governments			
John Dozier		Hurtsboro Waterworks			
Anthony Gosdin		Tallapoosa River Electric Cooperative			
Brooke Goff		Alabama Power Co.			
Riley Land		Columbus EMA			
Cathy Key		Columbus EMA			
Kathy Carson		Lee County EMA			
Monique Smith		AEMA			
Omar Armstrong		ALDOT			
Rufus Boutwell		ALDOT			
Tim Seigal		Fort Benning Fire Chief			
Col. Matthew Scalia		Fort Benning Garrison Commander			
Ferdinand Crawford		West Rock			
Greg Johnstone		Continental Carbon Company			
David Hodge		CVCC			
Dr. David White		Troy State University			
Tammie Creech		Red Cross, East Alabama Chapter			
Erica Hare		Jack Hughston Memorial Hospital			
Dave Alexander		AIMS			
Kerry Pope		Spire			

3.4 Public and Other Stakeholder Involvement

Opportunity for public participation has been provided using multiple strategies. All county stakeholder meetings were open to the public and announced on the Lee-Russell COG website. Please refer to section 7.3 in the Appendix to see the dates and details on meetings. The draft

plan will be available for review by the public prior to the submittal to AEMA/FEMA. The draft will be available at the local libraries, at the local Senior Citizen Centers, as a link on the LRCOG website and the county websites. A copy of the final plan approved by FEMA will be placed on the LRCOG website. Hard copies will be available at the local EMA offices, and city and county offices as determined. School Boards and Water Authorities will also receive a hard copy.

An extensive public outreach was conducted with surveys to garner input on hazard assessment in the region. Interactive surveys were posted on the Lee-Russell Council of Governments website and their availability was announced on the local radio station. Staff was available at two community events to receive citizen input and resources available through the RSVP program were used to survey senior citizens in the region. 307 surveys were completed as a part of the public outreach. Documentation on public input can be found in Section 7.1 in the Appendix.

The Lee-Russell Council of Governments and the local EMA directors involved multiple stakeholders in the formation of this plan as identified in Table 3.2. These stakeholders were informed of the process, plan update information and comments were solicited from these groups. The draft plan will be sent to neighboring jurisdictions for review and comment. Future updates will continue to involve intensive stakeholder involvement.

3.5 Integration with Existing Plans

Existing plans were consulted upon drafting the Phase One Regional Hazard Mitigation Plan to gauge understanding of the region's capacity for hazard mitigation. Plans reviewed include:

Alabama State Hazard Mitigation Plan (2018 Update):

The State Hazard Mitigation Plan was consulted to assist with consistency of information within the regional plan, including items within the Risk Assessment and local capabilities.

Lee County and Russell County Hazard Mitigation Plans:

Lee County and Russell County both have previously developed and approved local hazard mitigation plans. These plans were reviewed for consistency of information within the regional plan.

Local Comprehensive/Master Plans:

Local Comprehensive/Master Plans that have been prepared and adopted in the Lee County and Russell County region were reviewed for consistency with information in the regional hazard mitigation plan.

LRCOG Comprehensive Economic Development Strategy 2010 Update:

The LRCOG CED's was consulted to ensure the Hazard Mitigation Plan is consistent with the economic development strategy for the Lee-Russell region.

Emergency Operations Plans:

Lee County and Russell County both have an Emergency Operation Plan (EOP) that is utilized in an emergency. The plans summarize various hazards and provide direction for emergency personnel in disaster situations. These plans complement the hazard mitigation plan, but do not necessarily cover the same material.

Alabama Drought Management Plan (2018)

The Alabama Drought Management Plan was studied to provide background information of drought impacts on the planning area.

Other sources utilized for data incorporation are listed in Section 4 – Risk Assessment.

Section 4 – Risk Assessment

This section of the plan addresses requirements of Section 201.6(c) (2)

Section Contents

- 4.1 Hazard Overview
- 4.2 Hazard Profiles
- 4.3 Technological and Human-Caused Hazards
- 4.4 Vulnerability Overview
- 4.5 Probability of Future Occurrence and Loss Estimation
- 4.6 Total Population and Property Valuation Summary by Jurisdiction
- 4.7 Critical Facilities/Infrastructure by Jurisdiction
- 4.8 Hazard Impacts
- 4.9 Vulnerable Populations in Lee-Russell Planning Area

4.1 Hazard Overview

The Lee-Russell County region is affected by a wide range of natural and human-caused hazards that negatively impact life and property. Current FEMA regulations are under the Disaster Mitigation Act of 2000 (DMA 2000) require, at a minimum, an evaluation of a full range of natural hazards. An evaluation of human-caused hazards (i.e., technological hazards, terrorism, etc.) is allowed, but not required for plan approval. The Regional Hazard Mitigation Plan concentrates on natural hazards, but does include a summarized assessment of potential human-caused hazards.

4.2 Hazard Profiles

AEMA Division B is affected by multiple hazards that are addressed below. These hazards were identified and evaluated through a process that included studying historical events, previous local mitigation plans, susceptibility of location to hazards, and input from local stakeholders. Each hazard addressed in the risk assessment will include a general descriptions of the hazards and it's extend of effects on the region. Phase I of the Regional Hazard Mitigation Plan will include only Lee County and Russell County. The remaining counties, Chilton, Coosa, Tallapoosa, Chambers, Autauga, Elmore, Macon, Lowndes, Montgomery, and Bullock will be added in a phased process.

Due to the geographical location of Lee and Russell counties, the region is vulnerable to many hazards that could potentially disrupt life and damage property year round. The following hazard types so not have any applicability to the region, and will not be mentioned any further: Avalanche, coastal erosion, tsunami, and volcano. Table 4.1 displays potential hazards and if they present a risk to the planning area, including information sources and how the hazard associates to the region.

Table 4.1: Potential Hazards and Data Sources

Hazard	Risk	Source	Correlation with Region
Dam Failure	Yes	USACE National Inventory of Dams	Population downstream from dams; flooding concerns; no State regulation of dam safety
Drought	Yes	United States Drought Monitor	Historic Incidents with damage
Earthquakes	Yes	USGS Earthquake Hazard Program	Proximity to Southeast US seismic zones
Extreme Temperatures	Yes	NOAA , National Centers for Environmental Information, Storm Events Database	Historic Incidents

Flooding	Yes	FEMA; NOAA , National Centers for Environmental Information, Storm Events Database	Historic Incidents/identified flood hazard areas
Hail	Yes	NOAA , National Centers for Environmental Information, Storm Events Database	Historic Incidents
High Winds/Thunderstorms	Yes	NOAA , National Centers for Environmental Information, Storm Events Database	Historic Incidents
Landslides	Yes	Geological Survey of Alabama USGS Landslides Hazard Program Alabama State HMP	
Lightning	Yes	NOAA , National Centers for Environmental Information, Storm Events Database	Historic Incidents
Sinkholes and Land Subsidence	Yes	Geological Survey of Alabama	
Tropical Storms/Tropical Depressions/Hurricanes	Yes	NOAA , National Centers for Environmental Information, Storm Events Database	Historic Incidents
Tornadoes	Yes	NOAA , National Centers for Environmental Information, Storm Events Database	Historic Incidents
Wildfire	Yes	Alabama Forestry Commission Wildfire Assessment Maps	
Winter Storms	Yes	NOAA , National Centers for Environmental Information, Storm Events Database	Historic Incidents

Effects from tornadoes, high winds and flooding are regarded as the most significant natural hazards affecting the two county area.

The Lee-Russell county region has been included in Federal Disaster Declarations twenty-four times since 1975, which can be seen in Table 4.2. The declared disasters have been primarily related to two major types of impacts: flooding (through both tropical and non-tropical events) and severe storms to include hurricanes and tornadoes. There has also been a declaration for a drought incident and a winter storm incident.

Table 4.2: Lee and Russell County region, Federally-Declared Disasters

Declaration Date	Disaster Number	Type of Incident	Counties Declared
January 18, 1975	EM-3007	Tornadoes	Several counties to include LEE
March 14, 1975	DR-458	Severe Storms, Flooding	Several counties to include LEE
October 2, 1975	DR-488	Severe Storms, Tornadoes, Flooding	Several counties to include LEE and

			RUSSELL
July 20, 1977	EM-3045	Drought	Several counties to include LEE and RUSSELL
April 20, 1980	DR-619	Severe Storms, Tornadoes, Flooding	LEE and Mobile
April 10, 1981	DR-638	Severe Storms, Tornadoes, Flooding	RUSSELL
February 17, 1990	DR-856	Flooding, Severe Storm, Tornado	Several counties to include RUSSELL
March 21, 1990	DR-861	Flooding, Severe Storm, Tornado	Several counties to include RUSSELL
March 15, 1993	EM-3096	Severe Snowfall, Winter Storm	Several counties to include LEE and RUSSELL
July 8, 1994	DR-1034	Severe Storm, Flooding, Tropical Storm Alberto	Several counties to include RUSSELL
October 4, 1995	DR-1070	Hurricane Opal	Several counties to include LEE and RUSSELL
May 12, 2003	DR-1466	Severe Storms, Tornadoes, Flooding	Several counties to include RUSSELL
September 15, 2004	DR-1549	Hurricane Ivan	Statewide to include LEE and RUSSELL
July 10, 2005	DR-1593	Hurricane Dennis	Several counties to include LEE and RUSSELL
September 10, 2005	EM-3237	Hurricane Katrina Evacuation	Several counties to include LEE and RUSSELL
April 30, 2008	EM-3292	Hurricane Gustav	Several counties to include LEE and RUSSELL
April 18, 2009	DR-1835	Severe Storms, Flooding, Tornadoes and Straight-Line Winds	Several counties to include RUSSELL
December 31, 2009	DR-1870	Severe Storms, Flooding	Several counties to include RUSSELL
April 27, 2011	EM-3319	Severe Storms, Tornadoes, Straight-Line Winds	Several counties to include LEE and RUSSELL
April 28, 2011	DR-1971	Severe Storms, Tornadoes, Straight-Line Winds, Flooding	Statewide to include LEE and RUSSELL
May 2, 2014	DR-4176	Severe Storms, Tornadoes, Straight-Line Winds and Flooding	Several counties to include LEE

January 21, 2016	DR-4251	Severe Storms, Tornadoes, Straight-Line Winds, Flooding	Several counties to include LEE and RUSSELL
September 11, 2017	EM-3389	Hurricane Irma	Several counties to include LEE and RUSSELL
March 5, 2019	DR-4419	Severe storms, Straight-Line Wind, Tornadoes	LEE

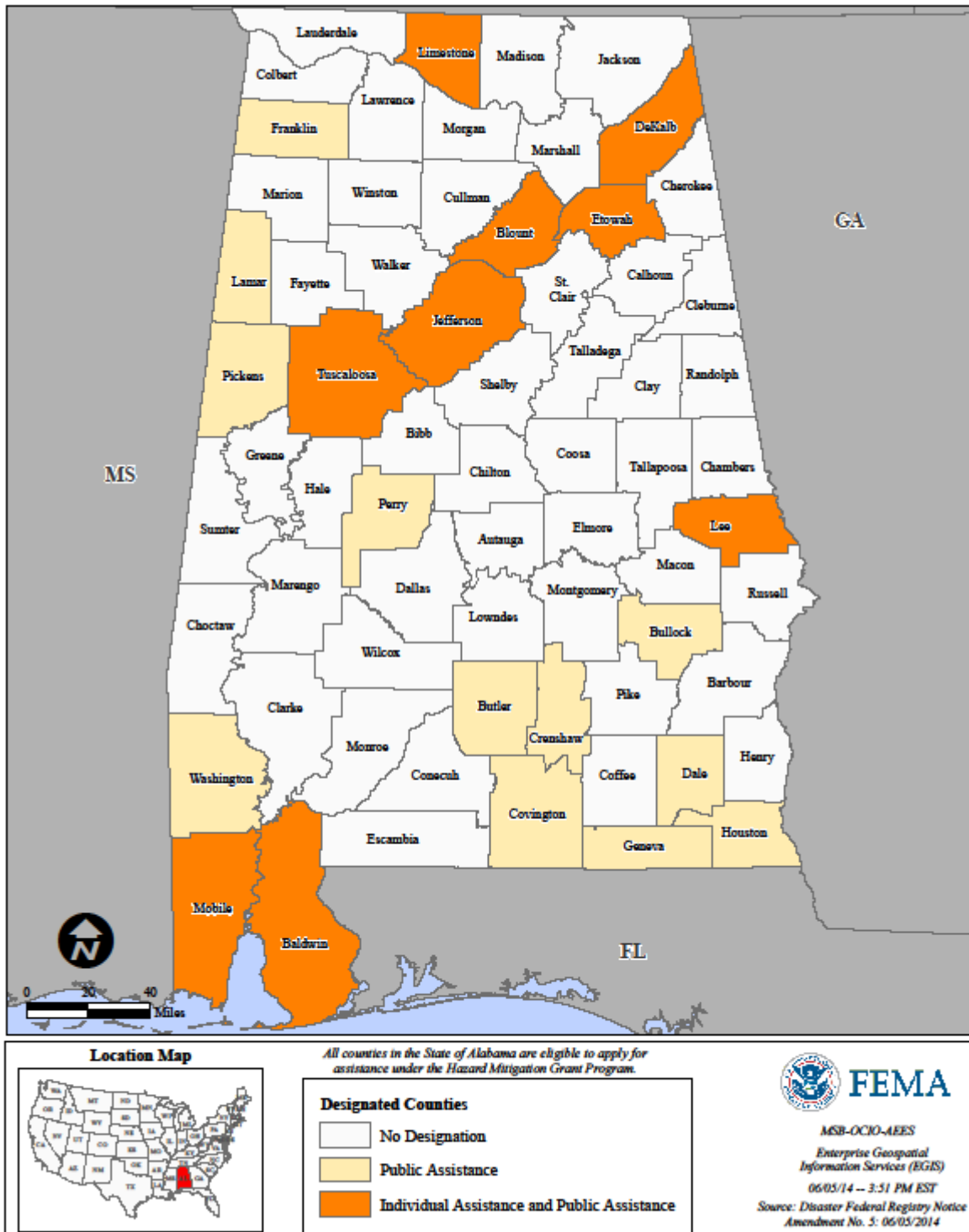
Source: Federal Emergency Management Agency (December 2019)

Under a federally declared disaster, the State of Alabama and affected local jurisdictions are eligible to apply for federal reimbursement for debris removal, emergency services, and critical facility repair/replacement. Funding is also made available for hazard mitigation grants that allow for implementation of mitigation projects that are listed in this plan.

Each hazard profile includes a summary of the following:

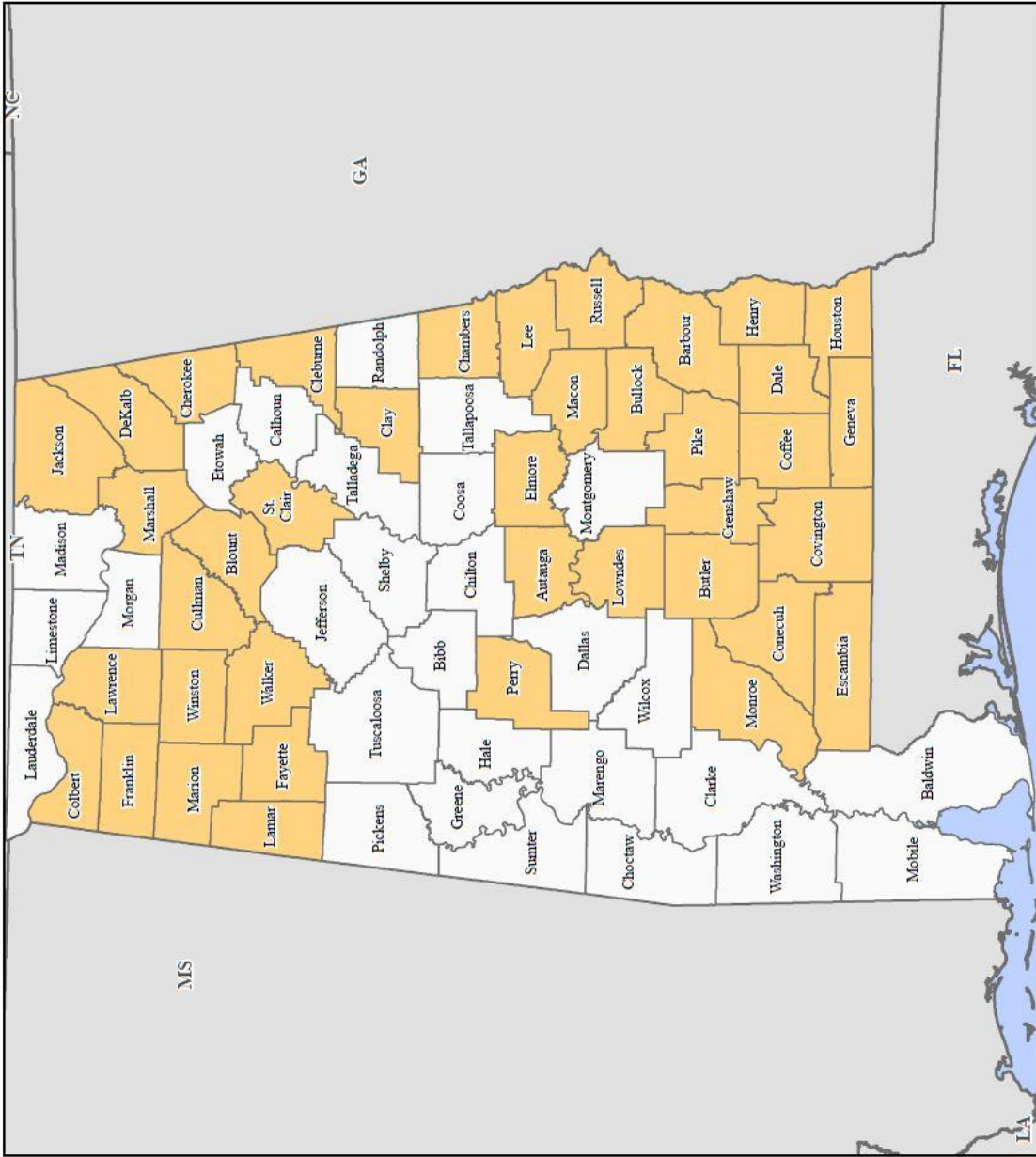
- **Background:** Provides general definitions and brief descriptions of the hazard, its characteristics, and potential effects.
- **Locations Affected:** Provides information on the geographic areas within the Phase One Lee-Russell planning area that are susceptible to hazard occurrences. Locations affected are described regionally, unless a specific jurisdiction has different risks, which is further explained.
- **Extent:** Provides information on the potential strength or magnitudes of the hazard.
- **Historical Occurrences:** Provides information on the history of previous hazard events in the planning area, including their impacts.
- **Probability of Future Events:** Describes the likelihood of future hazard occurrences in the planning area. Many hazards may affect the entire planning area, while other hazards are more localized due to specific factors. These qualitative descriptions are from historical occurrences and other risk factors. Because of the lack of comprehensive quantitative data on many of the hazards, susceptibility to future damage will be noted by categories of High, Medium, Low or Very Low as described below:
 - **High:** Probable major damage in a 1-10 Year Period
 - **Medium:** Probable major damage in a 10-50 Year Period
 - **Low:** Probable major damage in a 100 Year Period
 - **Very Low:** No probable major damage in a 100 Year Period.

FEMA-4176-DR, Alabama Disaster Declaration as of 06/05/2014





FEMA-4251-DR, Alabama Disaster Declaration as of 01/22/2016



Data Layer/Map Description:
The types of assistance that have been designated for selected areas in the State of Alabama.

All designated areas in the State of Alabama are eligible to apply for assistance under the Hazard Mitigation Grant Program.

Designated Counties
 No Designation
 Public



Data Sources:
 FEMA, ESRI
 Initial Declaration: 01/21/2016
 Disaster Federal Registry Notice: 01/21/2016
 Datum: North American 1983
 Projection: Transverse Mercator

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FEMA-4419-DR, Alabama Disaster Declaration as of 03/05/2019

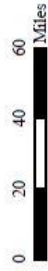


Data Layer/Map Description:
The types of assistance that have been designated for selected areas in the State of Alabama.

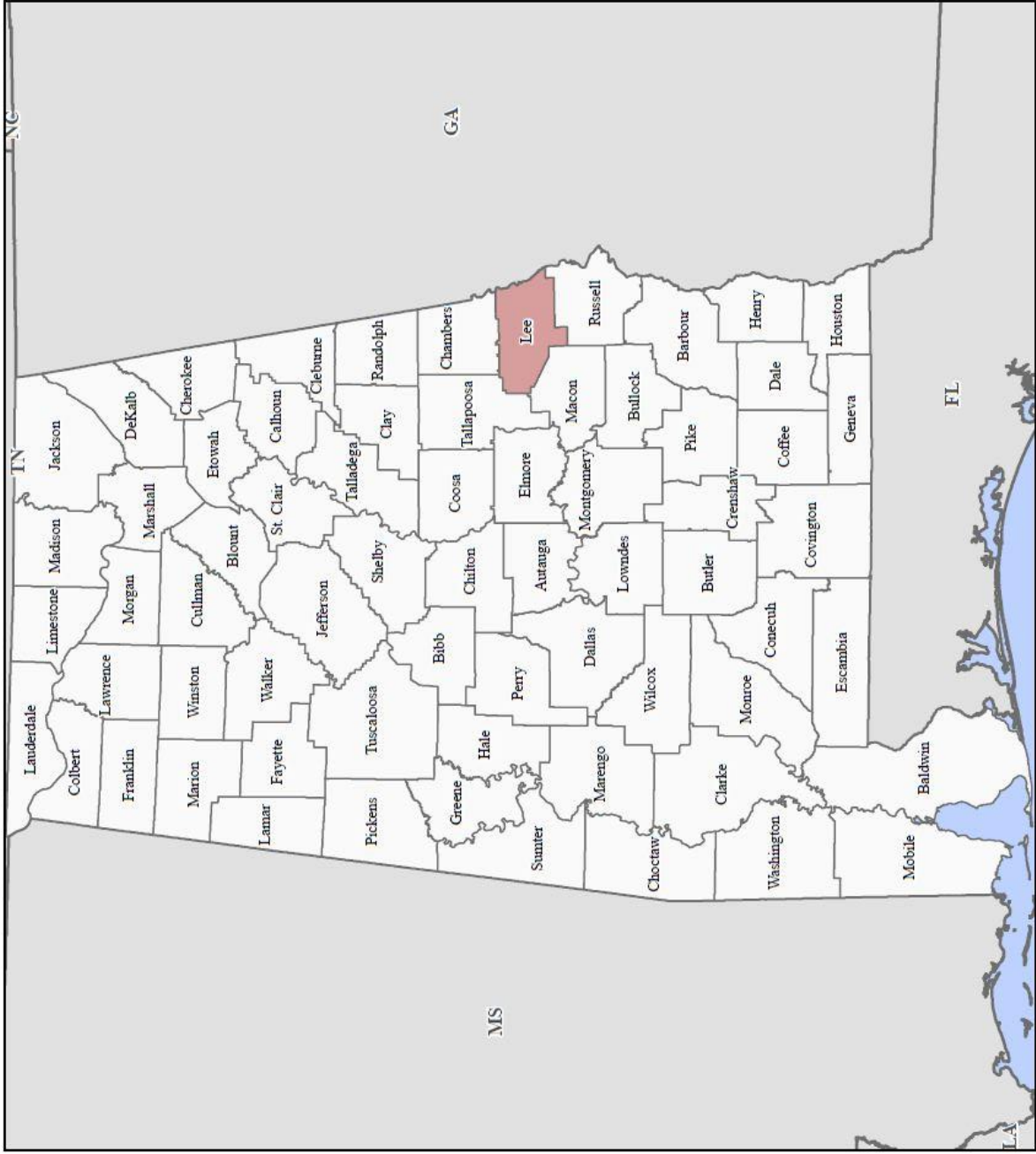
All designated areas in the State of Alabama are eligible to apply for assistance under the Hazard Mitigation Grant Program.

Designated Counties

-  No Designation
-  Individual Assistance and Public Assistance



Data Sources:
 FEMA, ESRI:
 Initial Declaration: 03/05/2019
 Disaster Federal Registry Notice: 03/05/2019
 Datum: North American 1983
 Projection: Transverse Mercator



DAM/LEEVE FAILURE

Background

When dam and levee failures arise the areas located downstream are subject to flooding due to the large volumes of water released suddenly. These events happen with little warning and may cause extensive property damages and casualties. Dam safety is a hazard that the State of Alabama works on continuously for the last two decades as the infrastructure ages, especially small privately owned dams and/or poorly maintained. Alabama currently does not have a state law to regulate existing private dam or new construction of private dams that do not require a federal licensees or inspections. There is approximately 1,700 privately owned dams in Alabama that are on bodies of water over 50 acre-feet or dams higher than 25 feet. Efforts to pass legislation regarding regulation of these 1,700 dams has not been successful.

Locations Affected

According to the National Inventory of Dams, there are 101 dams in the planning region. All of these dams are owned by a public utility, local government or state government. The dams in the regional area are considered to be earth dams, as reported by the National Inventory of Dams, which is constructed of earth material such as gravel, soil, rock, silt. The dam list from the National Inventory of Dams is outdated, due to the lack of regulatory authority in Alabama. Private dams may be missing from this list if local authorities are unaware of the features. Localized studies conducted by the Office of Water Resources (OWR) demonstrate that data collected from the National Inventory of Dams might be inaccurate due to locational errors and the misrepresentation of potential hazard of dams. Future updates to the Regional Hazard Mitigation plan will incorporate information regarding classification of potential dam hazards.

Table 4.3: Lee County Dams

County	Dam Name	Owner Type	Year Completed	NID Height (Ft.)	NID Length (Ft.)	NID Storage	Dam Type
LEE	AUBURN FARM POND NO 1	Public Utility	1946	13	375	125	Earth
LEE	AUBURN FARM POND NO S-3	Public Utility	1946	20	375	96	Earth
LEE	AUBURN FARM POND NO S-6	Public Utility	1947	18	650	210	Earth
LEE	AUBURN FARM POND NO S-8	Public Utility	1947	12	400	63	Earth
LEE	AUBURN FARM PONDS-14	Public Utility	1948	15	600	84	Earth
LEE	AUBURN FARM POND STORAGE	Public Utility	1973	16	2000	110	Earth
LEE	RICE	Public Utility	1959	20	430	112	Earth
LEE	C E LEE	Public Utility	1946	33	350	520	Earth
LEE	GEORGE MANN	Public Utility	1971	24	360	158	Earth
LEE	M M JONES	Public Utility	1965	45	1500	324	Earth
LEE	JOHNSON LAKE	Public Utility	1956	15	200	353	Earth
LEE	LAKE OGLETREE NO 1	Local Government	1932	50	250	6200	Earth
LEE	ROY LAZENBY	Public Utility	1961	15	300	52	Earth
LEE	SOUGAHATCHEE	Local Government	1932	43	635	10200	Earth
LEE	LEE COUNTY PUBLIC LAKE	State	1967	29	2050	1700	Earth
LEE	H H WEBB	Public Utility	1966	13	375	100	Earth
LEE	AG ENGINEERING FARM POND	Public Utility	1948	22	450	192	Earth
LEE	DR JAMES BRUCE	Public Utility	1966	50	600	100	Earth
LEE	ALONAME 1	Public Utility	1961	30	250	125	Earth
LEE	JACKIE OSMENT	Public Utility	1969	17	408	61	Earth
LEE	DR JAMES BRUCE NO 3	Public Utility	1966	35	600	292	Earth
LEE	DR JAMES BRUCE NO 2	Public Utility	1966	45	500	100	Earth
LEE	LOUIS MURPHY	Public Utility	1958	42	600	150	Earth
LEE	DR JAMES BRUCE NO 4	Public Utility	1966	26	400	100	Earth
LEE	AUBURN OUTING CLUB	Public Utility	1964	20	300	100	Earth
LEE	E T CONWAY NO 1	Public Utility	1970	28	325	73	Earth
LEE	CHEWACLA STATE PARK	State	1932	28	150	180	Earth
LEE	OGLETREE OUTING CLUB	Local Government	1946	18	450	75	Earth

LEE	OGLETREE NO 2	Public Utility	1916	18	225	173	Earth
LEE	WILMORE	Local Government	1962	25	400	190	Earth
LEE	HAMILTON	Public Utility	1942	12	120	100	Earth
LEE	JACOBS	Public Utility	1944	16	600	67	Earth
LEE	THOMAS CHERRY	Public Utility	1964	32	500	108	Earth
LEE	FRANK R POPE NO 1	Public Utility	1966	30	1000	230	Earth
LEE	FRANK R POPE NO 2	Public Utility	1966	20	300	70	Earth
LEE	SAMFORD BROTHERS NO 1	Public Utility	1954	21	400	140	Earth
LEE	SAMFORD BROS NO 2	Public Utility	1954	19	330	50	Earth
LEE	A N INGRAM	Public Utility	1958	28	350	94	Earth
LEE	W B COGDELL	Public Utility	1959	12	400	50	Earth
LEE	CLYDE POWELL	Public Utility	1965	18	450	60	Earth
LEE	LAKE THEL	Public Utility	1940	23	570	128	Earth
LEE	C L MULLINS	Public Utility	1954	22	430	60	Earth
LEE	SMITHS	Public Utility	1940	20	350	96	Earth
LEE	COUNTRY CLUB	Public Utility	1946	12	500	50	Earth
LEE	REX RANIER	Public Utility	1972	21	750	108	Earth
LEE	G E KIMBROUGH	Public Utility	1964	25	310	32	Earth
LEE	R F NEWMAN	Public Utility	1970	14	225	111	Earth
LEE	PLAINSMAN CLUB	Public Utility	1958	23	450	154	Earth
LEE	DUDLEY	Public Utility	1946	22	400	90	Earth
LEE	SELF	Public Utility	1950	27	600	80	Earth
LEE	HEATH	Public Utility	1954	21	400	170	Earth
LEE	HUDSON	Public Utility	1950	31	540	130	Earth
LEE	KINNETT	Public Utility	1942	17	457	101	Earth
LEE	MITCHELL	Public Utility	1958	21	420	65	Earth
LEE	MULLINS LAKE	Public Utility	1950	16	350	50	Earth
LEE	ALNONAME 2	Public Utility	1950	28	420	70	Earth
LEE	HUBBARD	Public Utility	1953	30	500	60	Earth
LEE	CONDY	Public Utility	1955	25	500	40	Earth
LEE	RE NEWMAN NO 2	Public Utility	1967	19	360	60	Earth
LEE	GULLATTE	Public Utility	1953	40	350	55	Earth
LEE	MURPHY	Public Utility	1948	28	300	70	Earth
LEE	PRATHER	Public Utility	1939	21	337	68	Earth
LEE	FOLMAR	Public Utility	1950	30	575	170	Earth
LEE	HOMER FRANKLIN	Public Utility	1981	18	275	71	Earth

Source: FEMA, National Inventory of Dams, Lee County, Alabama, 2019

Table 4.4: Russell County Dams

County	Dam Name	Owner Type	Year Completed	NID Height (Ft.)	NID Length (Ft.)	NID Storage	Dam Type
RUSSELL	MULLIN LAKE	Public Utility	1947	28	750	200	Earth
RUSSELL	WADSWORTH LAKE	Public Utility	1946	8	300	50	Earth
RUSSELL	DYKES POND	Public Utility	1958	18	600	122	Earth
RUSSELL	CHATFIELDS POND	Public Utility	1950	15	300	50	Earth
RUSSELL	BUSSEY LAKE	Public Utility	1952	12	2000	96	Earth
RUSSELL	GOLDEN STREAM LAKE	Public Utility	1940	25	550	246	Earth
RUSSELL	WILSON POND	Not Listed	1955	25	848	116	Earth
RUSSELL	LAKE BICKERSTAFF	Public Utility	1954	14	1000	280	Earth
RUSSELL	BUSH POND	Public Utility	1949	30	600	175	Earth
RUSSELL	WILLIAMS LAKE	Public Utility	1948	42	840	230	Earth
RUSSELL	PORTER BRANCH LAKE	Public Utility	1947	28	750	450	Earth
RUSSELL	CARROLL LAKE	Public Utility	1955	24	600	190	Earth
RUSSELL	MOTT LAKE	Public Utility	1947	34	250	110	Earth
RUSSELL	YUCHI LAKE	Public Utility	1941	20	400	170	Earth
RUSSELL	JOHN ONEALL	Public Utility	1971	17	775	336	Earth
RUSSELL	SNYDER POND	Public Utility	1950	20	250	80	Earth

RUSSELL	PARKMAN POND	Public Utility	1951	16	500	65	Earth
RUSSELL	CROUCH POND	Public Utility	1952	20	500	96	Earth
RUSSELL	MOON LAKE	Local Government	1946	40	900	224	Earth
RUSSELL	TORBERTS LAKE	Public Utility	1960	36	650	1800	Earth
RUSSELL	DEEP SOUTH	Public Utility	1961	15	705	181	Earth
RUSSELL	BURKES LAKE	Public Utility	1946	15	400	75	Earth
RUSSELL	B B BURTS	Public Utility	1958	15	575	50	Earth
RUSSELL	LAKE LENORA	Public Utility	1942	20	360	80	Earth
RUSSELL	MARGLOBA	Public Utility	1947	30	400	105	Earth
RUSSELL	WILLOW LAKE	Public Utility	1952	36	350	100	Earth
RUSSELL	BALFORE LAKE	Public Utility	1949	12	400	60	Earth
RUSSELL	SHEPPARD POND	Public Utility	1955	48	450	65	Earth
RUSSELL	KNOWELS POND	Public Utility	1955	35	525	252	Earth
RUSSELL	EDWARDS POND	Public Utility	1939	15	200	58	Earth
RUSSELL	TALBERT	Public Utility	1950	17	375	60	Earth
RUSSELL	GREENE NO 2	Public Utility	1966	41	450	180	Earth
RUSSELL	MATTHEWS	Public Utility	1960	16	400	65	Earth
RUSSELL	ASBURY	Public Utility	1950	23	500	70	Earth
RUSSELL	JAMES MILLS	Public Utility	1965	19	541	100	Earth
RUSSELL	BOBBY JONES	Public Utility	1989	20	1000	234	Earth
RUSSELL	TANNER	Public Utility	1968	15	600	99	Earth

Source: FEMA, National Inventory of Dams, Russell County, Alabama, 2019

Extent

“Hazard potential” is the classification used to indicate probability for damages, human losses or property damage, which could arise to the region if a dam failure occurred. The Federal Guidelines for Dam Safety present three classifications of damns, please refer to the Table 4.5, which is below to see the classifications.

Table 4.5: Dam Hazard Classifications

Hazard Potential Classification	Loss of Human Life	Economic, Environmental, Lifeline Losses
Low	None Expected	Low; Generally Limited o Owner
Significant	None Expected	Yes
High	Probable; One or More Expected	Yes

Source: Federal; Guidelines for Dam Safety (published April 2004)

Historical Occurrences

The historical record does not show any dam failures in the planning area, but this might not include failures for small private dams.

Probability of Future Events

Due to the lack of data on dam failures it is not possible to calculate risk losses from dam failure based on the historical record. There is not any documentation of dam failure in the planning region. Dated and incomplete information pertaining to dam classification in Alabama makes it difficult to predict what dams are susceptible in the planning region. It is unlike that that a dam failure will occur in the region and will be considered to have a low probability.

DROUGHT

Background

Drought occurs when there is below-average precipitation over an extended period of time, gradually affecting hydrological, agricultural, and social concerns. Occurrences of drought are typically classified as follows:

Table 4.6 Drought Classifications

Drought Type	Description/Definition
Meteorological Drought	Defined solely on the degree of dryness, expressed as a departure of actual precipitation from an expected average or normal amount based on monthly, seasonal, or annual time scales
Hydrologic Drought	Related to the effects of precipitation shortfalls on stream flows and reservoir, lake and groundwater levels.
Agricultural Drought	Defined principally in terms of soil moisture deficiencies relative to water demands of plant life, usually crops.
Socioeconomic Drought	Associates the supply and demand of economic goods or services with elements of meteorological, hydrologic, and agricultural drought. Socioeconomic drought occurs when the demand for water exceeds the supply as a result or a weather-related supply shortfall. This type of drought may also be called a water management drought.

Source: FEMA's Multi-Hazard Identification and Risk Assessment, published January 1997. Also cited in the State of Alabama Hazard Mitigation Plan, 2018.

The long-term dangers of drought can have serious economic impact on a community. Agricultural production can be damaged or destroyed by loss of crops or livestock, resulting in food shortages. The increased demand for water and electricity can result in shortages of these resources. Water supply that is drawn from groundwater sources could also be negatively impacted by prolonged drought. Drought can also be a contributing factor to wildfires in the forested areas of the region.

Locations Affected

The Lee-Russell area is susceptible to drought due to its location, which is prone to unpredictable precipitation patterns including extended periods of below-average rainfall.

Extent

For extent of drought, the United States Drought Monitor classifies drought in five levels of severity, based on multiple indicators including soil moisture, streamflow levels, precipitation levels, and local observations. These classifications are listed in the table below:

Table 4.7: United States Drought Monitor Classification

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

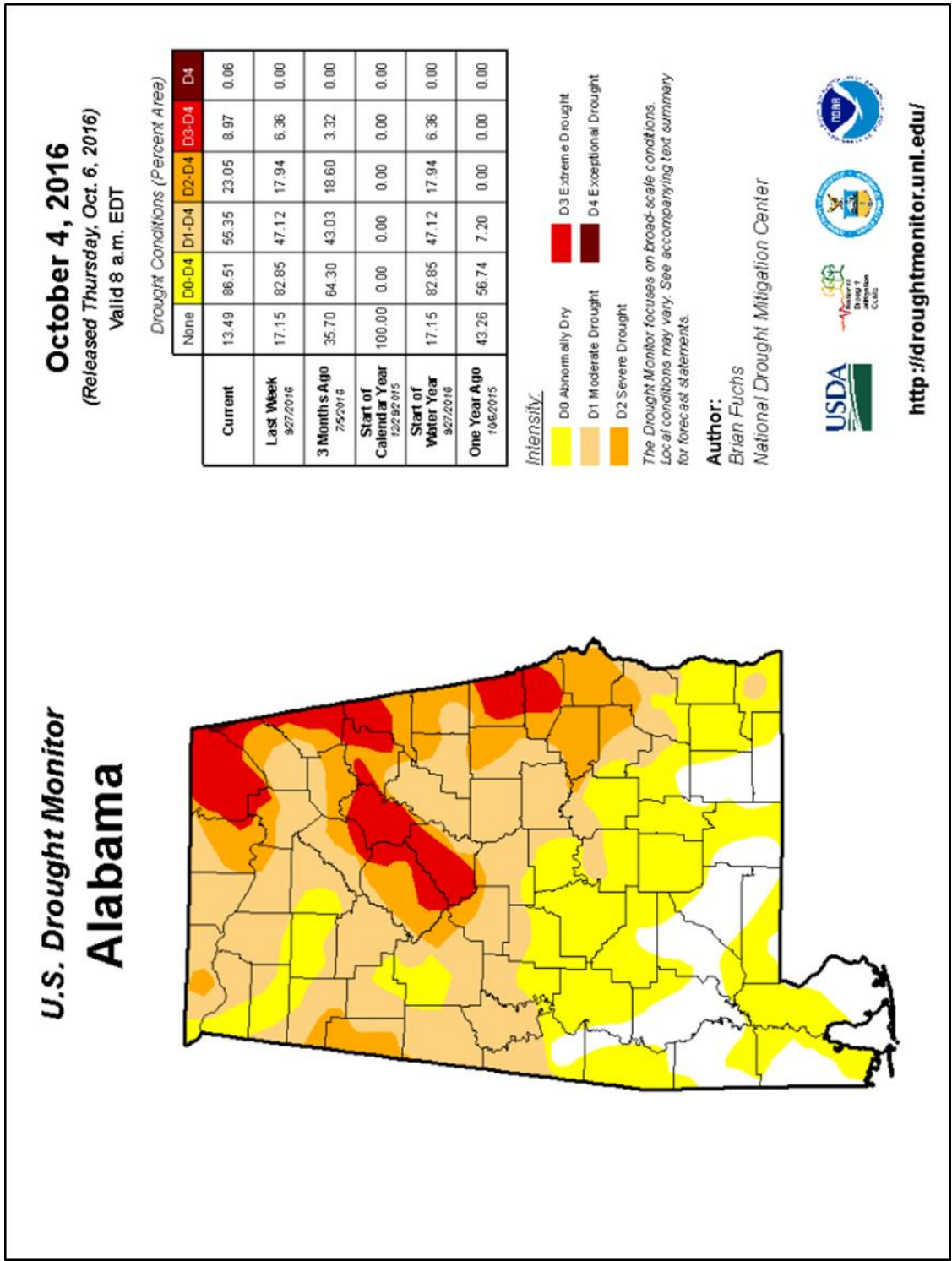
Source: US Drought Monitor Classifications

Historical Occurrences

The Lee-Russell county region has had several instances of drought events. In 1977 and 2000, a federal disaster declaration was made due to droughts that occurred in Russell County. A D4, Exceptional Drought event occurred in 2007. Most of Alabama was affected during this event as well as this region. In 2011, the Lee and Russell Planning Region experienced sustained extreme to exceptional drought conditions, spanning from January of that year to December 2012. Water restrictions were necessary across the jurisdictions. The United States Department of Agriculture declared all of Lee and Russell County a natural drought disaster area in both 2012 and 2013 for crop disaster losses. In 2016, the Lee-Russell County region experienced a D2 to a D3 level of severe to extreme drought. The USDA issued a Secretarial Drought Designation for the planning area in 2014, 2016, 2017 and 2019, which made emergency loans available to producers suffering losses. According to the USDS.

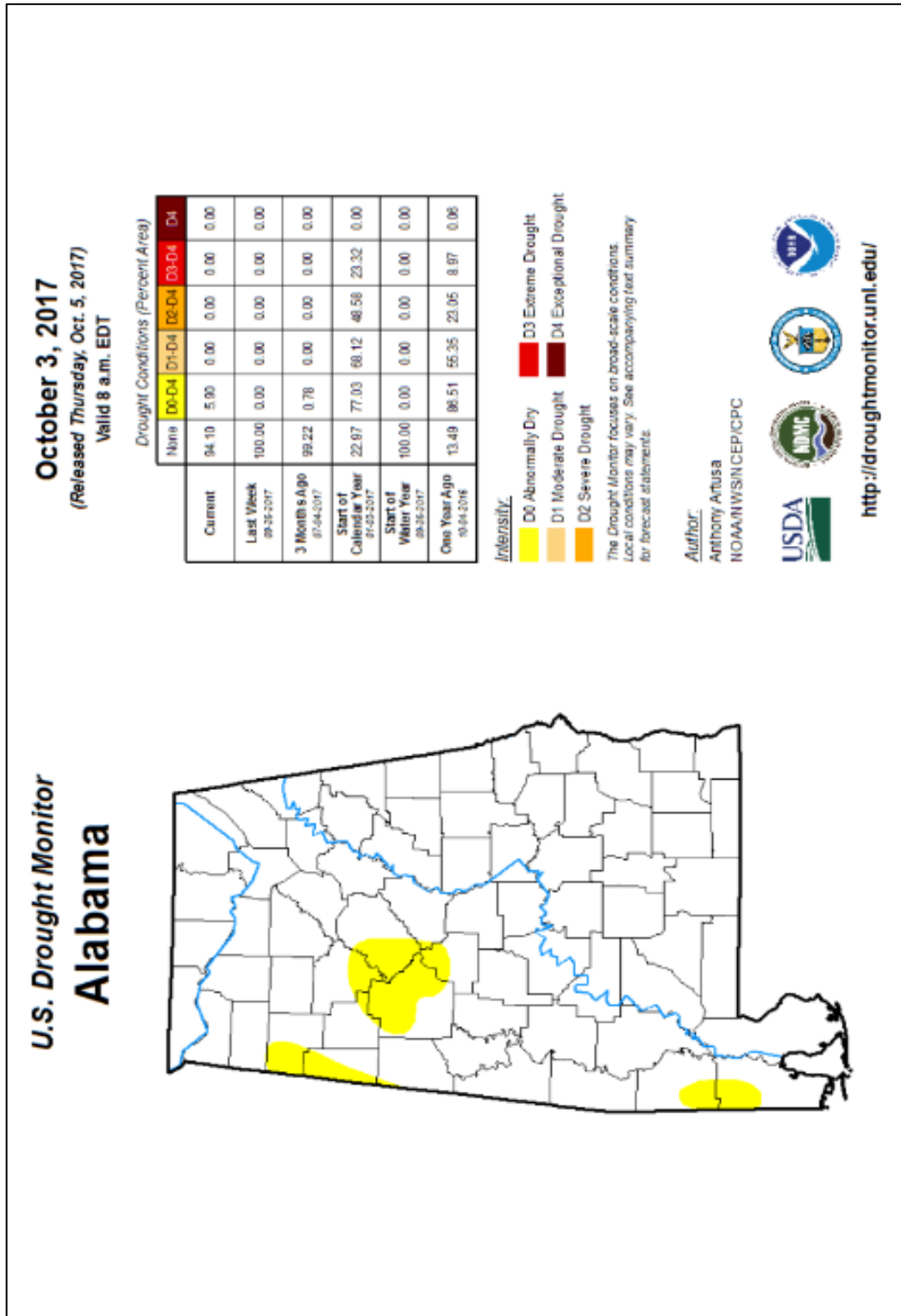
In 2016, the Lee-Russell county region experienced a D2 to a D3 level of severe to extreme drought.

Drought Monitor Map 2016



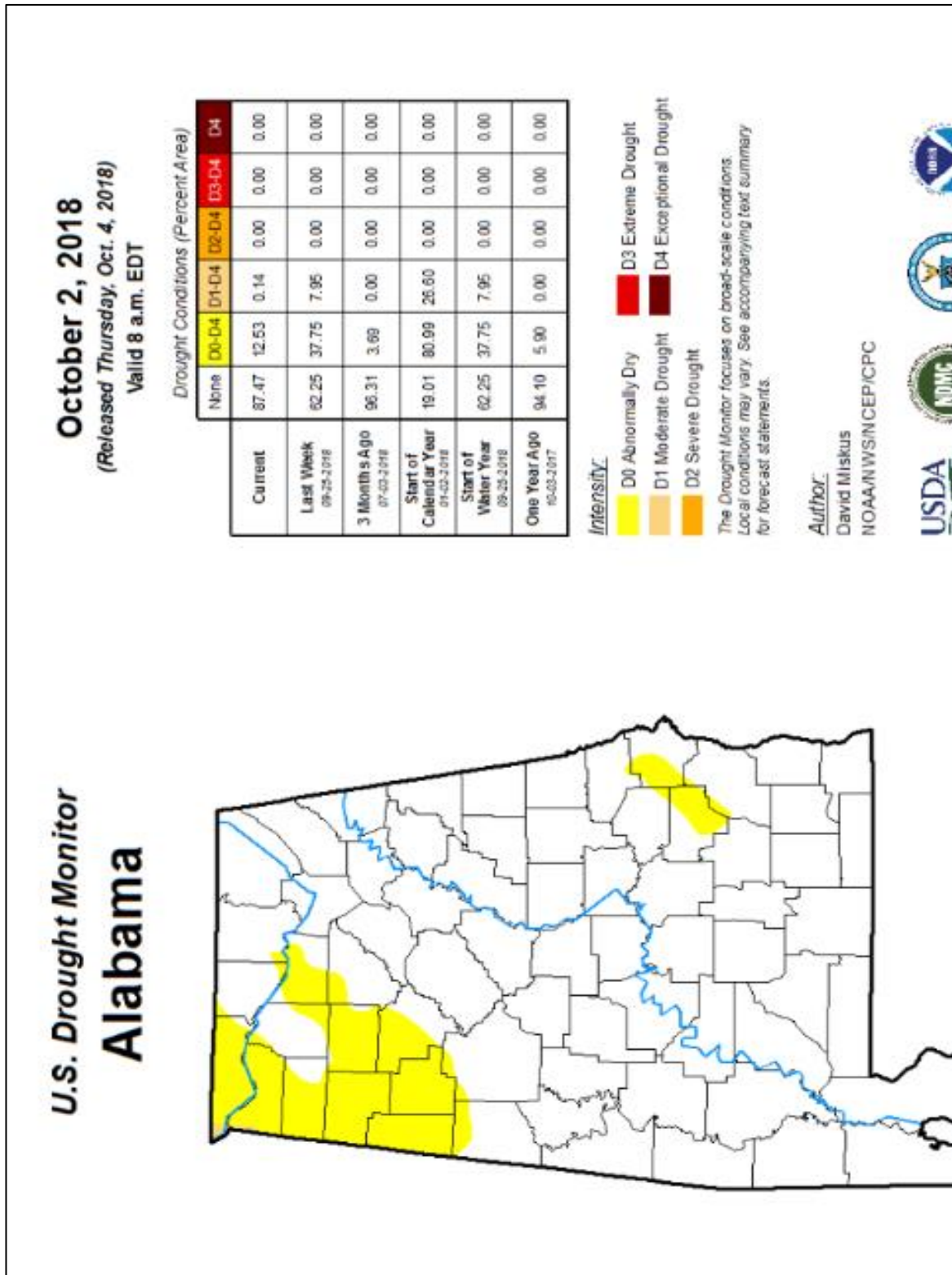
Source: University of Nebraska-Lincoln, the National Drought Mitigation Center, Alabama Map, 2016

Drought Monitor Map 2017



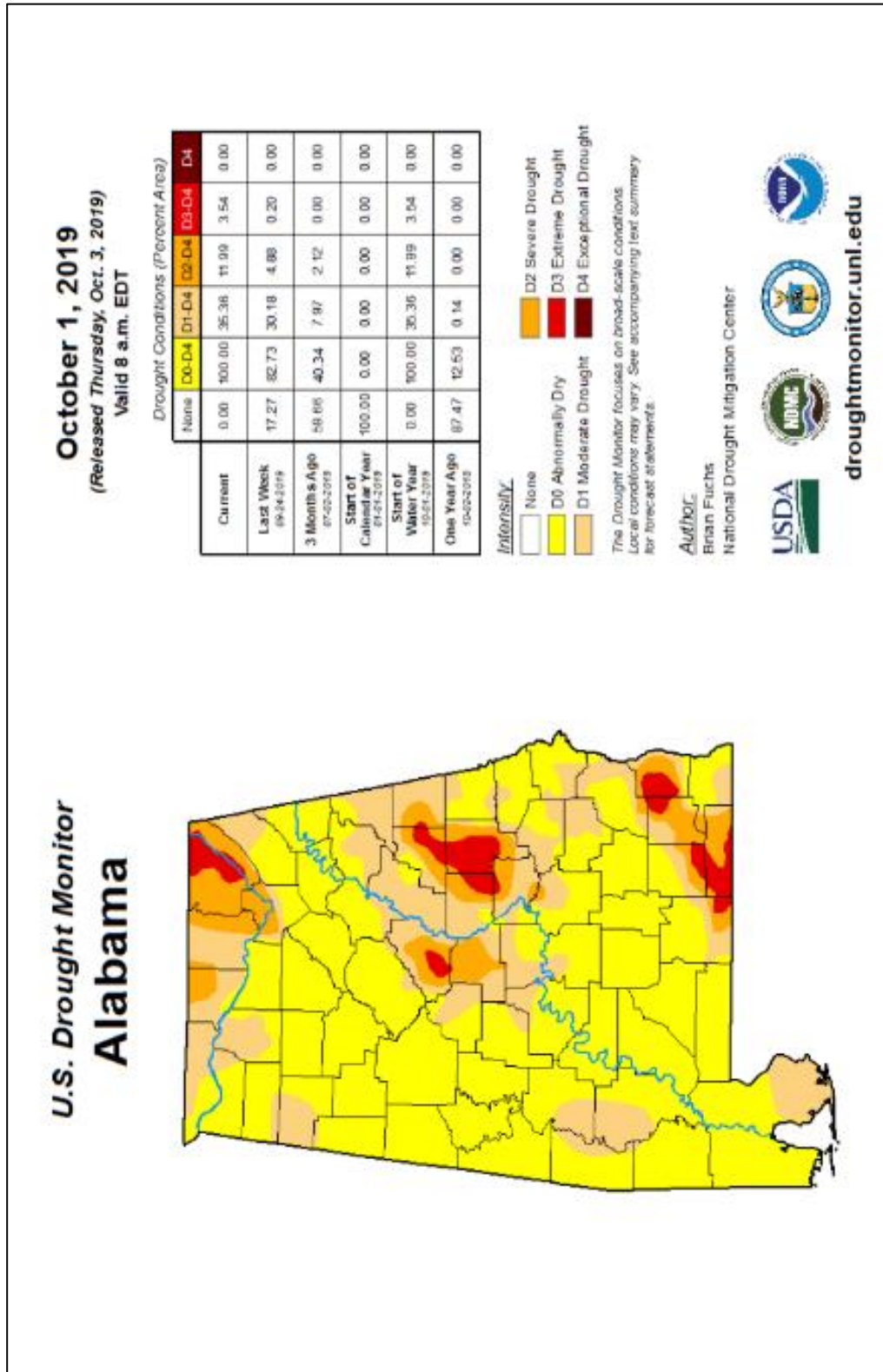
Source: University of Nebraska-Lincoln, the National Drought Mitigation Center, Alabama Map, 2017

Drought Monitor Map 2018



Source: University of Nebraska-Lincoln, the National Drought Mitigation Center, Alabama Map, 2017

Drought Monitor Map 2019

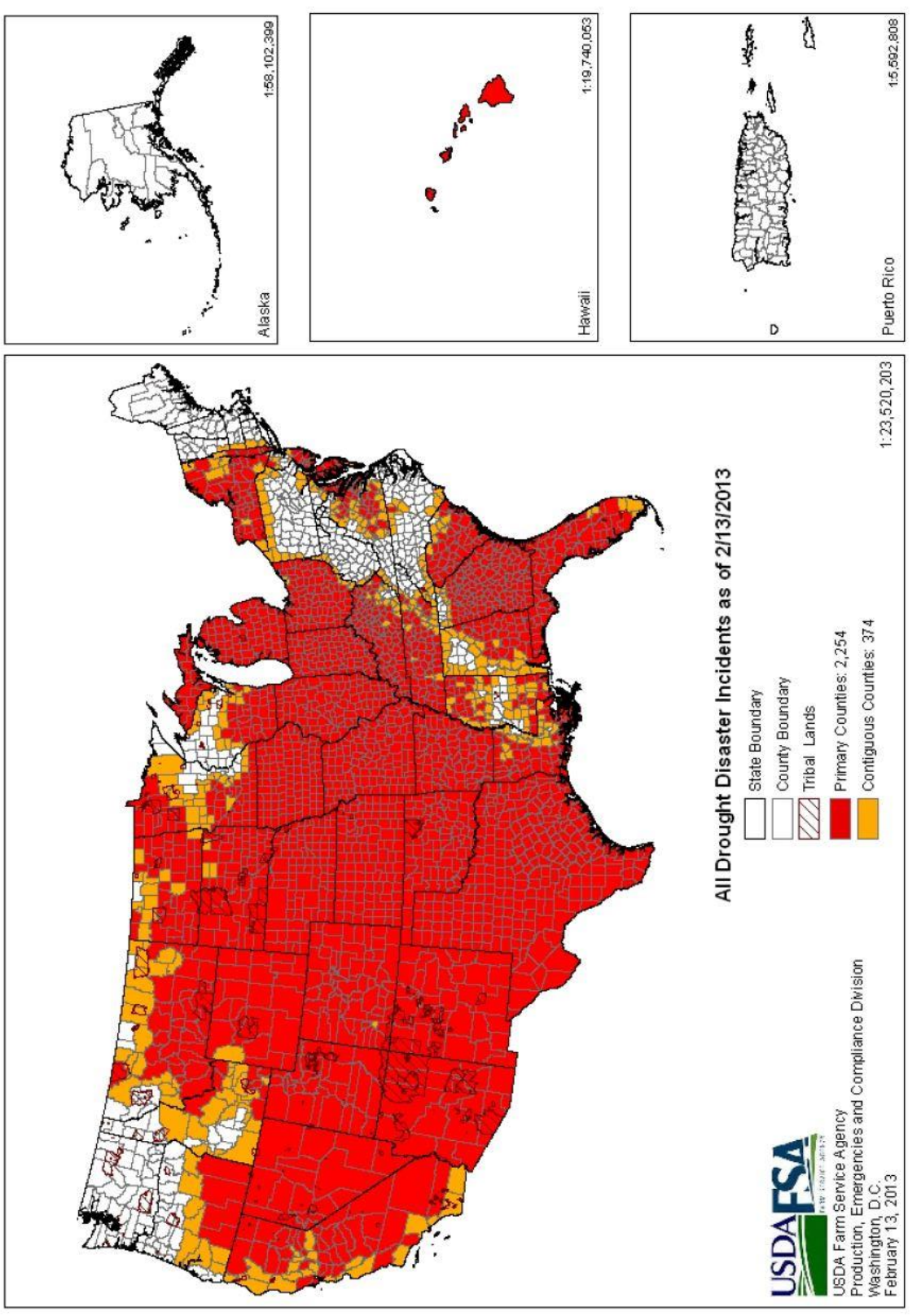


Source: University of Nebraska-Lincoln, the National Drought Mitigation Center, Alabama Map, 2017

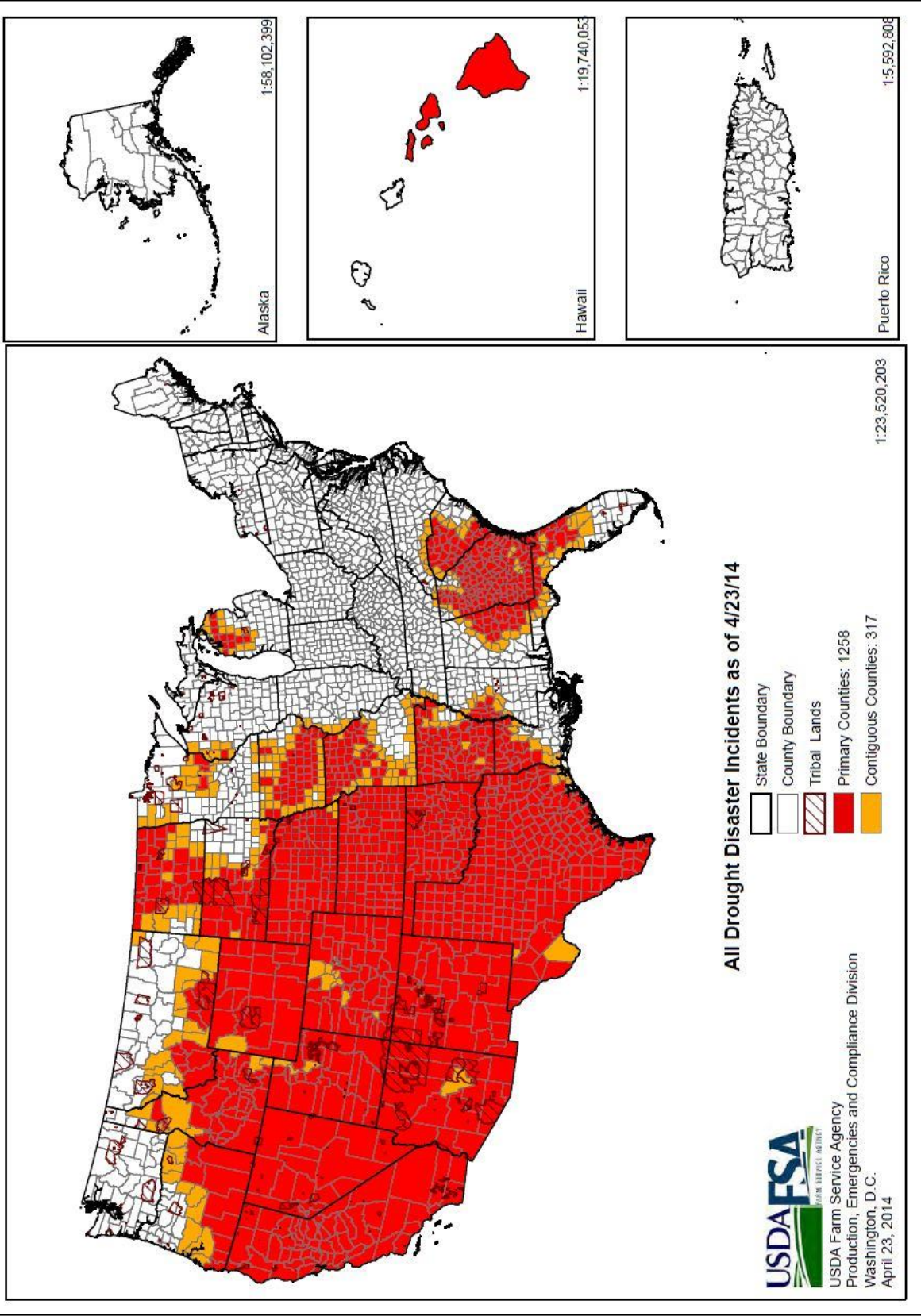
Probability of Future Events

The probability that drought conditions will occur annually in the Lee-Russell Region is between 10%-100% (medium). The potential impacts on the region will range between minor impacts critical due to possible the stress on agricultural and forestry interests in some areas of the region.

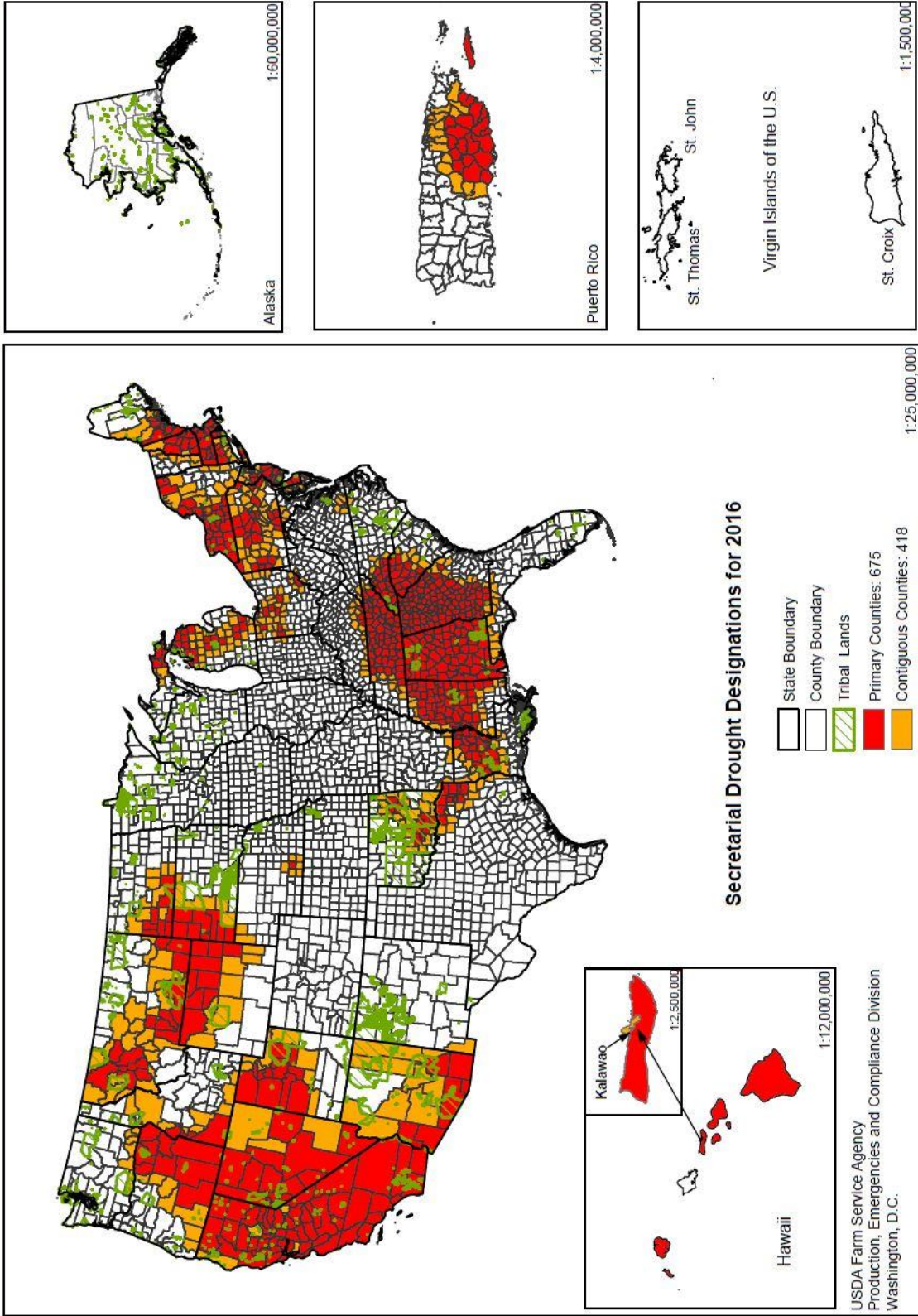
2012 Secretarial Drought Designations - All Drought



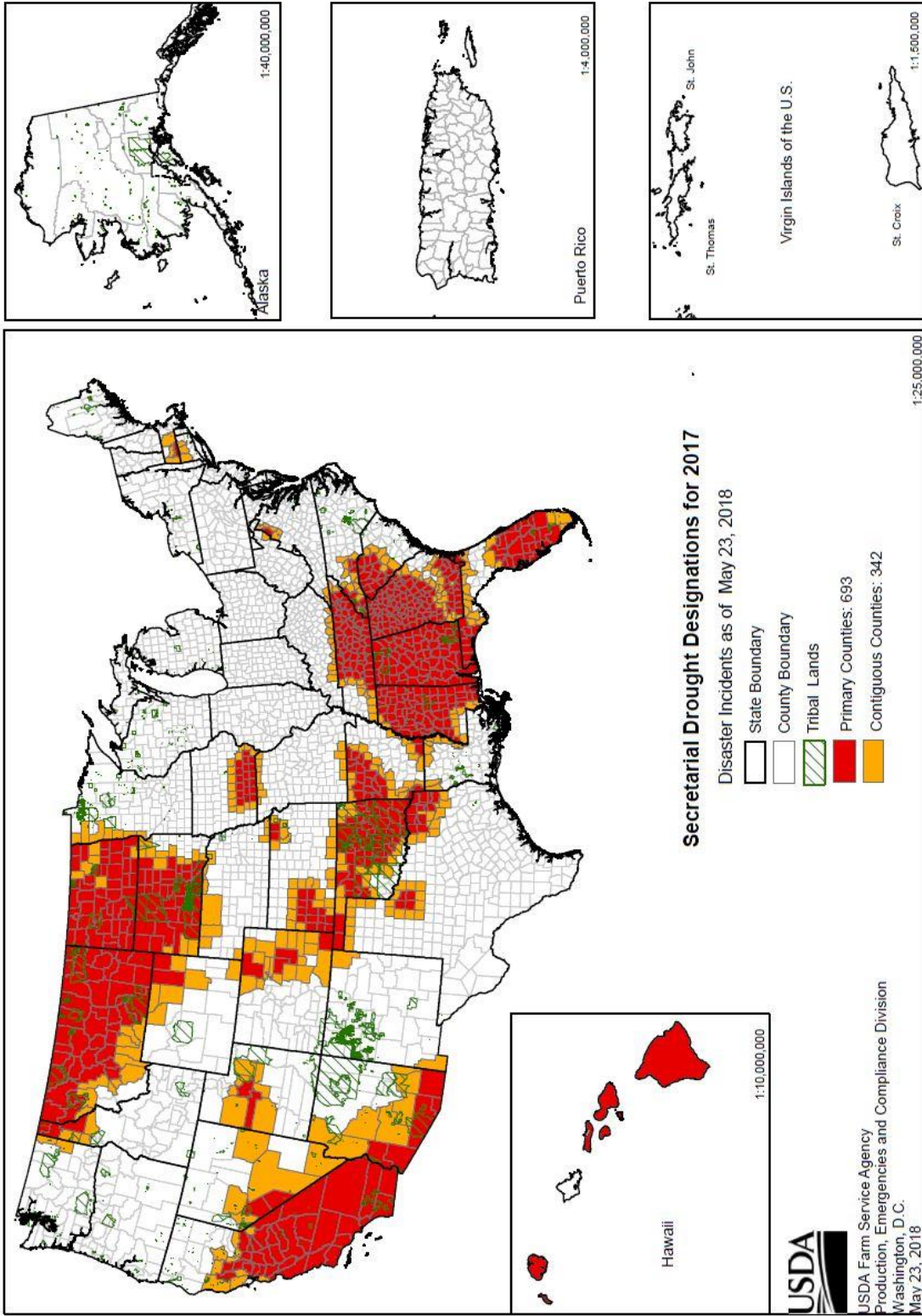
2013 Secretarial Drought Designations - All Drought



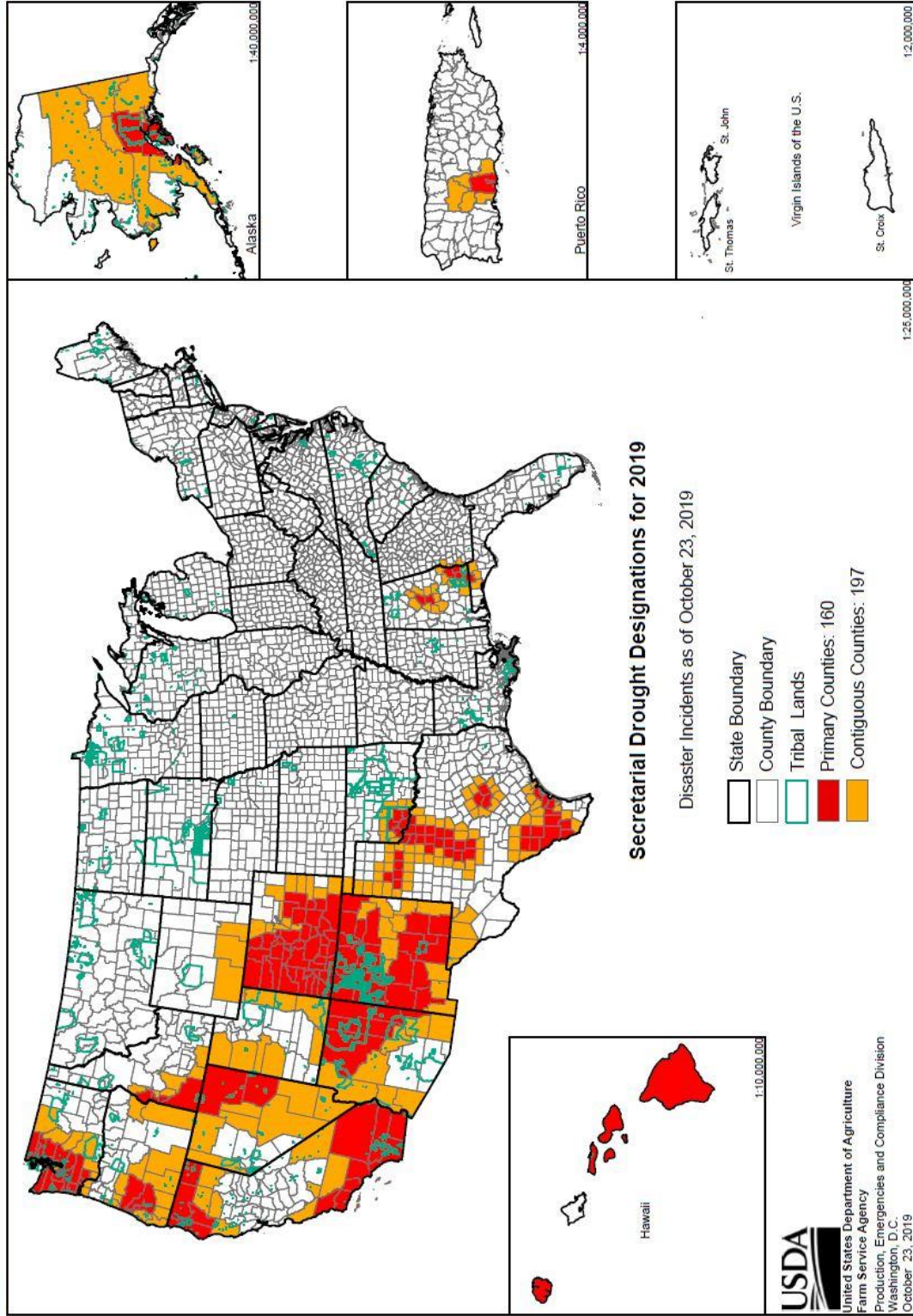
2016 Secretarial Drought Designations - All Drought



2017 Secretarial Drought Designations - All Drought



2019 Secretarial Drought Designations - All Drought



EARTHQUAKE

Background

An earthquake is a sudden movement of the earth, caused by a release of energy from the crust. Most earthquakes occur along faults, which are cracks in the earth's crust. Little or no warning precedes earthquakes and they can cause property damage on the surface and subsurface by destroying buildings, utility lines, communications, and other infrastructure.

According to the Alabama State Hazard Mitigation Plan, 2018, four seismic zones affect the state. These are the New Madrid Seismic Zone, the Southern Appalachian Seismic Zone, the South Carolina Seismic Zone and the Bahamas Seismic Zone, which have typically affected the north, north-western section of Alabama.

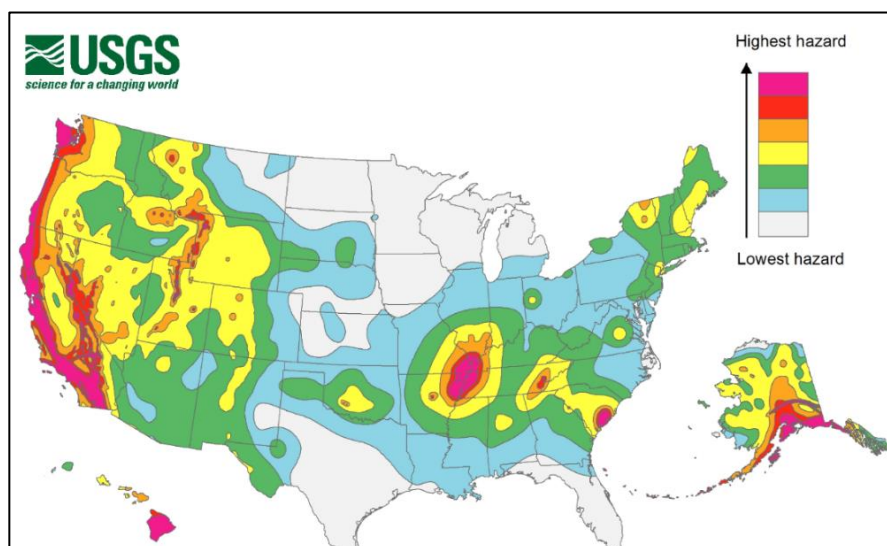
Locations Affected

Most of the earthquakes experienced in Alabama are associated with the Southern Appalachian Seismic Zone which extends into northern and north central Alabama. None of the seismic zones are located in Lee or Russell County. However, this region does have some faults.

Extent

Earthquakes are commonly measured in two ways. The Richter Magnitude Scale measures the earthquake's magnitude, or size, and the Modified Mercalli Intensity Scale measures the earthquake's intensity or the damage caused. The Richter Scale has magnitude measurements from 1 to 9, with a measure of 1 being recorded but not felt, and a measure of 9 being a great earthquake that causes damage over a large area. The Modified Mercalli Intensity Scale has measurements from I to XII, with I being hardly felt, if at all, and XII being total destruction of the surface.

The United States Geological Survey (USGS) publishes simplified earthquake seismic hazard maps that quickly gives earthquake hazard probabilities. Figure 4 reflects a copy of this map.



Source: USGS Earthquake Hazard Probability, 2019

Historical Occurrences

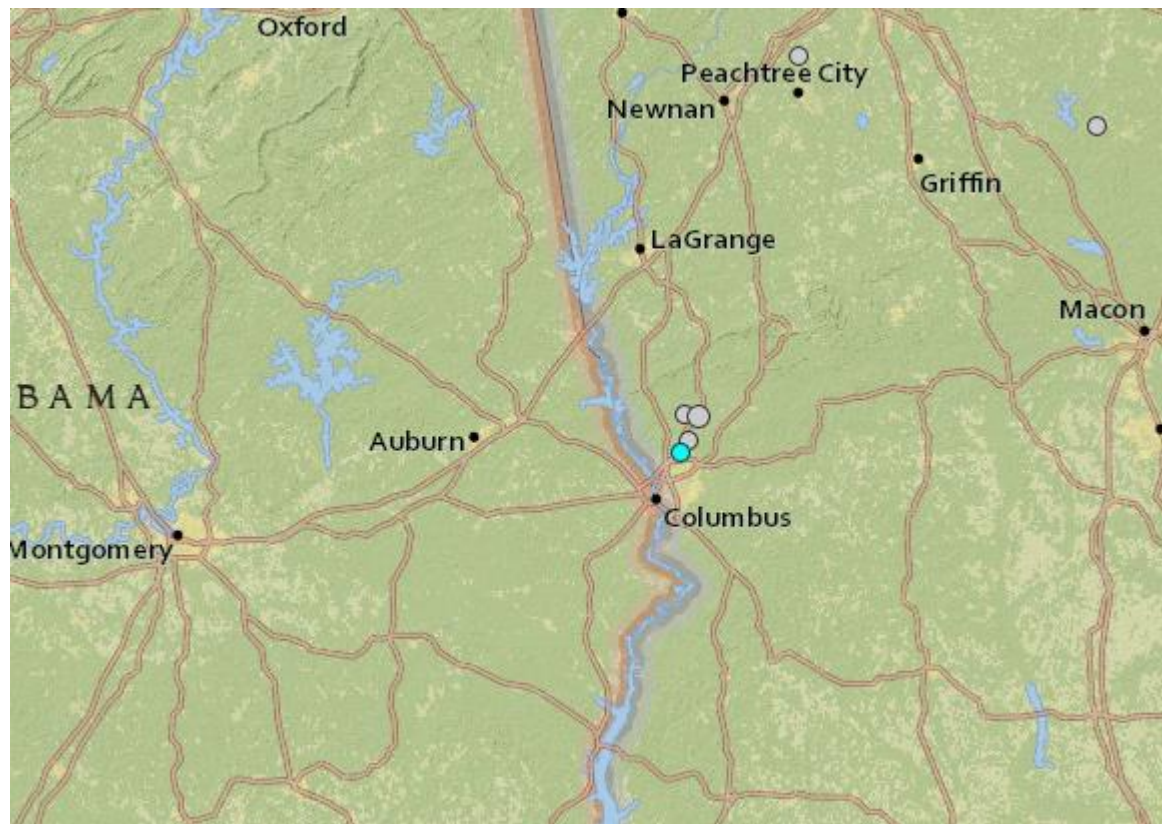
While there are no reported instances of earthquakes centered in the Lee-Russell county region, Figure 4 there are rare instances of tremors/quakes that happened hundreds of miles away that may have been felt in the area. The following table reflects previous earthquakes in Alabama/Southeast which the Geological Survey of Alabama feels may have been felt in this region.

Table 4.10 Previous Earthquake Events that could be felt in this region

Epicenter	Date	Magnitude at Epicenter	Mercalli Intensity in the Region	Shaking	Damage	Inj/Dth
Memphis, TN	02/07/1812	>7.0	IV	Light	None	None
Charleston, SC	08/13/1886	7.3	IV	Light	None	None
Irondale, AL	10/18/1916	5.1	III	Weak	None	None
Fort Payne, AL	04/29/2003	4.9	III/IV	Weak/Light	None	None

Source: USGS, Earthquake Hazards Program, Muscogee/Harris County, Georgia

The USGS Earthquake Hazards Program also identified four earthquakes that occurred across the state line in Muscogee/Harris County, Georgia in the early 1980's.

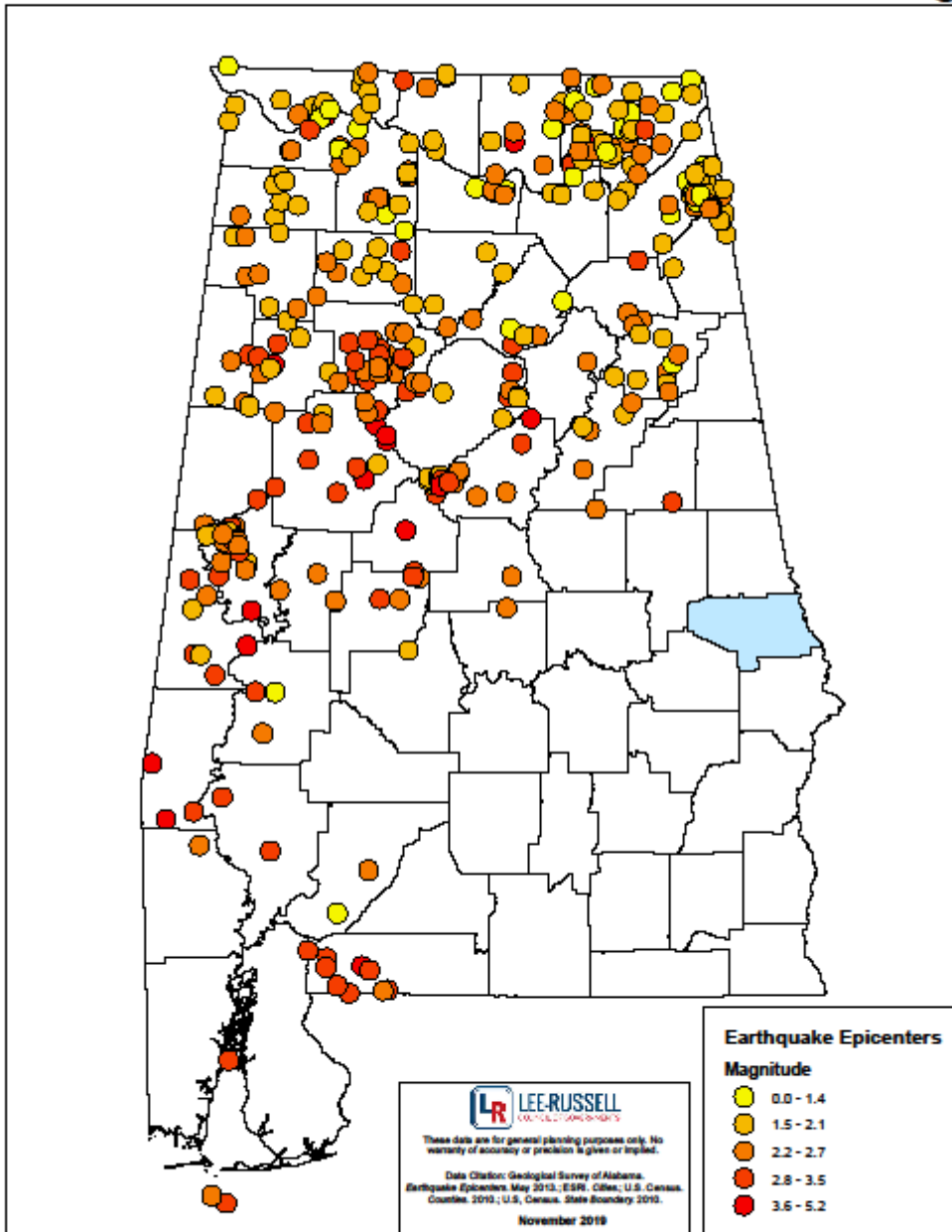


Source: USGS Earthquake Hazard Muscogee/Harris Count, Georgia, 1980's

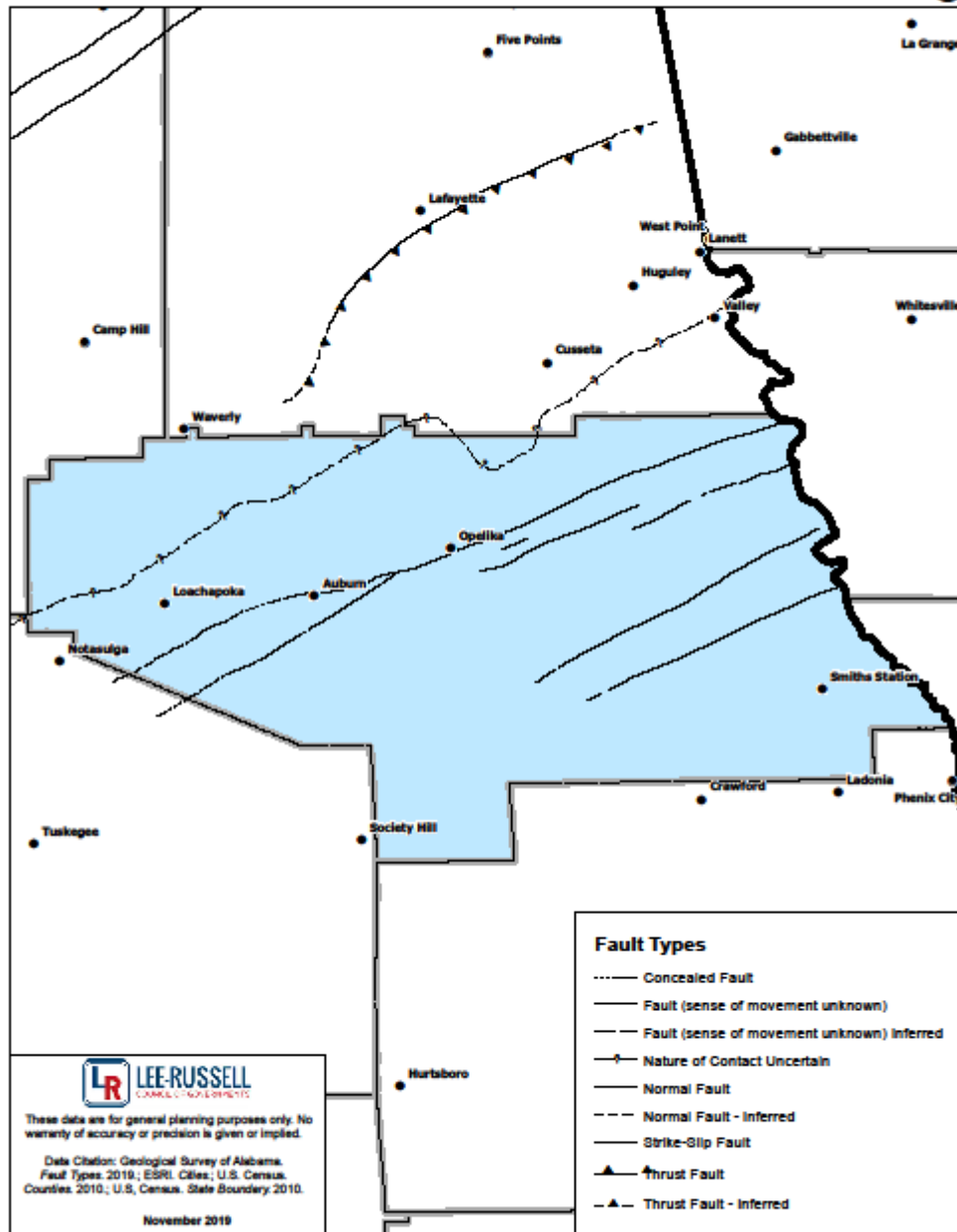
Probability of Future Events

The probability of an earthquake occurring in this region was determined to be very low with less than a 1% annual probability with a very minor impact if one was to occur. Therefore, the probability of an impactful earthquake on the region is very low and will not be profiled any further.

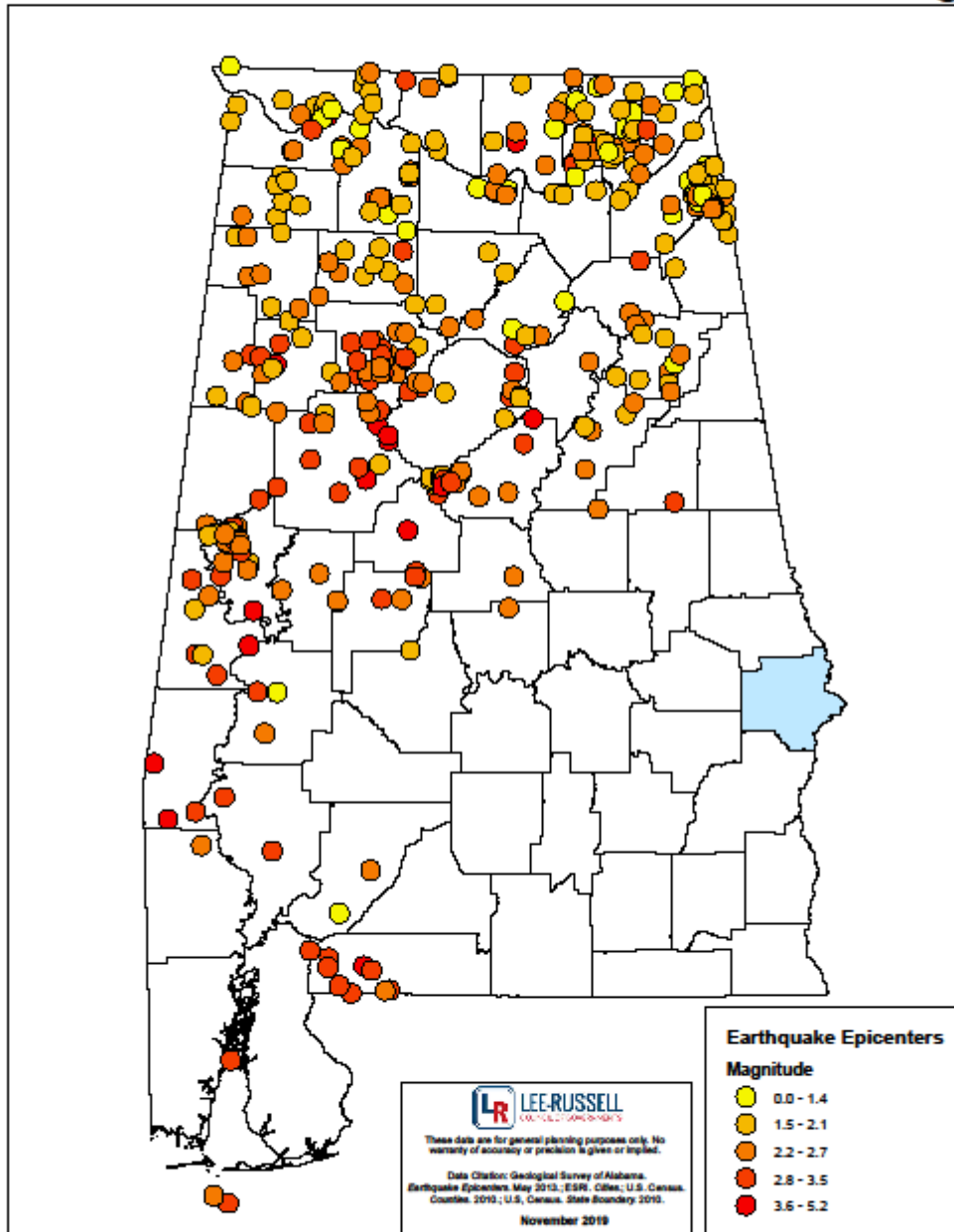
Map 5.2 - Earthquake Epicenters (as of March 2019)



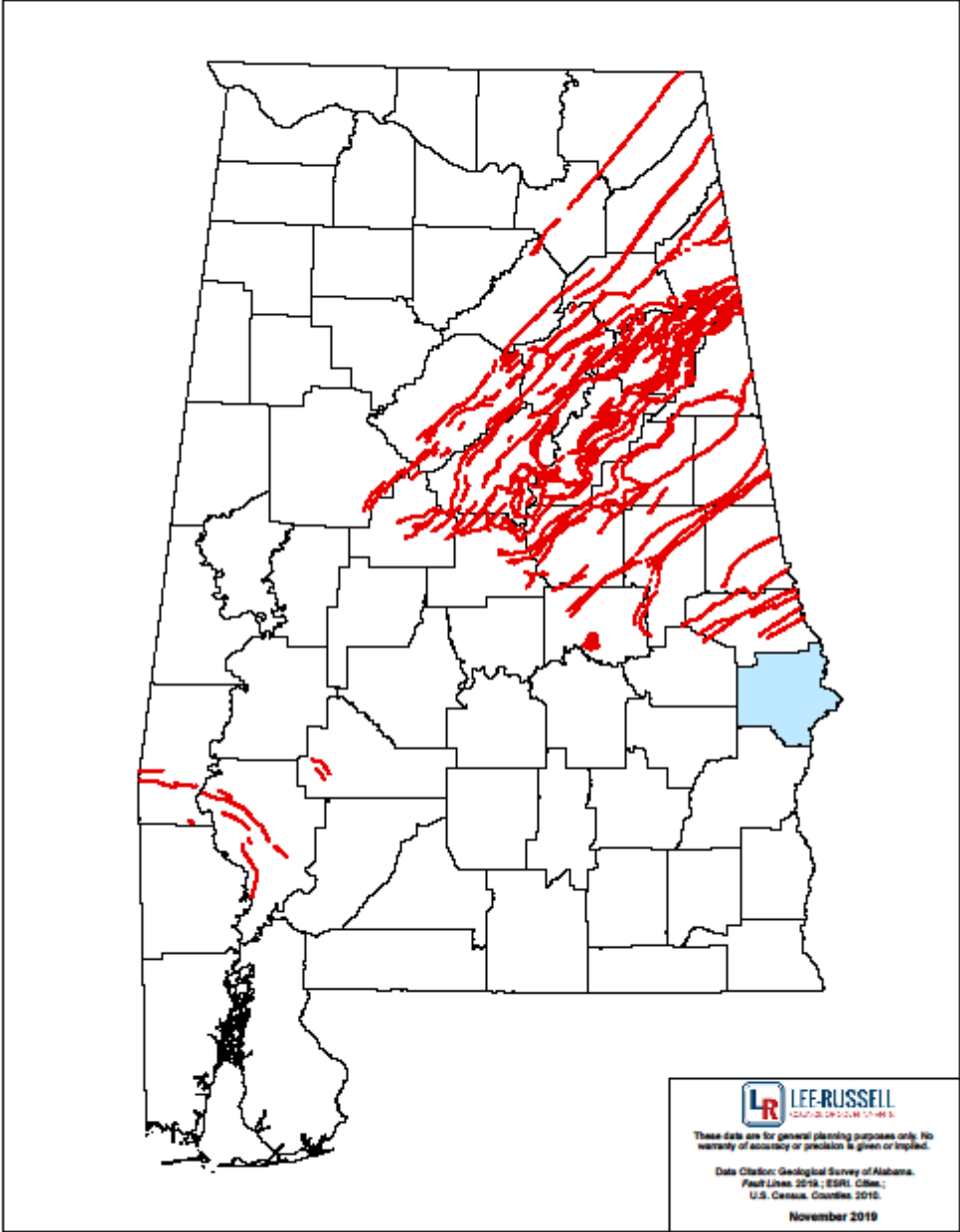
Map 5.1 - Geologic Fault Lines



Map 5.2 - Earthquake Epicenters (as of March 2019)



Map 5.1 - Geologic Fault Lines



EXTREME TEMPERATURES

Background

Extreme temperatures is a hazard that encompasses instances of both extreme heat and extreme cold. Both extremes are profiled in this section.

Extreme Heat

Extreme heat is abnormally high temperatures that disproportionately affect the elderly, very young, and those with health concerns if exposed to the conditions, especially those without effective climate control systems. The State of Alabama Hazard Mitigation Plan, 2018, discusses extreme heat as temperatures above 100 F. Heat stress can be indexed by combining the effects of temperature and humidity, as shown in Table 4.11. The heat index estimates the relationship between dry bulb temperatures (at different humidity) and the skin's resistance to heat and moisture transfer. The higher the temperature or humidity, the higher the apparent temperature. The major human risks associated with extreme heat are:

- **Heat/Sun Stroke:** Considered a medical emergency, heat/sun stroke is often fatal. It occurs when the body's responses to heat stress are insufficient to prevent a substantial rise in the body's core temperature. While no standard diagnosis exists, a medical condition is usually diagnosed when the body's temperature exceeds 105 F due to environmental temperatures. Rapid cooling is necessary to prevent death, with an average fatality rate of 15 percent even with treatment.
- **Heat Exhaustion:** While much less serious than heatstroke, heat exhaustion can cause victims to complain of dizziness, weakness, or fatigue. Body temperatures may be normal or slightly too moderately elevated. The prognosis is usually good with fluid treatment.
- **Heat Syncope:** This refers to sudden loss of consciousness and is typically associated with people exercising who are not acclimated to warm temperatures. Causes little or no harm to the individual.
- **Heat Cramps:** May occur in people unaccustomed to exercising in the heat and generally ceases to be a problem after acclimatization.

Table 4.11: Heat Index and Disorders

Danger Category	Heat Disorders	Apparent Temperatures (F)
I Caution	Fatigue possible with prolonged exposure and physical activity	89-90
II Extreme Caution	Sunstroke, heat cramps, and heat exhaustion possible with prolonged exposure and physical activity	90-105
III Danger	Sunstroke, heat cramps, or heat exhaustion likely, heat stroke possible with prolonged exposure and physical activity.	105-130
IV Extreme Danger	Heatstroke or sunstroke imminent	>130

Source: FEMA, 1997, NWS, 1997, State of Alabama HMP, 2018

In addition to affecting people, severe heat places significant stress on plants and livestock. The effects of severe heat on agricultural products may include reduced yields and loss of crops, State of Alabama HMP, 2018.

Extreme Cold

From the State of Alabama Hazard Mitigation Plan, 2018, extreme cold temperatures also impact Alabama weather, although not as likely. Prolonged exposure to the cold can cause frostbite or hypothermia and become life threatening. Frostbite occurs when the extremities become excessively cold, and hypothermia is a serious health condition where a person's body temperature falls below 90 F. Both conditions are influenced by wind conditions. Various wind chill indices have been developed to predict cold temperature's effect on humans. For instance, a temperature of 5 F will have a wind chill of -19F if the wind is blowing 30 mph. Cold weather can also impact crops and livestock. Cold air has the potential to freeze produce, which can damage or kill it.

Older adults are more prone to being impacted by extreme heat and extreme cold events. This is because they do not adjust well as other demographics to drastic changes in temperature, they are more likely to have a medical condition that changes normal body responses to heat, and cold, and they are more likely to take prescription medications that impact the body's ability to react to changes in temperatures. Access to climate control, such as air condition and heating systems, provides protection from the impacts of extreme heat and cold events and is one way to mitigate against the potential impacts of an extreme temperature event.

Locations Affected

The entire planning area is susceptible to extreme heat due to its location in east-central Alabama. Although not as common, the planning area has seen instances of extreme cold.

Extent

The Lee-Russell planning region does not experience extreme cold temperature typically. The historical record shows that a events such as ice storms or winter storm have brought temperature below freezing, but the temperatures are not extreme. These events do not last more than a few days.

Historical Occurrences

According to the National Centers for Environmental Information, there were three instances of excessive heat in the Lee-Russell region. Sixty people required medical treatment and one fatality was attributed to extreme heat Lee-Russell region.

The planning area had three instances of extreme cold since 1996 according to the National Centers for Environmental Information. No attributed injuries or deaths were reported due to extreme cold in the Lee-Russell region.

Probability of Future Events

The probability of extreme temperatures in the planning area is rated as a low to medium, but this is primarily for extreme heat. The impact of an extreme heat/cold event is rated as low to critical largely based on duration. The events in the region have been short-lived, according to the NOAA datasets.

FLOODING

Background

Flooding is considered one of the most frequent and costly natural hazards that occurs in the United States. Most communities in the United States have experienced some kind of flooding, including those in the Lee-Russell Planning Area. Flooding normally occurs due to excessive precipitation, but many factors can have an impact on flooding such as drainage basin characteristics, antecedent soil moisture conditions, weather patterns, and land cover. There are two primary types of flooding that affect this planning area: riverine flooding and flash flooding.

Riverine flooding occurs when substantial levels of precipitation ensue over a long period of time, causing rivers and streams to flow outside of their natural channels and negatively affecting surrounding areas. Flash flooding is normally instigated by intense amounts of precipitation over a short time period in a localized area. The Lee-Russell Region experiences both types of flood events. Flash floods are generally more prevalent in the urbanized areas with abundant impervious surfaces and other areas of obstructions to water runoff. The Chattahoochee River, which forms the eastern boundary of the Planning Area, is a primary factor in riverine flooding in the region.

Locations Affected

Nearly every jurisdiction in the planning area has mapped Flood Hazard Areas, with the exception of those jurisdictions that are not located in the flood hazard area. These maps show areas of susceptibility to riverine flooding events, and nearly every area can be affected by flash flooding if enough rainfall occurs. Figures show the location of currently mapped special flood hazard areas for the Lee-Russell Planning Area, based on the most recent FEMA National Flood Hazard Layer Available. This map includes areas designated Zone A (one-percent annual chance flood) and Zone AE (one percent annual chance flood with elevation). The data made available by FEMA is not without error, therefore, and some flooding may occur outside of these mapped areas.

Extent

The severity of a riverine flood event is typically dependent on several factors, including drainage basin topography, recent precipitation and weather occurrences, and land surface. Periodic riverine flooding on adjacent lands is a natural occurrence. The most common method used to express flood frequency is a percent chance of occurrence in a given year, or annual probability with a FEMA identified floodplain. A 100-year flood event has a one percent (1%) chance of occurring in any year within that floodplain. However, these type floods can occur multiple times during a 100-year period.

The extent of a flash flooding event varies depending on the local geography, rainfall intensity, and duration. Typically, flash flooding does not have as widespread of an impact on communities as a riverine flooding event. Due to the lack of advance warning before a flashflood event may streets and properties can become damaged during these events.

Historical Occurrences

The Lee-Russell Planning Area has experienced several major flooding events. There have been three federal disaster declarations due to extensive flooding in Russell County while flash flooding is very common in Lee County. Typically the flash floods recede very quickly without significant disruption to the public but there have been instances of flash flooding that were registered with the National Climatic Data Center (at the time) and caused property and crop damage. In 2003, heavy rains forced the Chattahoochee River to flood eastern sections of Lee County. Several homes sustained damage.

Severe flooding in the town of Hurtsboro, Russell County, in 2005 required emergency responders to assist in evacuating residents from their homes. Since this event, Russell County received HMP grant assistance for acquisition and relocation efforts.

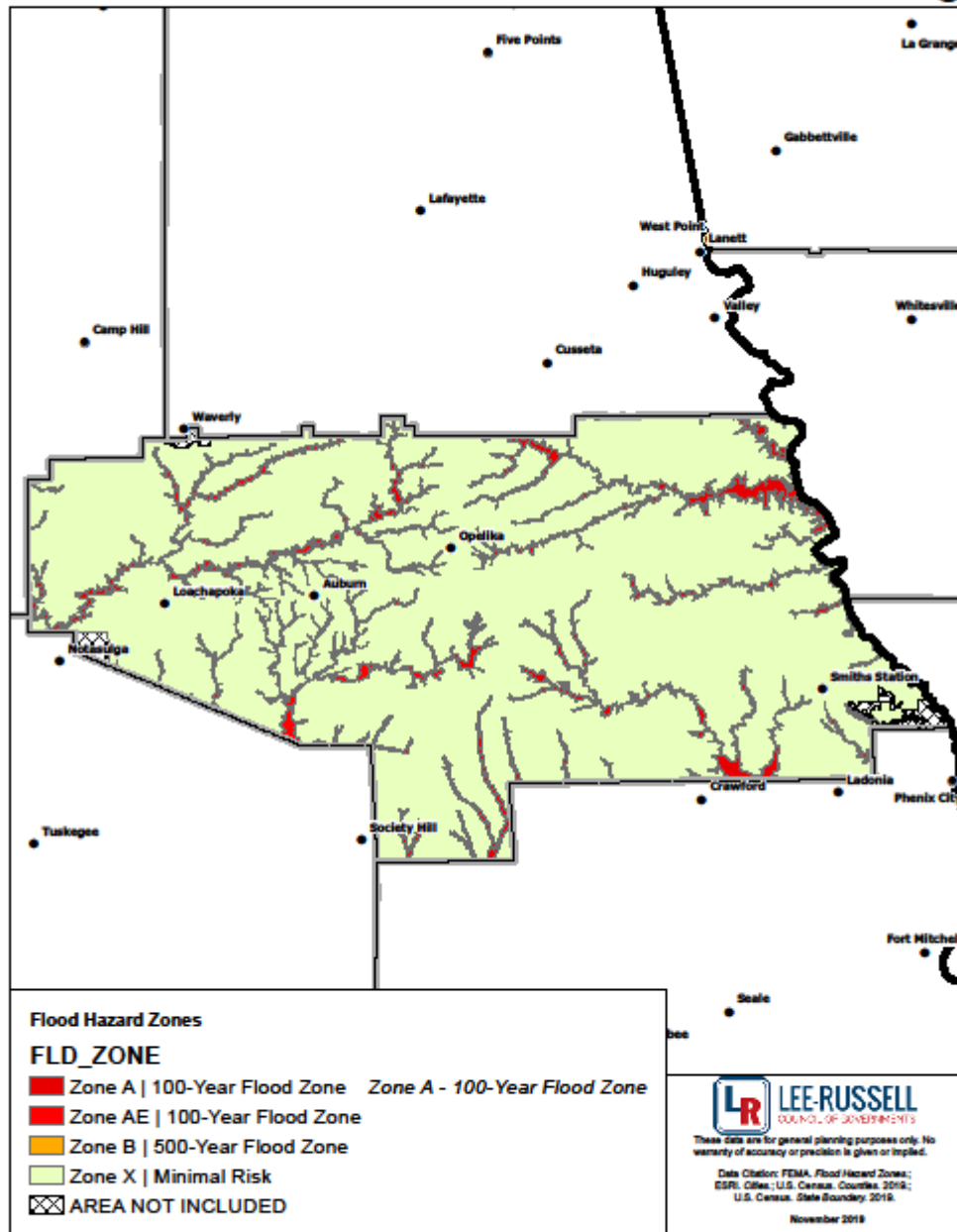
Since 1996 the Lee-Russell Planning Region experienced thirty-two floods, which resulted in \$2,558,000 in damages. Of those thirty-two floods seven were federally-declared disasters.

Probability of Future Events

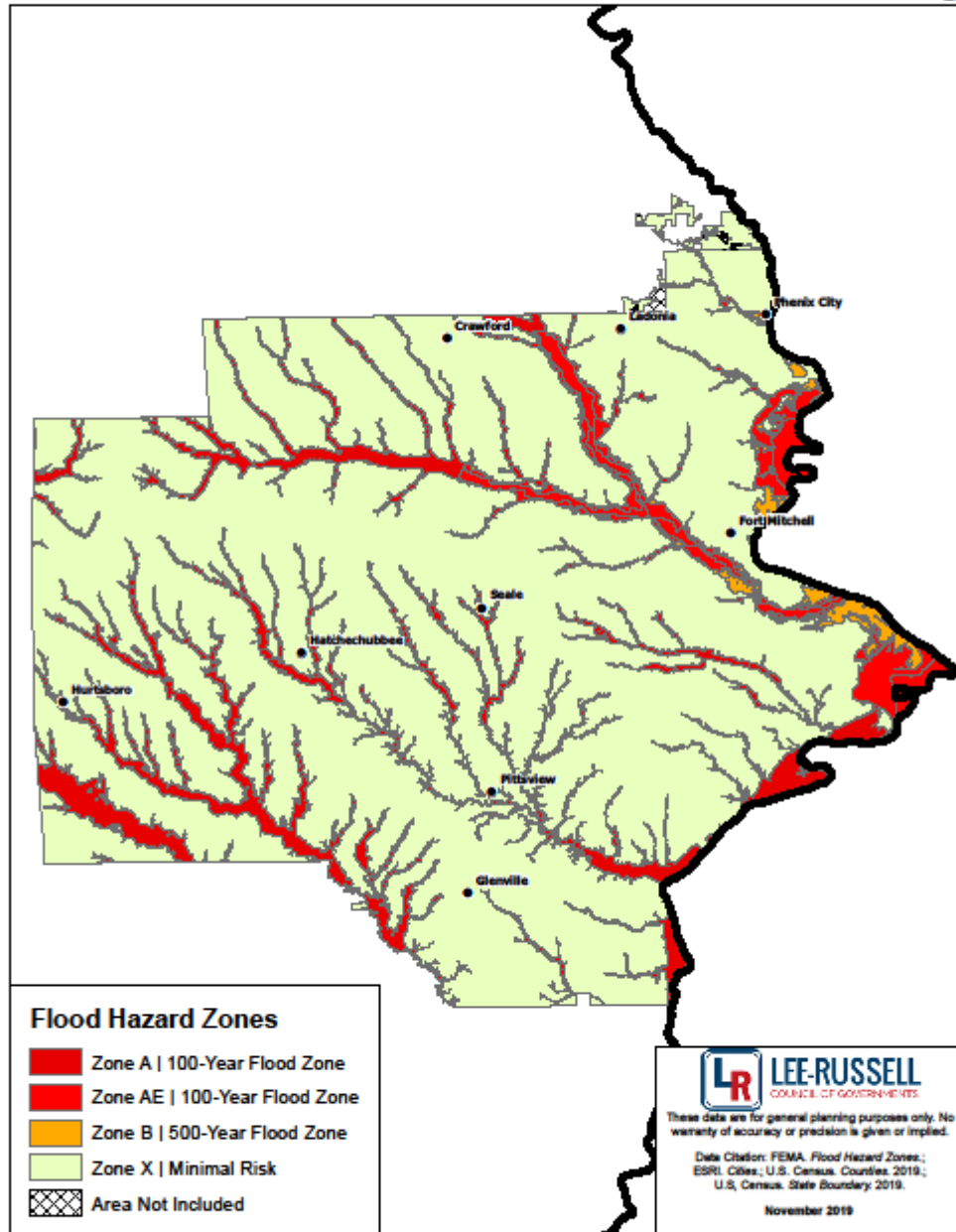
The urbanized areas in the Lee-Russell Region that are not along the Chattahoochee River (and its tributaries) are more susceptible to localized flash flooding. These areas have a medium probability, or a 10- 100% chance of occurring annually, however, the impact would be minor. As the region continues to grow, particularly in developed areas.

Riverine flooding, especially in the Russell County Planning Area, was deemed as a high probability, with 100% annual probability and the impact would be critical.

Map 5.3 - Flood Hazard Zones



Map 5.3 - Flood Hazard Zones



Background

Hail occurs when updrafts in thunderstorms carry precipitation upward into extremely cold areas of the atmosphere where the precipitation freezes into ice. Both gravity and downdraft thunderstorm winds pull the ice crystals back down into warmer air. The ice crystal becomes larger as layers of moisture attach and freeze as the crystal is tossed between warmer and colder layers of atmosphere.

Annually, hail causes over 1 billion dollars in damage to crops and property nationwide.

Locations Affected

The entire Lee-Russell County Region is susceptible to the occurrence of hail and numerous instances reported according to NOAA.

Extent

The size of hailstones is related to the intensity of the thunderstorms that produce them, and to the temperature at the surface. The average size of hailstone that falls to earth is ¼ inch. Large hailstones are an indication of powerful updraft and downdraft winds within a thunderstorm. Updraft winds in a thunderstorm of 20 miles per hour can create pea-size hail. Golf ball size hail requires winds of 55 miles per hour.

The TORRO Hailstorm Intensity Scale, table 4.14, relates the size of hailstones to the probable crop and property damage. The damage caused by hail is often compounded by the other hazards that tend to accompany hailstorms, tornadoes or thunderstorms. It is common to have large hail north of a tornado track.

Table 4.14: TORRO Hail Intensity Scale

Intensity	Typical Hail Diameter (mm)	Intensity Category	Probable Damage
H0	5	Hard Hail	No damage
H1	5-15	Potentially Damaging	Slight general damage to plants, crops
H2	10-20	Significant	Significant damage to fruit, crops, vegetation
H3	20-30	Severe	Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored
H4	25-40	Severe	Widespread glass damage, vehicle bodywork damage
H5	30-50	Destructive	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
H6	40-60	Destructive	Bodywork of grounded aircraft dented, brick walls pitted

H7	50-75	Destructive	Severe roof damage, risk of serious injuries
H8	60-90	Destructive	Severe damage to aircraft bodywork
H9	75-100	Super Hailstorms	Extensive structural damage; risk of severe or even fatal injuries to persons caught in the open
H10	Greater than 100	Super Hailstorms	Extensive structural damage; risk of severe or even fatal injuries to persons caught in the open

Source: *State of Alabama HMP, 2018*

Historical Occurrences

Hail events are very common in the Lee-Russell Region. Area with multiple events occurring. Since 1967, there have been 150 recorded instances of hail storms. The hail storms have caused significant damage to property, homes and automobiles. No injuries or deaths were reported as a result of these events.

Probability of Future Events

The probability of future hail events has been determined to be high for the planning area signifying 100% annual probability for occurrence. The impact to the planning area was deemed to be Minor to Limited with minimal disruption.

HIGH WINDS/THUNDERSTORMS

Background

The Lee-Russell RegionArea is highly susceptible to high winds and thunderstorms. High wind events may occur any time of year, but occur more often in spring, summer, and fall seasons. Thunderstorms are weather events that form through the clash of different air masses, which may cause storms that occur singularly, in lines, or in cluster – sometime with very little warning. The effects of thunderstorms may impact a small area or multiple jurisdictions. Thunderstorm events may cause straight-line winds, hail, and lightning, and if long-lasting or severe, may cause flooding or tornadic activity. Severe thunderstorms may produce damage equivalent to tornadoes over a larger spatial area. Severe thunderstorm events may occur year-round in the region, but the peak of severe thunderstorm events are in spring with a smaller peak in fall.

The Division D Emergency Management Directors chose to address tornadoes as a separate hazard event.

Locations Affected

The entire Lee-Russell Region is uniformly susceptible to the occurrence of severe thunderstorms and high winds. High winds/severe thunderstorms can be assumed to potentially affect any location in the region, due to occurrences being randomly located and the impossibility of predicting specific areas of storm effects.

Extent

Severe thunderstorms are defined by the National Weather Service as having wind speeds of 58 miles per hour or higher, producing hail at least ¾” in diameter, or possessing tornadic capabilities. The effects of severe thunderstorms will have varying spatial effects throughout the region area from widespread to localized impacts.

Historical Occurrences

Each jurisdiction in the Lee-Russell Region is vulnerable to the effects of high winds/thunderstorms and experience multiple occurrences of this hazard every year. There have been 40 documented severe Thunderstorm/Wind events between autumn 2014 and Fall 2019. During these events, there were no documented property or crop damage or death/injuries although there has been significant damage in the past. Due to the isolated nature of these events, it is probable that many other damaging occurrences of high winds/thunderstorms have occurred but have gone unreported or unrecorded.

Probability of Future Events

Severe thunderstorm/high wind events that cause property damage and potential injuries/death may affect the planning area throughout the year and have averaged multiple occurrences a year in recent history. The probability of these events has been identified as High, with a 100% annual probability. The impact has been determined to be Limited.

LANDSLIDES

Background

A landslide is a gravity-aided downward and outward movement of soil, rock, and vegetation that lies normally on a sloped surface. Landslides can occur from both natural and human-induced events. Common causes are composition changes on the surface, excessive rain, and construction practices.

Typically, areas that are prone to landslides are on or at the base of steep slopes, base of drainage channels, developed hillsides where leach field septic systems are used, and near previous landslide areas.

Locations Affected

The Geologic Survey of Alabama has developed a map of landslide susceptibility based on state data, on Alabama rock types and USGS data on topography. The Lee-Russell Planning Area generally has a Very Low to None landslide susceptibility risk, with very isolated pockets of high risk.

Extent

There is not a magnitude scale for landslides. Therefore, defining the extent of landslides is subjective and difficult to predict. Due to the lack of susceptibility throughout the planning area, the extent of landslide incidents are estimated to be primarily isolated damages to structures and infrastructure.

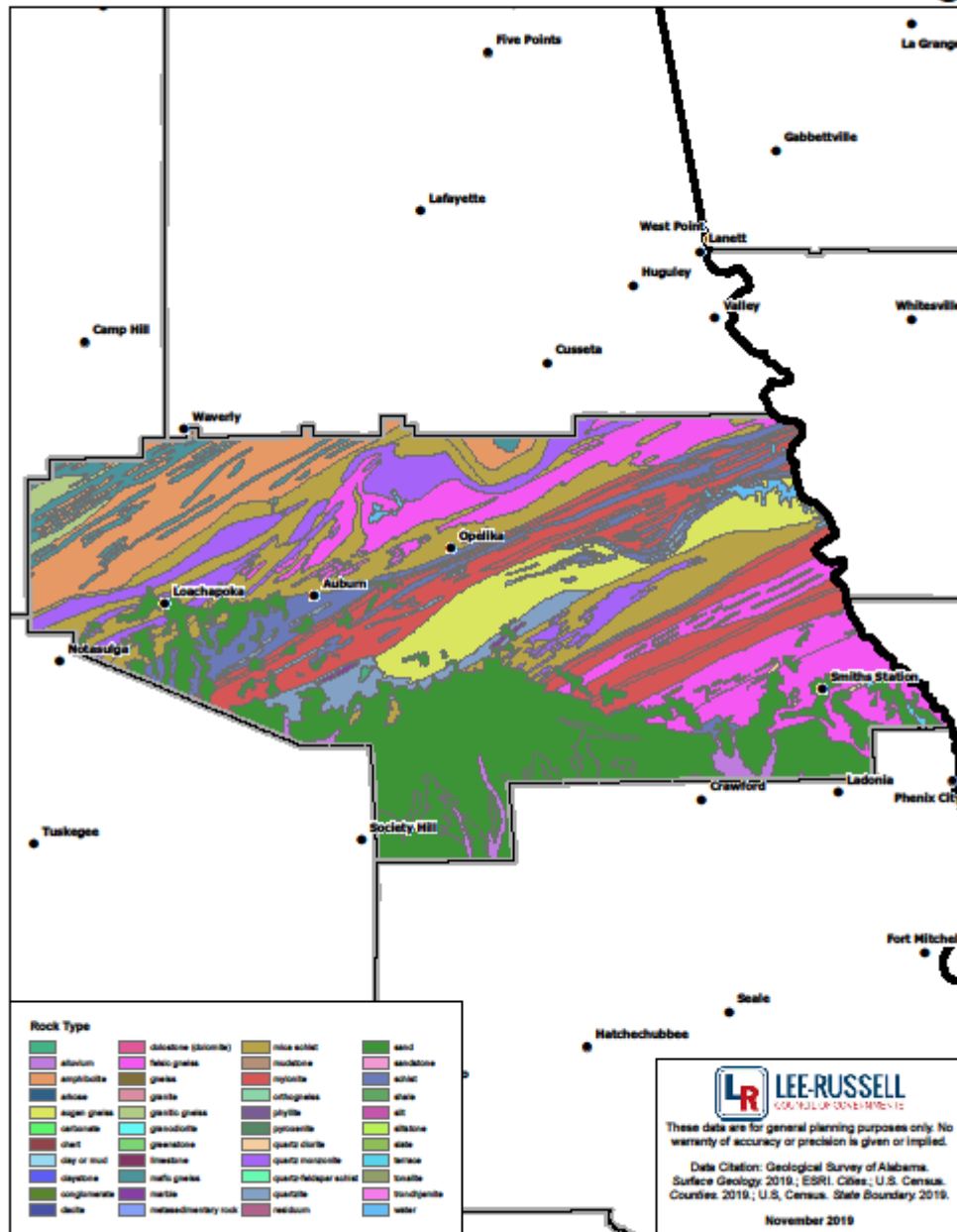
Historical Occurrences

The GSA map does not have dates listed detailing time frame, so it is from an indeterminate amount of time. For the planning area, it is thought that any landslide occurrence has been very localized and minor in nature. There are no damage estimates available for the recorded incidents.

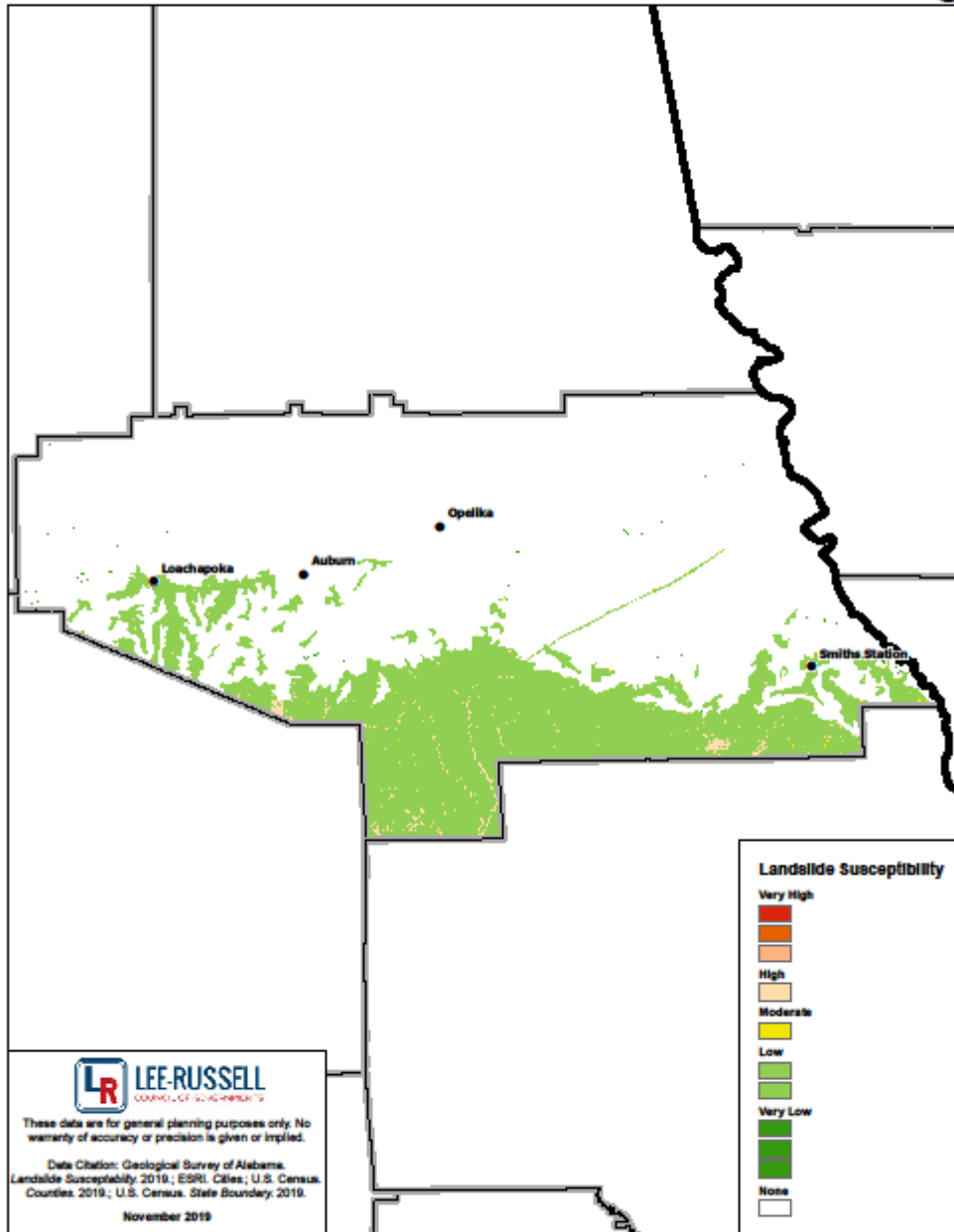
Probability of Future Events

Based on historical information and local knowledge, the probability of landslides in the Planning Area was ranked as Low to Very Low. The eastern portion of the region has isolated landslide potential. The impact was ranked as minor, region wide.

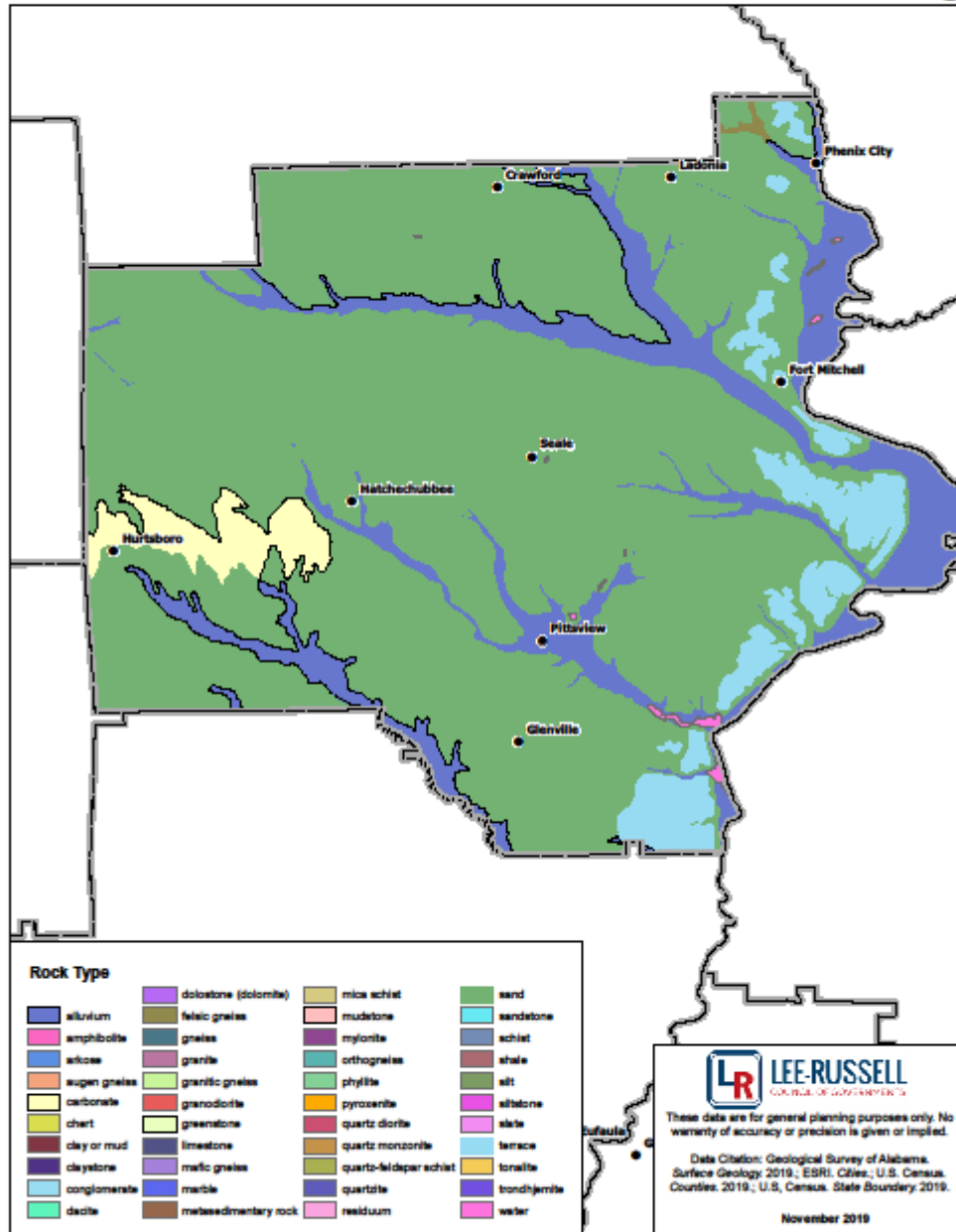
Map 3.2 - Rock Type Geology



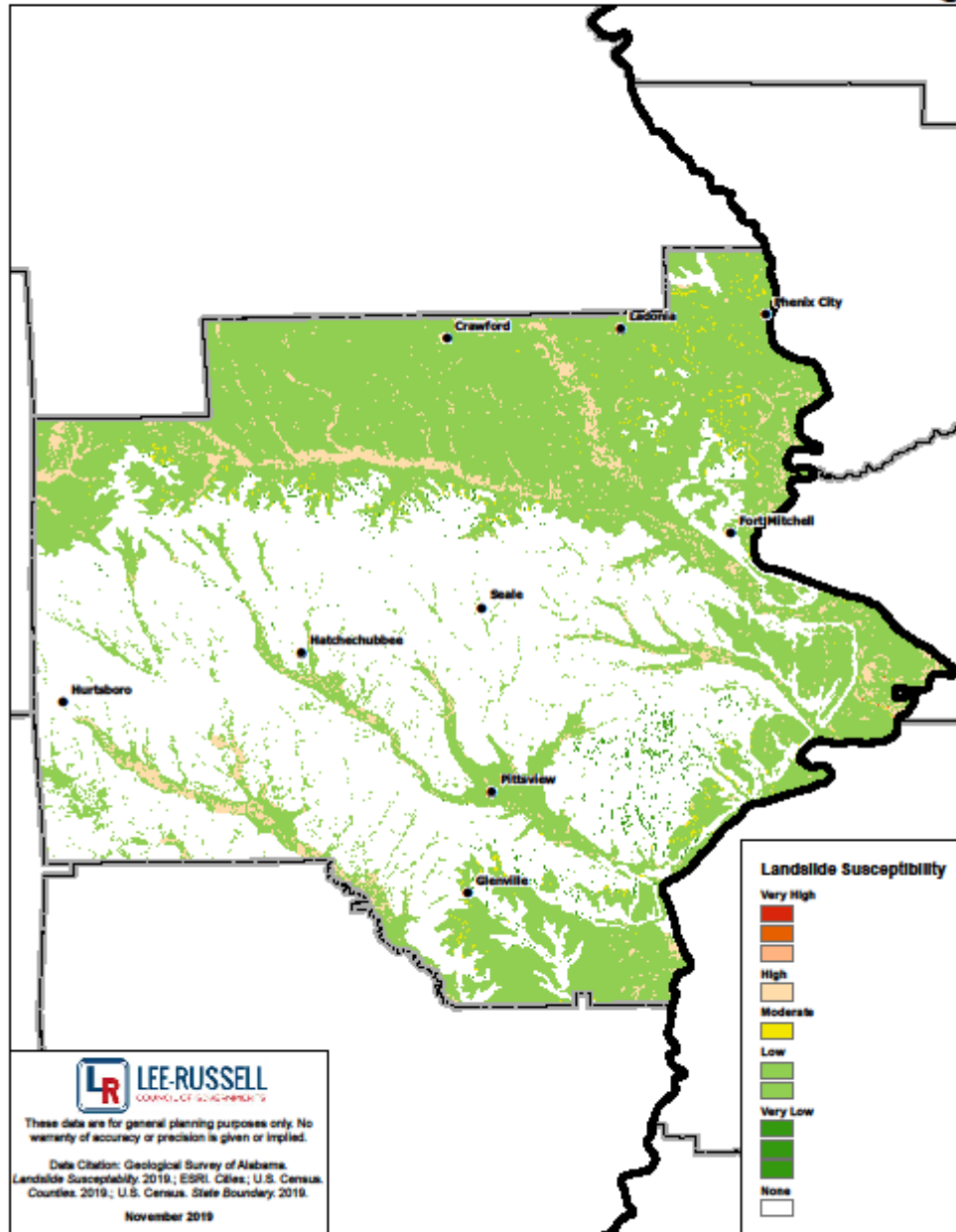
Map 3.3 - Landslide Susceptibility



Map 3.2 - Rock Type Geology



Map 3.3 - Landslide Susceptibility



LIGHTNING

Background

Lightning is a discharge of electrical energy that creates a “bolt” that may stretch from clouds to the ground. An actual lightning strike only affects a small area, though many storms have thousands of lightning strikes that occur during an event. According to the National Weather Service, lightning will follow a path of least resistance, typically striking the tallest object in a given area, which could include a person, a power pole, or trees. Lightning may cause building damage due to starting a fire, deaths through striking a person directly or in the immediate vicinity, and may cause wildfire in some cases.

Locations Affected

The entire Lee-Russell Planning Area is uniformly susceptible to the occurrence of lightning.

Extent

There are some 16 million lightning storms in the world every year. The rapid heating and cooling of air near the lightning causes thunder. Lightning is a major threat during a thunderstorm. In the atmospheric electrical discharge, a leader of a bolt of lightning can travel at speeds of 130,000 mph, and can reach temperatures approaching 54,000 F, hot enough to fuse silica sand into glass channels known as fulgurites which are normally hollow and can extend some distance into the ground.

Historical Occurrences

The Lee-Russell Region has been subjected to lightning storms and strikes. Since the mid 1990’s \$383,500 in property damage and one in 2017 were reported as a result of lightning.

Probability of Future Events

Lightning events that have the potential to cause property damage and potential injury/casualty may affect the planning area throughout the year. The probability of these events is high for the entire planning area, however, the impact ranges between minor and limited.

SINKHOLES AND LAND SUBSIDENCE

Background

According to the Geological Survey of Alabama (GSA), the most common cause of land subsidence in Alabama is development of sinkholes in areas that have underlying soluble limestone, dolomite, or salt rocks, such as karst terrain. Activities that can cause land subsidence, or sinkholes, include a change in the water table level, change in groundwater flow characteristic, and surface loading that puts pressure on the land surface, including human-induced causes.

Locations Affected

The Alabama State Hazard Mitigation Plan states that the GSA considers sinkholes to be more prevalent in northern Alabama due to geology. The state plan also indicates that groundwater withdrawal is an important driver of sinkhole development in Alabama. A previous study estimated that more than 4,000 human-induced sinkholes and areas of subsidence have occurred in Alabama since 1900. Most have occurred since 1950, and most have resulted from a decline in the water table associated with groundwater withdrawals. Sinkholes related to wells tend to be located within 150 meters of the site of the withdrawal, while sinkholes related to quarry operations tend to be located within 600 meters of the site of withdrawal. According to the Alabama State Hazard Mitigation Plan, recent sinkholes associated with groundwater withdrawal have ranged from 1 to 90 meters in diameter, and from 0.3 to 30 meters in depth.

Extent

There is no magnitude scale for land subsidence or sinkholes. Therefore, defining the extent of these hazards is subjective and difficult to predict.

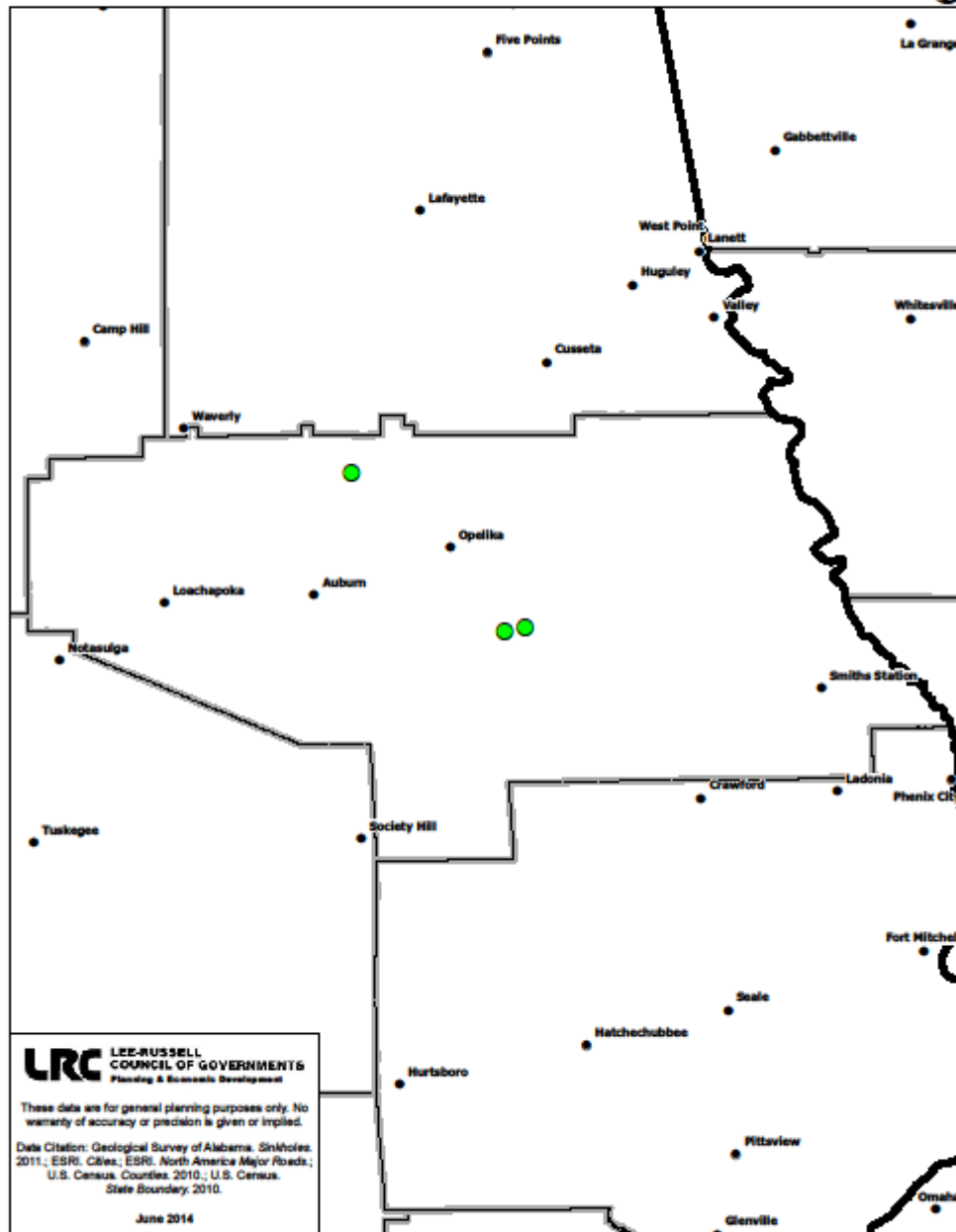
Historical Occurrences

Incidents of sinkholes were reported in the Lee-Russell Region, primarily since the early 2000's. The sinkholes are suspected to have been caused by drainage issues and past mining operations (rock quarry). There were damages related to structures, septic systems, vehicles and injuries involved.

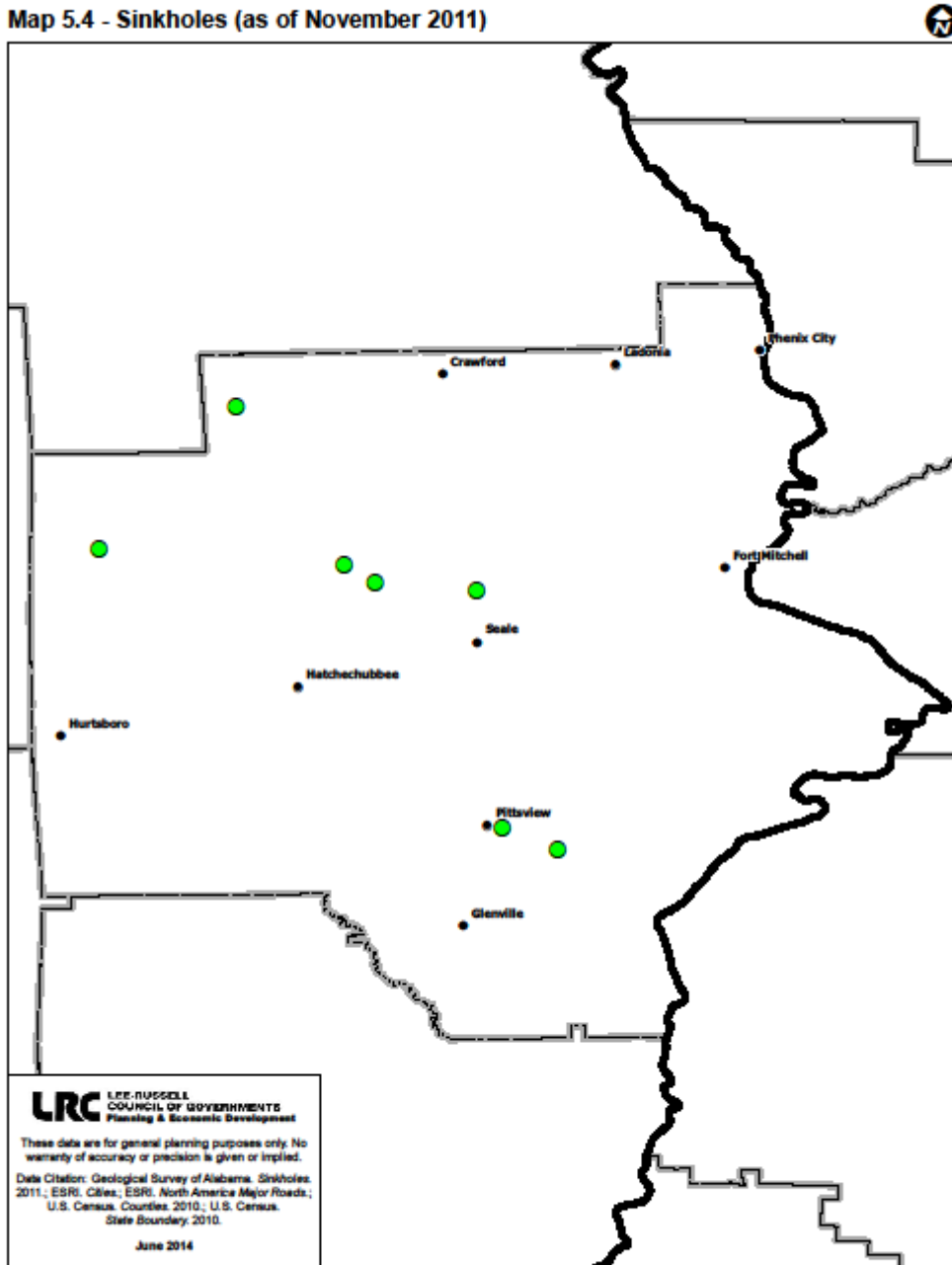
Probability of Future Events

Although sinkholes in the planning area is possible, they have been rated as a very low probability of occurrence. The impact has been determined to be minor.

Map 5.4 - Sinkholes (as of November 2011)



Map 5.4 - Sinkholes (as of November 2011)



TORNADOES

Background

A tornado is a violent windstorm characterized by a twisting, funnel-shaped cloud. It is a result of a thunderstorm (or sometimes as a result of a hurricane) and produced when cool air overrides a layer of warm air, forcing the warm air to rise rapidly. Tornado season is generally March-August and again in November-December, although tornadoes can occur at any time of the year.

The most violent tornadoes are capable of tremendous destruction with wind speeds of 250 mph or more. The damage from a tornado is a result of the high wind velocity and wind-blow debris. Damage paths can be in excess of 1 mile wide and 50 miles long. Tornadoes are the most unpredictable weather event. According to NOAA, 13 minutes is the average amount of time a person has to find a safe place from a tornado.

Locations Affected

Tornadoes are most prevalent in the United States and occur mostly in the Midwest, Southwest, and Southeast. Alabama ranks 4th nationally for the amount of killer tornadoes experienced, and 5th for the number of fatalities as a result of a tornado. The entire state, and the Lee-Russell Planning Area, is susceptible to tornadoes. Tornadoes can be assumed to potentially affect any location in the region, due to occurrences being randomly located and the impossibility of predicting specific area of tornado strikes.

Extent

Tornado intensity is classified using the Enhanced Fujita (EF) Scale, which is an update to the original Fujita Scale, implemented in February 2007. The EF Scale is still primarily a wind estimate indicator that is based on three-second gust derived by the levels of damage that occur during a tornado event.

Table 4.18: Enhanced Fujita Scale

F Number	3 Second Gust (mph)	EF Number	3 Second Gust (mph)	Damage Description
0	45-78	0	65-85	Light Damage: Some damage to chimneys; tree branches broken off; shallow-rooted trees pushed over; sign boards damaged.
1	79-117	1	86-110	Moderate Damage: The lower limit is the beginning of hurricane wind speed. Roof surfaces peeled off; mobile homes pushed off foundations or overturned; moving autos pushed off roads.
2	118-161	2	111-135	Considerable Damage: Roofs torn off from houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light-object missiles generated.
3	162-209	3	136-165	Severe Damage: Roofs and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off ground

				and thrown; large missiles generated.
4	210-261	4	166-200	Devastating Damage: Well-constructed houses leveled; structures with weak foundations blown off some distance; cars thrown; large missiles generated.
5	262-317	5	Over 200	Incredible Damage: Strong framed houses lifted off foundations and carried considerable distances to disintegrate; automobile-sized missiles fly through air in excess of 100 yards; trees debarked.

Source: NOAA, NWS, Weather Forecast Office Norman, Oklahoma, Enhanced Fujita Scale

Historical Occurrences

According to the National Centers for Environmental Information, Storm Events Database, since 1996 there have been 51 documented tornado events. In the Lee-Russell Planning Area, resulting in 23 fatalities and 116 injuries. Over \$13 million were reported in estimated property damage; this monetary figure does include the most recent tornado event which occurred on March 3, 2019. There have been 16 F2/EF2 tornadoes, 6 F3/EF3 tornadoes and the March 3, 2019 tornado was classified as an EF4.

Table 4.19: Annual Tornado Summary – Lee-Russell Planning Area

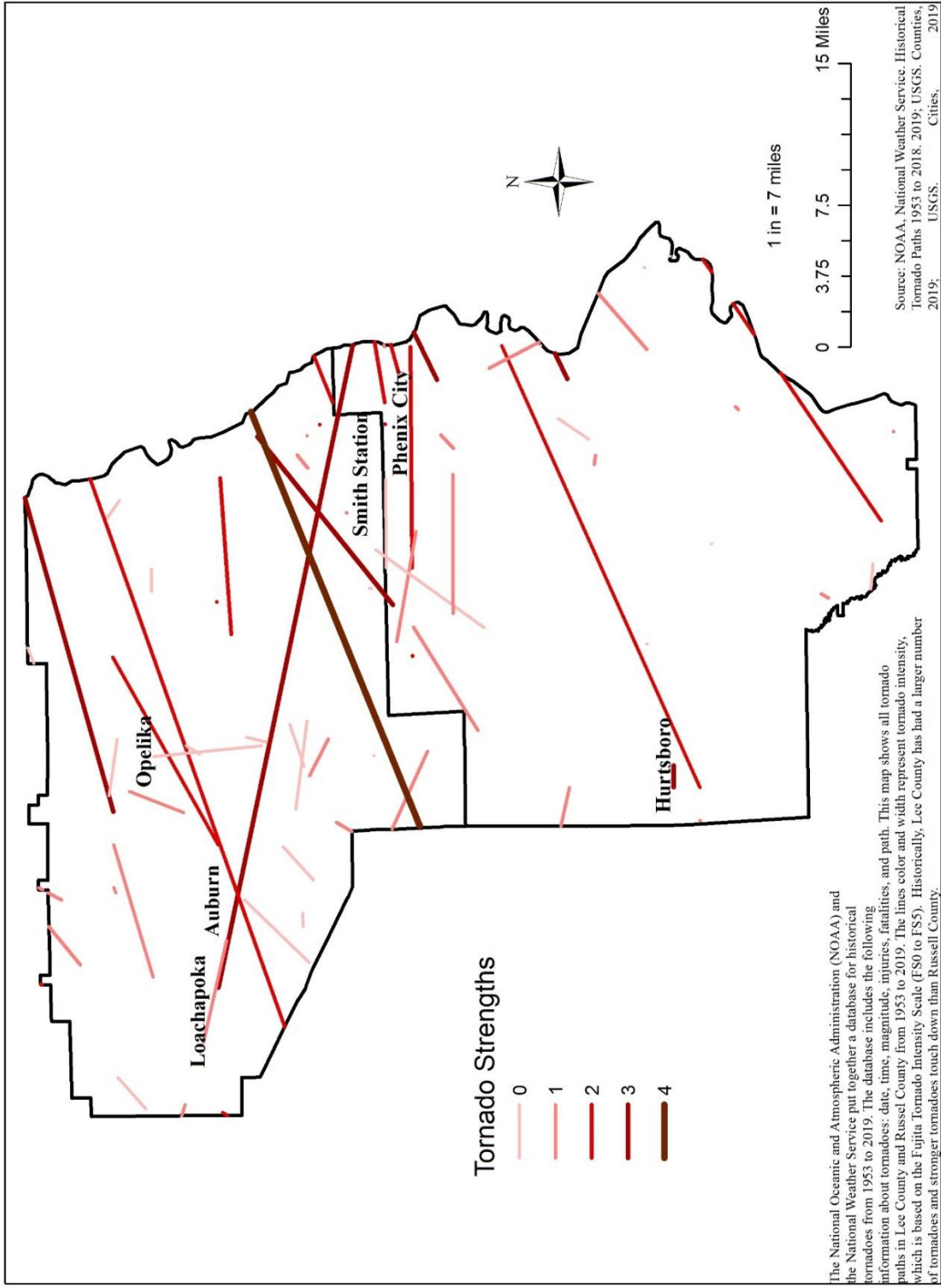
Year	Tornado	Fatality	Injuries	Property Damage	Crop Damages	F0/EF0	F1/EF1	F2/EF2	F3/EF3	F4/EF4	F5/EF5
1996	0	0	0	\$ -	\$ -	0	0	0	0	0	0
1997	1	0	0	\$ 12,000	\$ -	1	0	0	0	0	0
1998	2	0	0	\$ -	\$ 2,000	2	0	0	0	0	0
1999	0	0	0	\$ -	\$ -	0	0	0	0	0	0
2000	0	0	0	\$ -	\$ -	0	0	0	0	0	0
2001	0	0	0	\$ -	\$ -	0	0	0	0	0	0
2002	0	0	0	\$ -	\$ -	0	0	0	0	0	0
2003	0	0	0	\$ -	\$ -	0	0	0	0	0	0
2004	1	0	0	\$ 28,000	\$ -	1	0	0	0	0	0
2005	2	0	0	\$ 35,000	\$ -	2	0	0	0	0	0
2006	0	0	0	\$ -	\$ -	0	0	0	0	0	0
2007	3	0	0	\$ 108,000	\$ -	1	2	0	0	0	0
2008	1	0	4	\$ 120,000	\$ -	0	0	1	0	0	0
2009	11	0	6	\$ 2,132,000	\$ -	2	7	3	0	0	0
2010	0	0	0	\$ -	\$ -	0	0	0	0	0	0
2011	1	0	2	\$ 4,000,000	\$ -	0	1	0	0	0	0
2012	1	0	0	\$ -	\$ -	1	0	0	0	0	0
2013	1	0	0	\$ -	\$ -	1	0	0	0	0	0
2014	3	0	13	\$ -	\$ -	0	2	0	1	0	0
2015	3	0	0	\$ -	\$ -	1	2	0	0	0	0
2016	10	0	0	\$ -	\$ -	7	3	0	0	0	0
2017	8	0	0	\$ -	\$ -	5	3	0	0	0	0
2018	2	0	0	\$ -	\$ -	2	0	0	0	0	0
2019	1	23	91	\$ 4,600,000	\$ -	1	1	0	0	1	0
Total	51	23	116	\$ 11,035,000	\$ 2,000	27	21	4	1	1	0

Source: NOAA, National Centers for Environmental Information, Storm Events Database, Lee & Russell County, 1996-2019.

Probability of Future Events

All jurisdictions in the Lee-Russell Planning Area are vulnerable to tornadoes. Based on historical data, the annual probability of a tornado event has been deemed High, a 100% annual probability. The impact of tornadoes in this region is identified as Catastrophic.

Historic Tornado Paths in Lee-Russell Planning Region



TROPICAL STORMS/TROPICAL DEPRESSIONS/HURRICANES

Background

A tropical cyclone is a rotating, organized system of clouds and thunderstorms that originates over tropical or subtropical waters and has a closed low-level circulation. Tropical cyclones rotate counterclockwise in the Northern Hemisphere. They are classified as follows:

- Tropical Depression: A tropical cyclone with maximum sustained winds of 38 mph (33 knots) or less.
- Tropical Storm: A tropical cyclone with maximum sustained winds of 39-73 mph (34 to 63 knots).
- Hurricane: A tropical cyclone with maximum sustained winds of 74 mph (64 knots) or higher.
- Major Hurricane: A tropical cyclone with maximum sustained winds of 111 mph (96 knots) or higher, corresponding to a Category 3, 4 or 5 on the Saffir-Simpson Hurricane Wind Scale.

Tropical storms develop when ocean water is warmer than 80 F, there is low vertical wind shear and an area of low pressure. The storms bring damaging rotating winds up to 70 mph, torrential rain, and flooding.

A hurricane is a rotating low-pressure weather system that has organized thunderstorms with constant wind speeds of 74 mph. At the center of a hurricane is an eye, which is a peaceful break from the storm. As a hurricane approaches shores, the sky will darken, winds will pick up, and the water will be pushed inland.

Locations Affected

The Lee-Russell Region is susceptible to the occurrence of sustained high Heavy rainfall, and tornadoes that are associated with a tropical event like a hurricane, tropical storm, or tropical depression.

Extent

Hurricane Intensity is classified using the Saffir-Simpson Hurricane Wind Scale, which categorizes hurricane events primarily using maximum sustained winds, but also examining barometric pressure readings and potential storm surge. This gives an estimate of the potential damage that will occur from a hurricane. The Saffir-Simpson Scale is shown in Table 4.20.

Table 4.20: Saffir-Simpson Hurricane Wind Scale

Category	Sustained Wind Speed	Type of Damage Due to Hurricane Winds
1	74-95	Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.
2	96-110	Extremely dangerous winds will cause extensive damage: Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.
3	111-129	Devastating damage will occur: Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be

		snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
4	130-156	Catastrophic damage will occur: Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolated residential areas. Power outages will last weeks to possibly months Most of the area will be uninhabitable for weeks or months.
5	157 or higher	Catastrophic damage will occur: A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possible months. Most of the area will be uninhabitable for weeks or months.

Source: *National Weather Service National Hurricane Center (2014)*

Historical Occurrences

According to NCDC/NOAA historical records, there have been six documented Tropical Depressions/Tropical Storms that have impacted the Lee-Russell Region, not including Hurricane Opal which resulted in the State of Alabama being a presidential disaster declaration. This declaration included Lee and Russell County.

The Tropical Depressions/Storms that have impacted the area resulted in property damage of \$142,000 as of the 2009 reporting. The property damage has not been listed for the 2017 and 2018 Tropical Storms that affected the area.

Probability of Future Events

The Lee-Russell Region is vulnerable to the effects of any tropical events as the storm moves inland. Typically tropical events will be downgraded to tropical storms and tropical depressions by the time the storm arrives to the region. Tropical Depressions and Tropical Storms have a low to medium probability of occurring, however, the impact in the region has been deemed to be Critical.

WILDFIRE

Background

According to the Alabama State Hazard Mitigation Plan, 2018, a wildfire can be defined as any non-structural fire that occurs in the wild. Wildfires are uncontrolled blazes fueled by weather, wind, and dry underbrush that have the ability to burn a significant amount of land in a very short period of time. Three conditions need to be present for a wildfire to burn: fuel, oxygen, and a heat source.

A Wildland-Urban Interface fire is a fire in a geographical area where structures and other human development meet or intermingle with wildland or vegetative fuels.

Wildfires have a significant impact on the United States. Over 100,000 wildfires clear up to 5 million acres of US land every year. Wildfires have the ability to destroy everything in their path. Three distinct types of wildland fires have been defined and include: naturally occurring wildfire, human-caused wildfire, and prescribed fire. Wildfires are typically human-caused, which distinguishes them from other natural disasters.

Locations Affected

Based on an analysis by the Alabama Forestry Commission, there are 1,350 potential wildland-urban interface communities at risk of wildfire damage in Alabama, and the number of these communities is projected to increase with time, according to the Alabama HMP. According to the Wildland-Urban Interface Map in Alabama, almost the entirety of Lee County and a significant portion of Russell County are located in the identified areas.

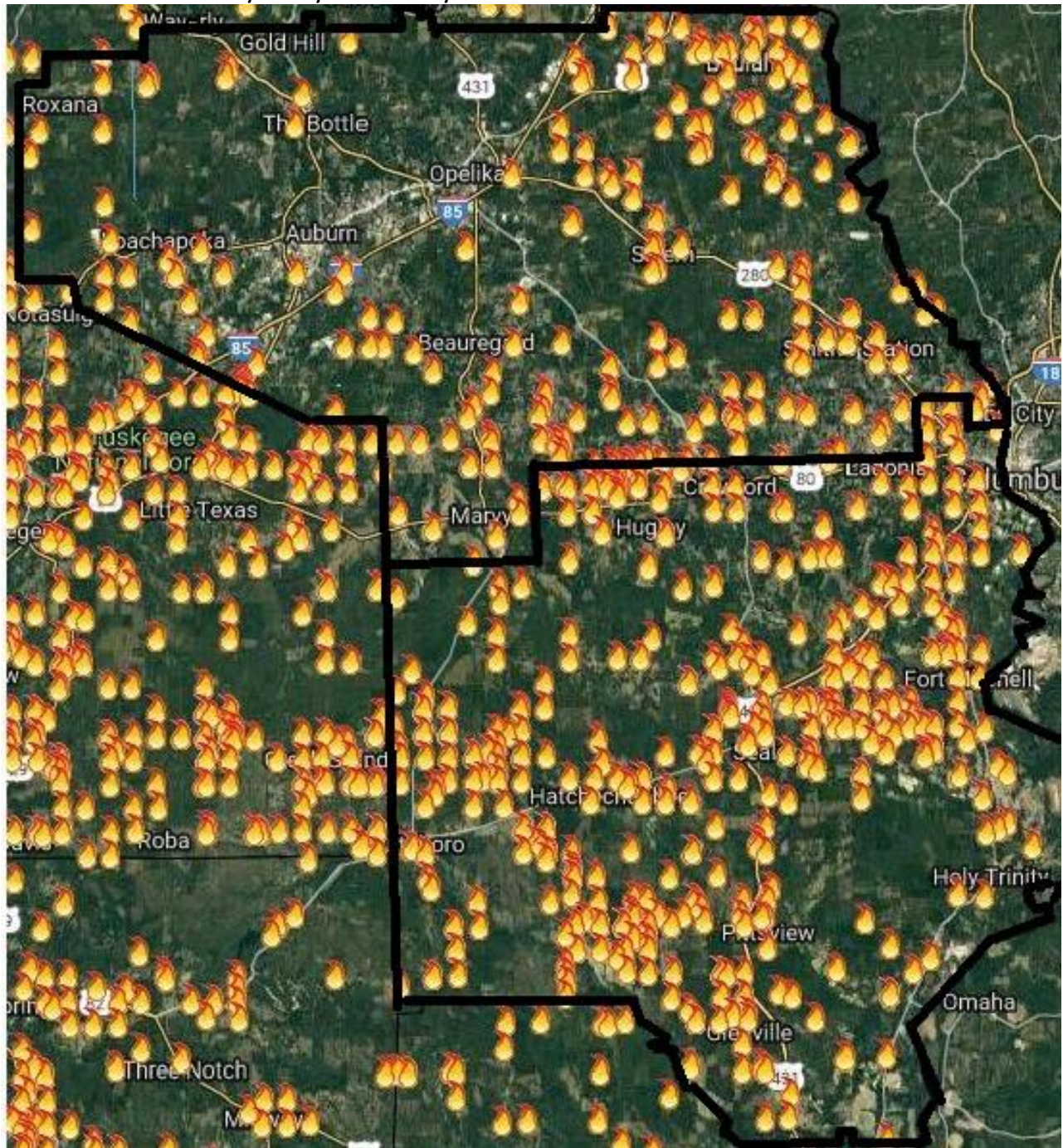
Extent

The magnitude of wildfire events are often classified as total number of acres burned and destructive impacts to people and property, including houses fires and casualties. These elements are greatly dependent on other factors, such as weather conditions, available fuel, topography, and existing wildfire mitigation capabilities.

Historical Occurrences

Over the past 13 years, Lee County has recorded 225 fires, affecting 3,700 acres and Russell County has had 502 fires affecting 10,280 acres. Statistics from the Alabama Forestry Commission indicates there are 66 wildfires annually in this region with an average of 1,075 acres burned per fire. The most common cause of wildfires in this region is debris burning by residents.

Fires in Lee and Russell County January 2007 – January 2020



Source: Alabama Forestry Commission, 2019

Probability of Future Events

The jurisdictions in the Lee-Russell Region are vulnerable to this hazard. The Alabama Forestry Commission classifies the planning area as a range of low fire occurrence to Extreme as indicated on the map. The overall probability of this hazard risk has been determined to be very low to medium depending

upon the amount of urbanization. Although the Wildland-Urban Interface is high at these same locations. The impact has been deemed to be minor/limited.

WINTER STORMS

Background

Winter storms normally cause heavy amounts of frozen precipitation (snow, freezing rain, and ice), windy conditions, and extreme col. The effect of winter storms on a community depends on how equipped the community is to handle the storm, as winter storms can cause power outages, transportation problems, and collapsed roofs on structures. These events may make roads impassable and disrupt power. Loss of communications is a common occurrence during a severe winter storm. In Alabama, a snowfall of two inches or more is considered heavy snow, especially the further south you get in the state at the storm southern end of the state.

The related emergencies include hypothermia and other cold-related maladies. Fire due to improvised heating apparatuses are common, as is carbon monoxide poisoning. There usually is sufficient warning for the public to take protective steps. The facilitation of emergency heating and food is critical, with emergency heating centers and the rescuing of stranded motorists becoming priorities. These events are typically short-lived in the Lee-Russell Planning Area.

The immediate threat from a winter storm, heavy snow or ice storm is traffic accidents, people trapped in their homes without supplies or heat, power outages, frozen water lines, and physical overexertion. The long-term damages of a multiple day storm are extreme hardship on special populations, death from exposure to cold temperatures, interruption of services, and power outages.

Locations Affected

Areas in central Alabama receive winter storms infrequently and have only minor recorded damages. The entire Lee-Russell Region is susceptible to a winter storm if a storm was to develop in the region.

Extent

Winter storms may have varying effects on the planning area dependent upon the severity and length of time. There is limited documentation on winter storms in the Lee-Russell Planning Area because these events do not take place annually.

Historical Occurrences

Since 1996, there have been four documented heavy snow events, two ice storm events, four winter storm events and two winter weather events with property damage estimated at \$55,000 and crop damage at \$40,000. The heaviest snow fall recorded in the region was in 1973 when 8.5 inches of snow fell in Lee County.

Probability of Future Events

Based on previous episodes of winter storms in the Lee-Russell Region, the probability of future storms is relatively low/medium. However, the impact can be critical based on the historical events.

4.3 TECHNOLOGICAL AND HUMAN-CAUSED HAZARDS

The Lee-Russell Planning Area has susceptibility to technological and human-caused hazards. General discussions of hazards that may affect the area are described in the subsections below.

Structural Fire

The building codes and zoning ordinances prevent and control structures in most jurisdictions. Structures in commercial districts are the most vulnerable to fire separate from wildfires. This vulnerable can be attributed to more urban building patterns where these structures are located. Rural jurisdictions are typically served by volunteer fire departments, which are continuously improve the services to the community. Larger jurisdictions in the planning area are better equipped to deal with respond to structural fires.

Hazardous Material

Hazardous material are handled at some industrial and commercial businesses located in the planning area, which is an ongoing hazard due to the transportation of material. An accident with hazardous material could have a negative impacts on the nearby areas. This section will be updated when more information regarding hazardous material is received.

Terrorism

FEMA classifies terrorism as using illegal force or violence against persons or property for purpose of intimidation or ransom, performed by a domestic or international group. The threat of terrorism places certain facilities in greater risk, including government facilities, high profiles area, and utility infrastructure. Please refer to the examples below about different types of terror acts.

Biological or Chemical Attack: Liquid or other containments that can be dispersed to cause causalities and negative psychological impact

Conventional Attacks: Active shooter, an individuals or small group, which actively engaged in killing or attempting to kill people in a populated area.

Cyber Attacks: Normally used to gain information or negatively affect operations fuel to intrusion into a computer system or server.

Hostage Situation: Holding people against their will in order to achieve demands, which can be on the realm from international political situations to local domestic situations.

State and local agencies regularly conduct exercises and plan for these hazards.

All Hazard-All Emergency Mutual Aid Assistant Memorandum of Agreement

The agreement purpose was the “create a systematic approach to expedite local and regional mutual aid assistance, share information, and rapidly share and sustain emergency aid and resources between U.S. Army Fort Benning, local governmental bodies, and regional energy responders when organic resources and capabilities are exceeded by emergent situation, or when non-exigent circumstances have developed requiring pre-coordinated assistant.”

The agreement was made between U.S. Army Installation Management Command, Fort Benning, GA; U.S. Army Medical Command, Fort Benning, GA; City of Auburn, AL; City of Columbus, GA; City of Opelika, AL; City of Phenix City, AL; County Commissions of Chattahoochee County, GA; County Commissions of Harris County, GA; County Commissions of Marion County, GA; County Commissions of Talbot County, GA; County Commissions of Troup County, GA; County Commissions of Lee County, AL; County Commissions of Russell County, AL; Chattahoochee County Sherriff, GA; Harris County Sherriff, GA; Marion County Sherriff, GA; Muscogee County Sherriff, GA; Talbot County Sherriff, GA; Taylor County Sherriff, GA; Troup County Sherriff, GA; Lee County Sherriff, AL; Russell County Sherriff, AL; East Alabama Medical Center, Opelika, AL; Columbus Airport , GA; and Department of Public Health, Columbus, GA.

4.4 VULNERABILITY OVERVIEW

The following table, Table 4.23, provides criteria to assist in a qualitative assessment of the risk and potential impact of each identified hazard. Assigned risk levels were determined based on the hazard profiles developed earlier in this section. The classifications generated from this table assists in the prioritization of hazard risk through objectively looking at the possible scope of the studied hazards. In order to quantify the risk classifications, varying degrees of risk factors (probability, impact, location extent, warning time, and duration) were assigned a value of “1” to “4” and weighted in order to create a total value with a maximum score of 4.0.

Table 4.23: Risk Index for Lee-Russell Planning Area

Category	Level	Criteria	Index Value	Weighted Factor
Probability	Very Low	Less than 1% annual probability	1	30%
	Low	Between 1% and 10% annual probability	2	
	Medium	Between 10% and 100% annual probability	3	
	High	100% annual probability	4	
Impact	Minor	Very few injuries, if any occur. Only minor property damage and minimal disruption of quality of life. Temporary shutdown of critical facilities	1	30%
	Limited	Minor injuries only. More than 10% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for more than one day	2	
	Critical	Multiple deaths/injuries possible. More than 25% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for more than one week.	3	
	Catastrophic	High number of deaths/injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for one month or more.	4	
Location Extent	Negligible	Less than 1% of area affected	1	20%
	Small	Between 1% and 10% of area affected	2	
	Moderate	Between 10% and 50% of area affected	3	
	Large	Between 50% and 100% of area affected	4	
Warning Time	More than 24 hours	Self-explanatory	1	10%
	12 to 24 hours	Self-explanatory	2	
	6 to 12	Self-explanatory	3	

	hours			
	Less than 6 hours	Self-explanatory	4	
Duration	Less than 6 hours	Self-explanatory	1	10%
	Less than 24 hours	Self-explanatory	2	
	Less than one week	Self-explanatory	3	
	More than one week	Self-explanatory	4	

Tables 4.24 and 4.25 assigns a qualitative risk assessment for each hazard, based from the hazard profiles created in this section and other input from plan stakeholders. The results were used in calculation the values for each hazard in order to prioritize the regional impacts of identified hazards in this plan.

Table 4.24: Lee County’s Summary of Regional Hazards Risk Impact

Lee County	Degree of Risk					
	Hazard	Probability	Impact	Location Extent	Warning Time	Duration
Dam Failure	Very Low (1)	Chattahoochee River (3)	Moderate (3)	Less than 6 hours (4)	Less than 24 hours (2)	2.4
			Small (1)	Small (2)	Less than 6 hours (4)	Less than 6 hours (1)
Drought	Medium (3)	Minor (1)	Moderate (3)	More than 24 hours (1)	More than one week (4)	2.3
Earthquakes	Very Low (1)	Minor (1)	Negligible (1)	Less than 6 hours (4)	Less than 6 hours (1)	1.3
Extreme Temperatures	Low (2)	Critical (3)	Large (4)	12 to 24 hours (2)	Less than one week (3)	2.8
Flooding	Large Scale- (2)	Minor (1)	Moderate (3)	Less than 6 hours (4)	Less than one week (3)	2.2
			3	4	3	2.5
Localized (3)	High (4)	Minor (1)	Small (2)	Less than 6 hours (4)	Less than 6 hours (1)	2.4
			High (4)	Limited (2)	Small (2)	Less than 6 hours (4)
Hail	High (4)	Minor (1)	Small (2)	Less than 6 hours (4)	Less than 6 hours (1)	2.4
High Winds/Thunderstorms	High (4)	Limited (2)	Small (2)	Less than 6 hours (4)	Less than 6 hours (1)	2.7
Landslides	Very Low (1)	Minor (1)	Negligible (1)	Less than 6 hours (4)	Less than 6 hours (1)	1.3

Lightning	High (4)	Limited (2)	Negligible (1)	Less than 6 hours (4)	Less than 6 hours (1)	2.5
Sinkholes/Land Subsidence	Very Low (1)	Minor (1)	Negligible (1)	Less than 6 hours (4)	Less than 6 hours (1)	1.3
Tropical Storms/ Tropical Depressions/ Hurricanes	Low (2)	Critical (3)	Large (4)	More than 24 hours (1)	Less than 24 hours (2)	2.6
Tornadoes	High (4)	Catastrophic (4)	Small (2)	Less than 6 hours (4)	Less than 6 hours (1)	3.3
Wildfire	Very Low (1)	Minor (1)	Small (2)	Less than 6 hours (4)	Less than 24 hours (2)	1.6
Winter Storms	Low (2)	Limited (2)	Large (4)	More than 24 hours (1)	Less than one week (3)	2.4

Table 4.25: Russell County’s Summary of Regional Hazards Risk Impact

Russell County	Degree of Risk					
Hazard	Probability	Impact	Location Extent	Warning Time	Duration	Weighted Score
Dam Failure	Low (2)	Catastrophic (4)	Moderate(3)	Less than 6 hours (4)4	Less than 24 hours (2)	*3
			Small (2)	Less than 6 hours (4)	Less than 6 hours (1)	**2.7
Drought	High (4)	Critical (3)	Moderate (3)	More than 24 hours (1)	More than one week (4)	3.2
Earthquakes	Very Low (1)	Minor (1)	Negligible (1)	Less than 6 hours (4)	Less than 6 hours (1)	1.3
Extreme Temperatures	High (4)	Limited (2)	Large (4)	12 to 24 hours (2)	Less than one week (3)	3.1
Flooding	High (4)	Critical (3)	Moderate (3)3	Less than 6 hours (4)	Less than one week (3)	3.4
Hail	High (4)	Limited (2)	Small (2)	Less than 6 hours (4)	Less than 6 hours (1)	2.7
High Winds/Thunderstorms	High (4)	Limited (2.5)	Small (2)	Less than 6 hours (4)	Less than 6 hours (1)	2.7

Landslides	Low (2)	Minor (1)	Negligible (1)	Less than 6 hours (4)	Less than 6 hours (1)	1.6
Lightning	High (4)	Minor (1)	Negligible (1)	Less than 6 hours (4)4	Less than 6 hours (1)1	2.2
Sinkholes/Land Subsidence	Very Low (1)	Minor (1)	Negligible (1)1	Less than 6 hours (4)4	Less than 6 hours (1)1	1.3
Tropical Storms/ Tropical Depressions/ Hurricanes	Medium (3)	Critical (3)	Large (4)	More than 24 hours (1)	Less than 24 hours (2)	2.9

Based from the results of the hazard assessment summary, the highest priority hazards for the Lee-Russell Planning Area are Flooding, Tornadoes, Extreme Temperatures/Drought and High Winds/Thunderstorms. It should be noted that this assessment is just a categorization of most likely factors for each hazard.

4.5 Probability of Future Occurrences and Damage Estimates

Table 4.26 estimates hazard event frequency of occurrence cumulatively for the Lee-Russell Planning Area. These estimates were calculated from events recorded over approximately a 30 year time period, 1990-Fall 2019 based on data from the National Centers for Environmental Information and local EMA. There is no guarantee the recorded level of hazard events will continue into the future at the same rate. However, the figures below will provide at least a possible estimate of potential damages.

Table 4.26 Natural Hazard Probability and Damage Estimates

Hazard	Occurrences	Time (Years) 1990-2019	Damages Recorded (Property and Crop)	Probability (Annual)	Estimated Future Damage (Annual)
Dam Failure	No Information		No Information		
Drought	10 years in this time frame have been associated with a drought event	30	N/A	33%	N/A
Earthquakes	0	30	0	Less than 1%	N/A
Extreme Temperatures	6 event days (Cold/Freeze)	30	\$2,000,000	20%	\$66,666
Flooding	38 event days	30	\$5,535,000	1.2 events per year	***\$146,963
Hail	113 events	30	\$688,000	3.8 events per year	\$22,933
High Winds/Thunderstorms	171	30	\$2,566,300	5.7 events per year	\$85,543
Landslides					
Lightning	13 Lightning events resulting in damage/injury/death	30	\$384,000	43% annual chance of lightning event resulting in damage/injury/death	\$12,800
Sinkholes/Land Subsidence	Approximately 8	30	\$1,000,000	*	*
Tropical Storms/Tropical Depressions/Hurricanes	6 events	30	\$142,000	20%	\$4,733

Tornadoes	38 events	30	\$13,587,000	1.3 events per year	**\$299,567
Wildfire	727 events	13	N/A**	55.92% events per year	N/A***
Winter Storms	7 event days	30	\$70,000	23%	\$2,333

*The sinkholes were local in nature and are thought to be the result of a now inactive quarry and drainage issues in an existing subdivision.

**Due to the historical record on monitory figures for wildfires in Alabama this information was left blank.

***Flooding figures may not be accurate due to information available.

Dam Failure: The risk of losses from dam failure cannot be calculated based on historic records due to lack of data. Even though dam failure is a rare occurrence and is mostly unprecedented in the Lee-Russell Planning Area, the impact of a dam failure on the Chattahoochee River which borders the planning area would be catastrophic. There are a series of dams which begins in Troup County, Georgia with West Point Dam, continues south with Bartlett’s Ferry Dam, Goat Rock Dam and Lake Oliver Dam. The damages incurred from a failure at any of these dams would be catastrophic to the planning region.

Drought: The risk of losses from drought cannot be calculated based on historic records due to lack of data. Qualitative documentation show evidence that prolonged drought conditions cause agricultural losses (farm crops and cattle farmers) and water quantity issues, but it is difficult to define the exact impact from this hazard. In 1977 and 2000 a federal disaster declaration was made due to droughts that occurred in this planning area. The United States Department of Agriculture declared a natural disaster area in 2012, 2013, 2014, 2016, 2017 and 2019 due to drought for the Lee-Russell Planning Area.

Earthquake: The risk of losses from earthquakes cannot be calculated based on historic records due to lack of data/occurrence.

Extreme Temperatures: The Lee-Russell Planning Area has experienced significant extreme temperatures (in this discussion, cold/freezing) that has occurred on 6 occasions over the last 30 years. The losses incurred were due to crop loss estimated at \$2,000,000.

Flooding: The planning area has recorded at least 37 flooding events since 1990 causing an estimated \$4,408,000 in damages. The amount of losses for flooding makes it the highest damage hazard in the planning area*.

Hail: There have been 113 occurrences of hail in the Lee-Russell Planning Area that were significant enough to cause property/crop losses in the last 30 years. These losses totaled \$688,000.

High Winds/Thunderstorms: The Lee-Russell Planning Area has incurred 171 significant high wind events/thunderstorm events over the past 30 years causing an estimated \$2,566,300 in damages.

Landslides: The risk of losses from landslides cannot be calculated based on historic records due to lack of data. Though a few incidents of landslides have been experienced in Russell County, there is no damage attached to these events. Any landslide occurrence in the planning area would most likely be minor in impact due to the localized nature of these events.

Lightning: There have been 13 recorded lightning events in the planning area that resulted in death/injury and damages.

Sinkholes/Land Subsidence: The Lee-Russell Planning Area has experienced a few sinkholes primarily attributed to a mining operation and drainage issues in an existing subdivision. Although, there were

damages attributed to the homeowners there are no damage estimates. A county road did require extensive structural work.

Tropical Storms/Tropical Depressions/Hurricanes: The planning area has experienced 6 events over the last 30 years. These events resulted in \$142,000 in property damages.

Tornadoes: The Lee-Russell Planning are has experienced 38 recorded tornado events since 1990. These events have caused an estimated \$8,987,000 in damages. This estimate does include the tornados of March 2019, which according to the Lee County EMA, resulted in tremendous death (23) and injuries (90) as well as property damages \$4.6 million.

Wildfire: Since 2006 the Lee-Russell Planning Area experienced 727 fire which affected 13,980 acres of land.

Winter Storms: The planning area has incurred 7 winter storm events, including snow and ice since 1990. These winter storm events resulted in an estimated loss of \$70,000 in property and crop damage. These events normally have a short duration and have minor impacts, though the planning area is not especially prepared for a long duration event, if it would occur.

4.6 Total Population and Property Valuation Summary by Jurisdiction

This data in Table 4.15 is derived from local municipal government and tax valuation from the local revenue offices, as well as 2010 Census population. This data is for Tax Year 2019. This data provides an estimate of total exposure in the planning area.

Table 4.27: Total Population and Property Information by Jurisdiction

Jurisdiction	2010 Population	Parcels	Number of Buildings	Tax Appraised Value of Improvements
Lee County (Unincorporated)	55,284	27,095	35,989	\$441,841,460
City of Auburn	53,380	19,171	20,279	\$939,939,040
City of Opelika	26,477	13,035	13,900	\$386,677,600
Town of Loachapocka	180		*14	\$3,825,052
City of Smiths Station	4,926	2,363	3,253	\$38,315,080
Notasulga	843	60	59	\$348,740
Russell County (Unincorporated)	19,592	20,093	**8,011	**\$1,320,694,261
City of Phenix City	32,822	15,074	2,261	\$73,600,480
Town of Hurtsboro	533	600	299	\$16,805,750

**It is important to note that actual values may be somewhat higher than those values assigned for tax purposes. Also, these values do not include tax-exempt structures such as government buildings and churches.

4.7 Critical Facilities/Infrastructure by Jurisdiction

Critical facilities are defined as facilities that are essential to the community, or may be crucial to the delivery of vital services, such as utilities and public safety. Critical facilities may also house or serve an at-risk population such as schools, hospitals, or nursing homes. Critical facilities would also likely result in

catastrophic financial loss if severely damaged or destroyed, such as major industrial buildings, courthouses, and other government facilities. Critical facilities may vary from a transmission line that provides vital electricity to the community, to a hospital that provides medical care, or to the public safety facilities that serve a community.

A concerted effort was made using information from the public, EMA, local government officials and industry stakeholders to identify the critical facilities. Such facilities were considered vital to transportation, energy, communication, health care, utility systems, food services, and the delivery of public safety. Structures that are occupied by at-risk populations such as schools are also included. They are listed with the most current estimated replacement cost, according to their insured values in Tables 4.27 through 4.43. The information listed below was provided by the individual jurisdictions.

Other critical facilities locations are the facilities that store Extremely Hazardous Substances (EPCRA Section 302-Extremely Hazardous Substances, CERCLA Hazardous Substances, EPCRA, Section 313 Toxic Chemicals, CAA 122) Regulated Chemicals for Accidental Release Prevention and other facilities that are covered. Local EMA offices maintain these lists.

Table 4.27 lists a summary of critical facilities summarized by type in the planning area. This list is not all-inclusive and includes facilities prioritized by specific jurisdictions. An inventory of critical facilities will be reviewed periodically and continually updated to reflect any changes in each of the jurisdictions.

Table 4.27: Critical Facility Summary

Facilities	Lee County	Russell County	Planning Area
Fire/Rescue	27	20	47
Law Enforcement	4	2	6
Hospital/Health Department	2	2	4
Schools/University/College	37	18	55
Continuity of Government	143	132	275

Source: *Previous Local Hazard Mitigation Plans, Auburn City Schools, Lee County Schools, Opelika City Schools, Russell County Schools, Phoenix City Schools, Auburn University, Southern Union Community College, and Chattahoochee Valley Community College*

4.8 Hazard Impacts

This section provides a narrative overview of each hazard’s impact on the planning area, based on previous findings within this section.

DAM FAILURE

According to the Risk Impact Assessment, the dam failure hazard scored a value of 3/2.7, according to Table 4.28.

Table 4.28: Risk Impact Assessment for Dam Failure

Impact	Lee County	Lee County Value	Russell County	Russell County Value
Probability	Very Low	2.4/1.5	Low	3/2.7
Impact	Critical/Small		Catastrophic	

Location Extent	Moderate/Small		Moderate/Small	
Warning Time	Less than 6 hours		Less than 6 hours	
Duration	Less than 24 hours/Less than 6 hours		Less than 24 hours/Less than 6 hours	

Dam regulation and research is an ongoing hazard mitigation issue in the State of Alabama. Currently, there are no state laws to regulate existing private dams or the construction of new private dams that do not require federal licenses or inspections. Information pertaining to potential damages from dam failure is limited at the current time.

Even though dam failure is a rare occurrence and is mostly unprecedented in the Lee-Russell Planning Area, the impact of a dam failure on the Chattahoochee River which borders the planning area would be catastrophic. There are a series of dams which begins in Troup County, Georgia with West Point Dam (controlled by Army Corp), continues south along the Chattahoochee River with Bartletts Ferry Dam, Goat Rock Dam and Lake Oliver Dam (controlled by Georgia Power).

There is not a history of dam failures in the region, nor is there a threat of a dam failure. In the event that West Point Dam failed, the damage in Lee County would be significant. The communities in Russel County would be affected if a dam failure occurred at Bartletts Ferry Dam, Goat Rock Dam, or Lake Oliver Dam. Due to the unlikely nature of this hazard, estimating damage losses regionally over a long period of time yields a very low loss estimate overall.

DROUGHT

According to the Risk Impact Assessment, the drought hazard scored a value of 2.3 in Lee County and 3.2 in Russell County (from a scale of 0 to 4), which is shown in the Table 4.29.

Table 4.29: Risk Assessment for Drought

Impact	Lee County	Lee County Value	Russell County	Russell County Value
Probability	Medium	2.3	High	3.2
Impact	Minor		Critical	
Location Extent	Moderate		Moderate	
Warning Time	More than 24 hours		More than 24 hours	
Duration	More than one week		More than one week	

Because it cannot be predicted where drought and the accompanying heat may occur, all existing and future buildings, facilities, agricultural production, depletion of groundwater resources, and susceptibility to wildfire occurrences (one consequence of drought), and the general population in the planning area are considered to be vulnerable to this hazard and its impacts. However, due to ongoing planning and relative common occurrence of these hazards, anticipated future damages or losses are expected to be minimal.

All existing and future buildings in the planning area are vulnerable to effects from drought. More importantly, all agricultural products and other natural resources are at risk. However, it is difficult to estimate values for damages, including crop failure, that are primarily due to drought. Due to the varying

nature of this hazard, damages are caused to crop losses and issues to water supplies, but there is little methodology to calculating loss estimates that are due to these hazards.

EARTHQUAKES

According to the Risk Impact Assessment, the earthquake hazard scored a value of 1.3 in Lee County and 1.2 in Russell County (from a scale of 0 to 4), which is shown in the Table 4.30.

Table 4.30: Risk Assessment for Earthquakes

Impact	Lee County	Lee County Value	Russell County	Russell County Value
Probability	Very Low	1.3	Very Low	1.3
Impact	Minor		Minor	
Location Extent	Negligible		Negligible	
Warning Time	Less than 6 hours		Less than 6 hours	
Duration	Less than 6 hours		Less than 6 hours	

The probability that an earthquake will occur in the planning area is low and the location extent is determined to be negligible, so the loss of property was determined to be minor.

EXTREME TEMPERATURES

According to the Risk Impact Assessment, the extreme temperature hazard scored a value of 2.8 in Lee County and 3.1 in Russell County (from a scale of 0 to 4), which is shown in the Table 4.31.

Table 4.31: Risk Assessment for Extreme Temperatures

Impact	Lee County	Lee County Value	Russell County	Russell County Value
Probability	Low	2.8	High	3.1
Impact	Critical		Limited	
Location Extent	Large		Large	
Warning Time	12 to 24 hours		12 to 24 hours	
Duration	Less than one week		Less than one week	

Historical records show that extreme cold temperatures effect the planning area occasionally, as well as extreme heat, primarily affecting the area for a few days at the most.

Because extreme temperatures may occur at any location within the planning area, all existing and future buildings, facilities, and the general population of the Lee-Russell Planning Area are considered to be vulnerable to this hazard and its impacts. Extreme temperatures will affect those in vulnerable housing and agricultural lands more severely than other areas.

Due to the continuous planning and occurrence of this hazard, anticipated future damages or losses are expected to be minimal. At this time there is limited methodology to calculate losses for crop failure and decrease in water supply caused by extreme temperatures.

FLOODING

According to the Risk Impact Assessment, the flooding hazard scored a value of 2.5 in Lee County and 3.4 in Russell County (from a scale of 0 to 4), which is shown in the Table 4.32.

Table 4.32: Risk Assessment for Flooding

Impact	Lee County	Lee County Value	Russell County	Russell County Value
Probability	Medium	2.5	High	3.4
Impact	Minor		Critical	
Location Extent	Moderate		Moderate	
Warning Time	Less than 6 hours		Less than 6 hours	
Duration	Less than one week		Less than one week	

The total potential loss can be calculated for the region using FEMA’s HAZUS-MH software in ArcGIS. As mentioned in a previous section, Russell County experienced three extensive flooding events, which required federal assistance resulting in approximately \$5 million in damages. Flash floods in Lee County has experienced fourteen incidences of since 1998 that cost approximately \$4 million in damages. Overall the region had approximately \$4 million in total damages. Information pertaining to historical insured flood losses and repetitive flooded parcels is included to provide additional detail.

FEMA released the RISK Map for the region. This data includes a Flood Risk Report, Flood Risk Map, and Flood Risk Database that provides details of flood data. Data for Lee County and Russell County is available online.

The main area that would be affected by riverine flooding in the planning area are along the Chattahoochee River and any major tributaries. Additional flooding can occur inside the floodplain along streams or creeks in the region. The NFIP has identified flood zones in each jurisdiction in the Lee County and Russell County.

Flash flooding can occur anywhere in the planning area, particularly in urban areas with abundant surfaces or additional areas of obstruction to water runoff. Normally flash flooding is a quick onset hazard with little warning, unlike riverine flooding. Both flash flooding and riverine flooding can occur year round.

Historical Insured Flood Losses

According to FEMA flood insurance policy records as X, the Lee-Russell region reported flooded losses through the NFIP since X. A summary of these records are in Tables 4.33 and 4.34.

Table 4.33: Historical Insured Flood Losses

Jurisdiction	Flood Losses	Damages
Lee Count (County Wide)	7	\$ 1,970,000
City of Auburn	4	\$ 75,000
City of Opelika	0	\$ -
City of Smith Station	0	\$ -
Town of Loachapoka	0	\$ -
Unincorpoated	2	\$ 55,000
Lee County (Totals)	13	\$ 2,100,000
Russell County	6	\$ 157,000
Phenix City	2	\$ 42,000
Town of Hursboro	2	\$ 10,000
Unicorporated	9	\$ 249,000
Russell County (Totals)	19	\$ 458,000
Lee-Russell (Total)	32	\$ 2,558,000

*At this time an updated information is unavailable

Table 4.34: Repetitive Loss Properties

Information will be updated once information becomes available.

HAIL

According to the Risk Impact Assessment, the hail hazard scored a value of 2.4 in Lee County and 2.7 in Russell County (from a scale of 0 to 4)

Table 4.35: Risk Assessment for Hail

Impact	Lee County	Lee County Value	Russell County	Russell County Value
Probability	High	2.4	High	2.7
Impact	Minor		Limited	
Location Extent	Small		Small	
Warning Time	Less than 6 hours		Less than 6 hours	
Duration	Less than 6 hours		Less than 6 hours	

Because hail may occur at any location within the planning area, all existing and future buildings are considered vulnerable to this hazard and its impacts. The effects of a significant hail event are localized, but unpredictable.

HIGH WINDS/THUNDERSTORMS

According to the Risk Impact Assessment, the high winds/severe thunderstorm hazard score a 2.7 in both Lee and Russell County

Table 4.36: Risk Assessment for High Winds

Impact	Lee County	Lee County Value	Russell County	Russell County Value
Probability	High	2.7	High	2.7
Impact	Limited		Limited	
Location Extent	Small		Small	
Warning Time	Less than 6 hours		Less than 6 hours	
Duration	Less than 6 hours		Less than 6 hours	

Because severe thunderstorms and high winds may occur at any location with the Lee-Russell Planning Area, all existing and future buildings, facilities, and the general population in the planning area are considered to be vulnerable to this hazard and its impacts. Severe thunderstorms with high winds can also produce similar effects to tornadoes.

LANDSLIDES

According to the Risk Impact Assessment, the landslide hazard scored a value of 1.3 in Lee County and a 1.6 in Russell County (from a scale of 0 to 4).

Table 4.37: Risk Assessment for Landslides

Impact	Lee County	Lee County Value	Russell County	Russell County Value
Probability	Very Low	1.3	Low	1.6
Impact	Minor		Minor	
Location Extent	Negligible		Negligible	
Warning Time	Less than 6 hours		Less than 6 hours	
Duration	Less than 6 hours		Less than 6 hours	

Information from the Geological Survey of Alabama shows that historical landslides events have been scarce for the region. Overall the region has no risk, very low risk, or low risk of landslides, but isolated pockets with high risk do exist in the region. The risk of landslides is located in the southern portion of Lee County, and throughout much of northern and eastern Russell County. Due to the lack of documentation of landslides in the planning area, all existing and future buildings, facilities, and the general population in the risk areas are considered to be vulnerable to this hazard and the potential impacts. The potential losses in the areas would be minor due to the localized activity of the hazard.

LIGHTNING

According to the Risk Impact Assessment, the lightning hazard scored a value of 2.5 in Lee County and a 2.2 in Russell County (from a scale of 0 to 4).

Table 4.38: Risk Assessment for Lighting

Impact	Lee County	Lee County Value	Russell County	Russell County Value
Probability	High	2.5	High	2.2
Impact	Limited		Minor	
Location Extent	Negligible		Negligible	
Warning Time	Less than 6 hours		Less than 6 hours	
Duration	Less than 6 hours		Less than 6 hours	

The Lee-Russel Planning Area is susceptible to lighting storms and strikes, and since the mid 1990’s there has been \$383,500 worth of property damages and one fatality. Due to the high probability of this hazard, all existing and future buildings, facilities, and the general population in the planning area are considered to be vulnerable to the hazard and the impacts, however the impact ranges from minor to limited.

SINKHOLES/LAND SUBSIDENCE

According to the Risk Impact Assessment, the sinkholes/land subsidence hazard scored a value of 1.3 in Lee County and a 1.3 in Russell County (from a scale of 0 to 4).

Table 4.39: Risk Assessment for Sinkholes/Land Subsidence

Impact	Lee County	Lee County Value	Russell County	Russell County Value
Probability	Very Low	1.3	Very Low	1.3
Impact	Minor		Minor	
Location Extent	Negligible		Negligible	
Warning Time	Less than 6 hours		Less than 6 hours	
Duration	Less than 6 hours		Less than 6 hours	

Information from the Geological Survey of Alabama shows that the geology of Alabama can be conducive to sinkholes if groundwater is removed. In the early 2000’s the Lee-Russell Planning area did experience sinkholes, but this was attributed to drainage issues and past mining operations. Damages incurred were related to structural, septic systems, vehicles and injuries. With little recorded activity, the probability of a sinkhole in the planning area is very low with minor losses.

TROPICAL STORMS/TROPICAL DEPRESSIONS/HURRICANES

According to the Risk Impact Assessment, tropical storm/ tropical depression/ hurricane hazard scored a value of 2.6 in Lee County and a 2.9 in Russell County (from a scale of 0 to 4).

Table 4.40: Risk Assessment for Tropical Storms/ Tropical Depressions/ Hurricanes

Impact	Lee County	Lee County Value	Russell County	Russell County Value
Probability	Low	2.6	Medium	2.9
Impact	Critical		Critical	
Location Extent	Large		Large	
Warning Time	More than 24 hours		More than 24 hours	
Duration	Less than 24 hours		Less than 24 hours	

Due to the size of hurricanes or tropical storms the impacts are felt over a large spatial areas, all existing and future buildings, facilities, and the general population in the planning area are considered to be vulnerable to this hazard and the impacts. The inland location of the planning area will prevent some insensitive to reach area. Additional hazards such as flooding, torrential rains, debris creation, and tornadoes may affect the planning area during these hazards.

Typically hurricanes, tropical storms, or tropical depressions are produced during June to November, but these hazards can occur year round if the waters are ocean/ gulf waters are warm enough. Warnings are issued a few days in advanced before the impacts are felt allowing the planning area to prepare.

FEMA’S HAZUS-MH hurricane and slosh model can be used to predict the impact these hazards have on the planning area.

TORNADOES

According to the Risk Impact Assessment, tornado hazard scored a value of 3.3 in Lee County and a 3.3 in Russell County (from a scale of 0 to 4).

Table 4.41: Risk Assessment for Tornadoes

Impact	Lee County	Lee County Value	Russell County	Russell County Value
Probability	High	3.3	High	3.3
Impact	Catastrophic		Catastrophic	
Location Extent	Small		Small	
Warning Time	Less than 6 hours		Less than 6 hours	
Duration	Less than 6 hours		Less than 6 hours	

Alabama is ranked fifth in the United States for the number of fatalities as a result of a tornado. Tornadoes are random events that can occur anywhere in the planning area, all existing and future buildings, facilities, and the general population in the planning area are considered to be vulnerable to this hazard and the impacts. The occurrence of tornadoes can take place during a severe thunderstorm or hurricanes/ tropical storms/ tropical depressions.

The entire planning area is susceptible to tornadoes, but it is impossible to predict specific area of tornadoes strikes. Tornadoes typically occur from March to May and again in November, but tornadoes can occur year round. This natural hazard is the most frequent hazard for the planning area and produce the most property damage, injury, and fatality. While the impacts are localized, the destruction is more devastating than other hazards. Due to the nature of tornadoes it is possible to have warning of the possibility of a tornado, but the specific location cannot be predicted.

WILDFIRE

According to the Risk Impact Assessment, wildfire hazard scored a value of 1.6 in Lee County and a 2.5 in Russell County (from a scale of 0 to 4).

Table 4.42: Risk Assessment for Wildfire

Impact	Lee County	Lee County Value	Russell County	Russell County Value
Probability	Very Low	1.6	Medium	2.5
Impact	Minor		Limited	
Location Extent	Small		Small	
Warning Time	Less than 6 hours		Less than 6 hours	
Duration	Less than 24 hours		Less than 24 hours	

Wildfire can affect all parts of the planning area such as municipalities and agriculture lands. Factors such as drought and winds can increase the spread of fires from forested areas to residential areas. Fire can be started by many factors like lightning strike, lost control of fire, and arson. Structures, agricultural lands, and wildlife can be subject to fire damage. Particularly those structures or people located in that isolated or unincorporated areas are at a greater risk to fires according the Alabama Forestry Commission.

Lee-Russel planning are vulnerable to this hazard, and over the last five years the area has recorded 97 fires. The overall vulnerability for the planning are to fire is classified as low to medium depending on the location.

WINTER STORMS

According to the Risk Impact Assessment, Winter Storms hazard scored a value of 2.4 in Lee County and a 3 in Russell County (from a scale of 0 to 4).

Table 4.43: Risk Assessment for Winter Storms

Impact	Lee County	Lee County Value	Russell County	Russell County Value
Probability	Low	2.4	Medium	3
Impact	Limited		Critical	
Location Extent	Large		Large	
Warning Time	More than 24 hours		More than 24 hours	
Duration	Less than one week		Less than one week	

Since 1996 the planning area experienced four winter storms, which consisted of above average snow fall and ice storms. This hazard will only affect the area for a few days. Since a winter storm can occur anywhere in the planning area, all existing buildings, future buildings, facilities, and general population in the planning area are vulnerable to the hazard and its impacts. Overall the Lee-Russell Planning Area has a low/medium probability to experience a winter storm, but the impact can have losses.

4.9 Vulnerable Populations in Lee-Russell Planning Area

Background

According to the CDC social vulnerability refers to a community’s resilience after an external hazard has taken place. These hazards may be natural-caused or human-caused disasters. When a community’s social vulnerability is reduced human and economic losses are less likely. The CDC created a Social Vulnerability Index to measure how vulnerable a county or census tract is any hazard. The measurement is based on a calculation that uses fifteen census variables, which help identify vulnerable portion of a population. The CDC uses a scale of 0 to 1. A score of 0 indicates that a community has no vulnerable to any hazard, but a score of 1 means a community is extremely vulnerable to any hazard.

Overall Vulnerability

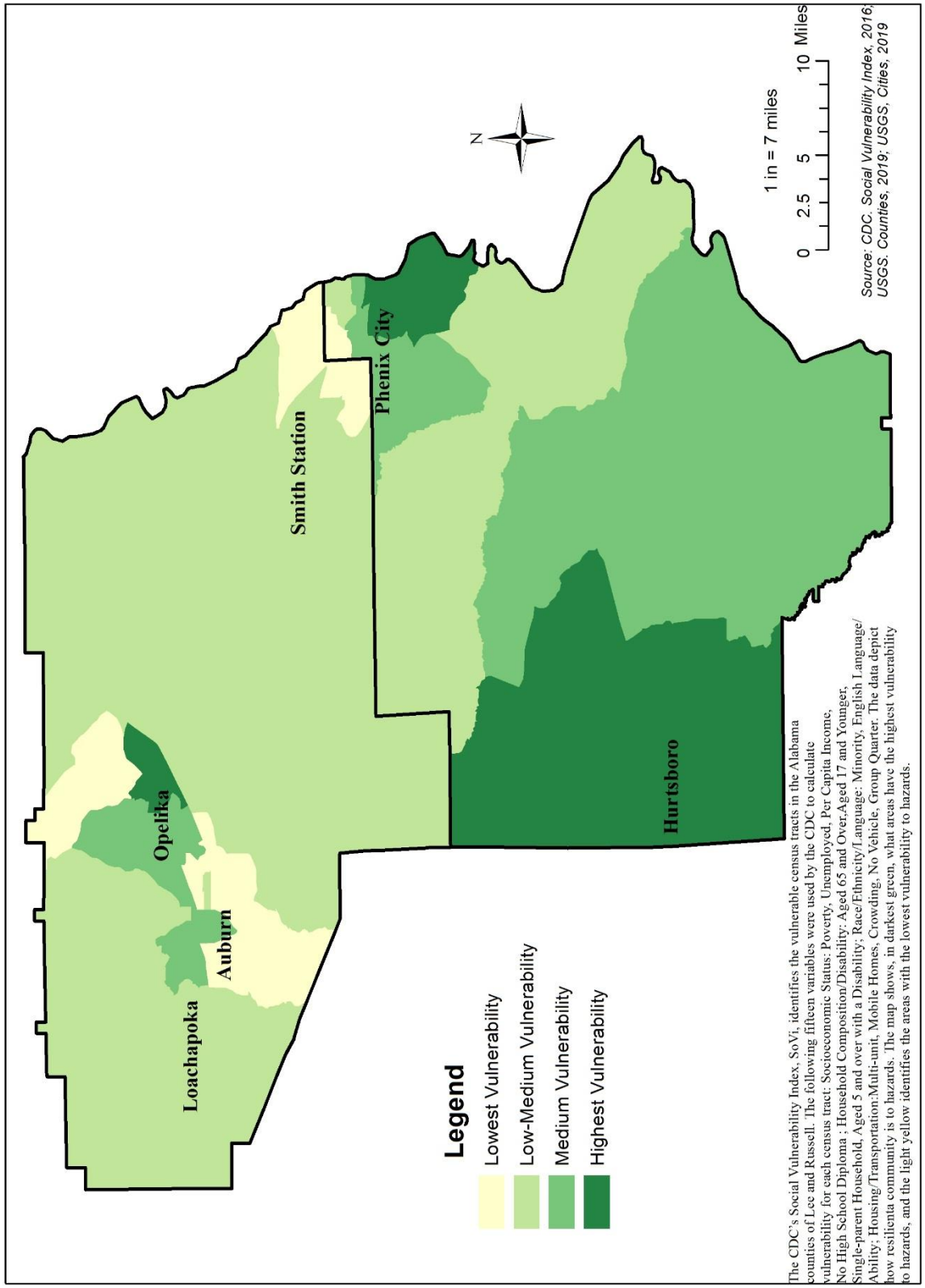
The figure below is based on the data collected from the CDC’s Social Vulnerability Index (SVI), which depicts the overall social vulnerability for Lee-Russell region. The overall SVI score for Lee County is 0.5889 and Russell County is 0.8892, which is based on a scale 0 to 1.

Overall the Lee-Russell Region has a portion of their population, which has a medium to high vulnerability to all hazards. In Lee County, Opelika has the most vulnerable population to hazards, but Auburn also has a portion of the population that is more vulnerable than the rest of the Lee County. Russell County as a

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whole has a higher vulnerability to hazards than Lee County, but Phenix City and Hurtsboro have the most vulnerable populations in the county, as well as the entire eastern and southern portion of Russell County. Due to the medium to high vulnerability populations in the entire Lee-Russell Region face jurisdiction must create plans and policies to protect these individuals from injury or death during any hazard. Additional information about those individuals who are the most vulnerable will be added to the update for the Hazard Mitigation Plan.

CDC's Overall Social Vulnerability for Lee County and Russell County

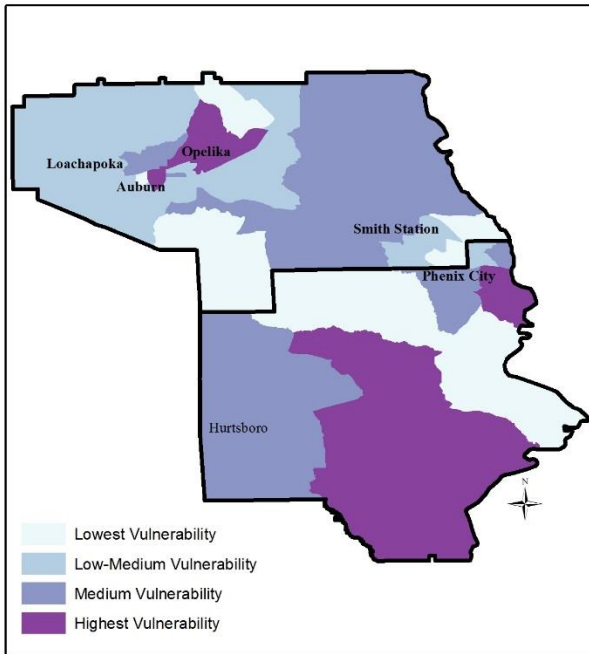


Vulnerability Themes

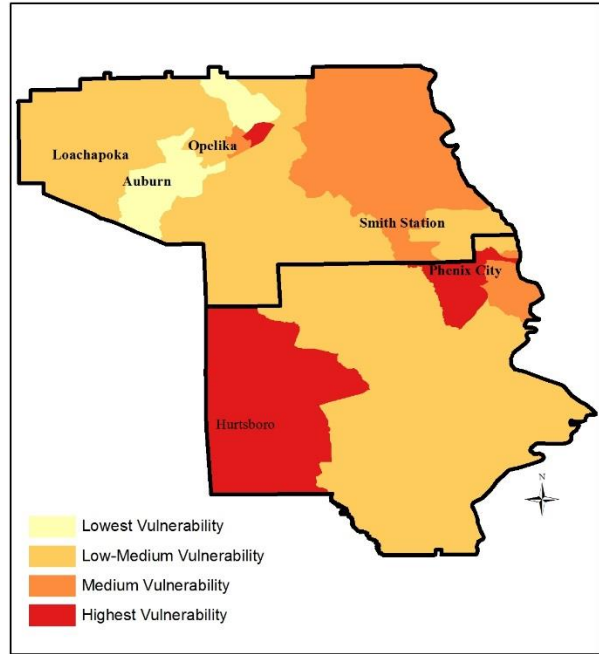
The CDC breaks down the fifteen variables into four themes that summarize how an area is socially vulnerable to a hazard. The themes focus on education, socioeconomic, housing, language skills, housing, ethnicity, family characters, and access to vehicles. Please refer to figure below for the details regarding vulnerability based on the specific themes.

CDC's Social Vulnerability Themes for Lee County and Russell County

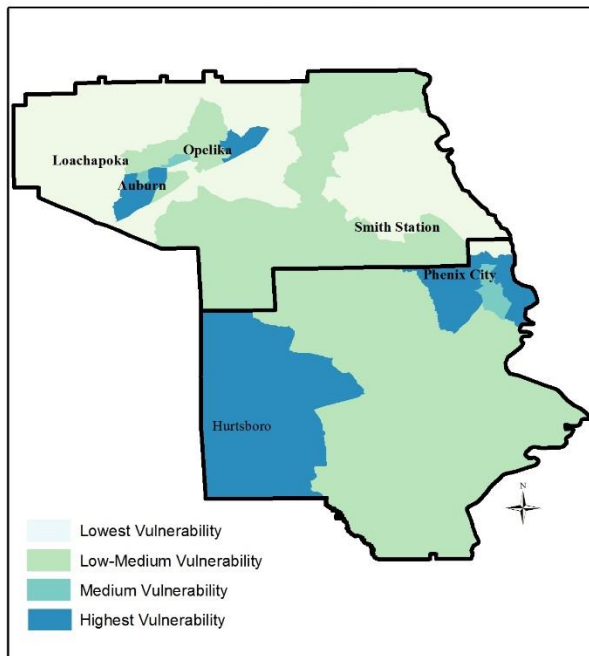
Housing and Transportation



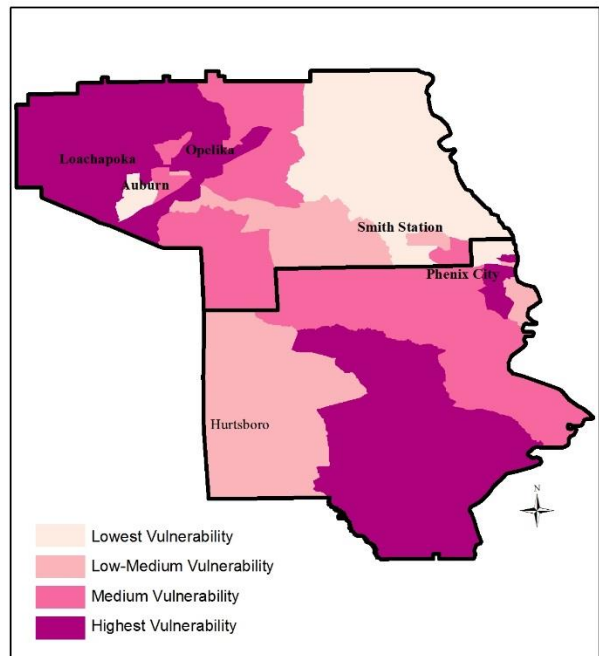
Housing Composition and Disability



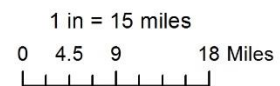
Socioeconomic Status



Ethnicity and English Language Proficiency



The CDC's Social Vulnerability Index, SVI, identifies the vulnerable census tracts in the Alabama counties of Lee and Russell. The fifteen variables used by the CDC were grouped into four themes socioeconomic status, household composition/disability, minority status/ English language proficiency, and housing/ transportation. The 4 maps above highlight what census tracts are the most vulnerable to a hazard based on the one of the four themes. The darkest colors on each map identify the census tracts that have the highest vulnerability, and the lightest colors have the lowest vulnerability.



Source: CDC. Social Vulnerability Index for Lee County and Russell County, 2016; USGS. Counties, 2019; USGS, Cities, 2019

Housing and transportation

The housing and transportation is based on data from the American Community Survey for 2012-2016 for following variables: multi-unit housing, mobile homes, home crowing, no access to vehicle, and group quarters. The information presented in figure above shows that the majority of the population living in Lee-Russell region is vulnerable to hazards based on the living conditions and access to transportation. Urban areas have a higher chance of vulnerability than rural areas, expect for central and southern portions of Russell County.

Housing Composition and Disability

The Lee-Russell Region is vulnerable to hazards based on housing composition and number of persons with disability in the planning region. The housing composition and disability map, refer to figure above, is based on data from the American Community Survey for 2012-2016 for following variables: aged 65+, aged 17 and under, single-parent household, aged 5 and over with a disability. Russell County has a larger population that is highly vulnerable to hazards based on the housing composition and individuals with disabilities. Phenix City and Hurtsboro and parts of Opelika have the most a portion of the population that is the most vulnerable in the planning region. The remainder of the Lee-Russell Region has a medium to low vulnerability to hazards based on housing composition and number of persons with disability.

Socioeconomics

The Lee-Russell Region is vulnerable to hazards based the socioeconomic status of the population living in the planning region. Vulnerability data based on socioeconomic status, refer to figure above, is gathered from the American Community Survey for 2012-2106 for following variables: poverty, unemployment, per capita income, and no high school diploma. All of Russell County, except one small census tract in the northwest corner of the county, has a medium to high level of vulnerability based on the population's socioeconomic status. Rural Lee County has a low vulnerability to hazards based on socioeconomic status, but urban areas in Lee County, such as Auburn or Opelika have a medium to high level of vulnerability based on the population's socioeconomic status.

Minority and English Language Proficiency

As a whole, the Lee-Russell Region is vulnerable to hazards based on the population's minority status and English language proficiency. The minority and English language proficiency map, refer to figure above, is based on data from the American Community Survey for 2012-2016 for following variables: Ethnicity and English language proficiency. All but one census tract in Russell County has a low-medium to high vulnerability to hazards based on the population's ethnicity and ability to communicate in English. Western, southwestern, and portions of central Lee County has the largest portion of person vulnerable to any hazard based on population's ethnicity and ability to communicate in English.

SECTION 5 – MITIGATION STRATEGY

This Mitigation Strategy section of the Plan addresses requirements of Section 201.6(c)(3) through providing the blueprint for participating jurisdictions in the AEMA Division D, Lee-Russell Planning Area, to practice in order to become less vulnerable to the identified hazards in the Risk Assessment.

Section Contents

- 5.1 Mitigation Planning Process
- 5.2 Regional Mitigation Goals
- 5.3 Regional Mitigation Strategies
- 5.4 Capabilities Assessment for Local Jurisdictions
- 5.5 Jurisdictional Mitigation Action Plans
 - 5.5.1 Lee-Russell Council of Governments Mitigation Action Plans
 - 5.5.2 Lee County Jurisdiction Actions
 - 5.5.3 Russell County Jurisdiction Actions

5.1 Mitigation Planning Process

Local planning stakeholders were asked to review the progress of their previously adopted mitigation goals and to reevaluate those strategies based on updated information from the Risk Assessment and vulnerability to each profile hazard. The goals and strategies were viewed in light of the impact and extent of hazard occurrences in local jurisdictions and the region as a whole.

5.2 Mitigation Goals

Mitigation goals are broad statements that focus on long-term visions to reduce or avoid vulnerabilities to identified hazards within the region. Through the planning process, six primary goals were developed from corresponding goals in previous local mitigation plans. The mitigation goals expected to be achieved by development, adoption, and continuation of this plan include:

1. **PREVENTION:** Manage the development of land and buildings to minimize risk of life and property loss due to hazard events.
2. **PROPERTY PROTECTION:** Protect structures and their occupants and contents from the damaging effects of hazard events.
3. **NATURAL RESOURCE PROTECTION:** Preserve, rehabilitate, and enhance the beneficial functions of the natural environment to promote a balance between natural systems and social and economic demands.
4. **STRUCTURAL MITIGATION:** Apply engineered structural modifications to natural systems and public infrastructure to reduce the potentially damaging impacts of hazards, where those modifications are feasible and environmentally suitable.
5. **EMERGENCY SERVICES:** Improve the efficiency, timing, and effectiveness of response and recovery efforts for hazard events.
6. **PUBLIC EDUCATION AND AWARENESS:** Educate and foster public awareness of hazards and techniques available for mitigation.

5.3 Mitigation Strategies

Mitigation strategies are broad, yet more defined actions that help to further define mitigation goals. A wide range of activities that are aligned with the six goal categorizations were considered in order to help achieve the established mitigation goals, in particular emphasizing mitigation concerning new and existing buildings and infrastructure. These strategies also provide additional background to addressing any specific hazard concerns. The six goal categorizations used for mitigation strategies include: Prevention, Property Protection, Natural Resource Protections, Structural Mitigation, Emergency Services, and Public Awareness and Education. These are discussed in detail below, as well as identifying appropriate hazard(s) that are mitigated through these approaches.

Goal #1: Prevention

Prevention activities are primarily intended to address future development and to keep hazard effects from increasing. Prevention activities are often administered through government programs or regulatory actions that influence the built environment. These activities are particularly effective in hazard mitigation for areas with little current capital investment of development. Examples of prevention activities include:

1. Land use planning and zoning administration (All Hazards, primarily Flooding)
2. Building code enforcement program (Flooding, High Winds)
3. Open space preservation (Flooding)
4. Floodplain management regulations (Flooding)
5. Storm water management regulations (Flooding)
6. Participation in National Flood Insurance Program-NFIP (Flooding)
7. Capital improvements planning (All Hazards)
8. Railroad Crossing Study

Goal #2: Property Protection

Property protection activities primarily concentrate on the modification of existing buildings and adjacent areas to strengthen their ability to withstand hazard events, or to remove an at-risk structure from hazardous locations. Examples of property protection activities include:

1. Acquisition of flood prone properties (Flooding)
2. Relocation of flood prone properties (Flooding)
3. Elevation of flood prone structures (Flooding)
4. Retrofitting of critical facilities and other structures (All Hazards)

Goal #3: Natural Resource Protection

Natural resource protection activities reduce the impact of hazard events by preserving, rehabilitating, or enhancing the natural environment and its protective functions. These activities would include areas such as floodplain, wetlands, and steep slopes. Examples of natural resource protection activities include:

1. Floodplain protection (Flooding)
2. Watershed management (Flooding)
3. Riparian buffers (Flooding)
4. Forest and vegetation management (Flooding, Wildfire)
5. Conservation easements (Flooding, Sinkholes/Land Subsidence, Wildfire)

Goal #4: Structural Mitigation

Structural mitigation protection activities are intended to lessen the impact of a hazard by utilizing construction of an appropriate structures. Examples of structural mitigation protection activities include:

1. Reservoirs (Flooding)
2. Levees and dams (Flooding)
3. Storm water diversion (Flooding)
4. Retention and detention structures (Flooding)
5. Safe rooms and shelters (Tornadoes, Extreme Temperatures, Winter Storms)
6. Underground Utilities (Tornadoes, Wildfire, Lighting, Hurricane/Tropical Storm/Depression)

Goal #5: Emergency Services

Emergency services protection activities involve protecting people and property before, during, and after a hazard event. These activities assist in providing capable actions regarding hazard events. Examples of emergency services activities include:

1. Warning alert systems (All Hazards)
2. Continuity of operations (All Hazards)
3. Evacuation routes (All Hazards)
4. Emergency responder training (All Hazards)
5. Provision of alternative power, e.g. generators (All Hazards)
6. Debris removal (All Hazards)

Goal #6: Public Education and Awareness

Public education and awareness activities inform and remind residents, business owners, elected officials, and other stakeholders about hazards, vulnerable locations, and mitigation actions that can be used to avoid losses. Examples of public education and awareness activities include:

1. Information dissemination, including maps and websites displaying hazard information (All Hazards)
2. Public exposition or workshops (All Hazards)
3. Educational programs (All Hazards)
4. Real estate disclosures (Dam Failure, Flooding, Technological Hazards)

5.4 Capabilities Assessment for Local Jurisdictions

A capability assessment examines the ability of each jurisdiction to implement a comprehensive mitigation strategy through examining existing programs, regulations, resources, and practices. This determination allows a jurisdiction to assess whether mitigation actions are feasible, due to financial resources, political climate, administrative capacity, and other jurisdictional capabilities.

The Alabama Emergency Management Agency (AEMA) Division D is a twelve-county region composed of municipalities with a myriad of governmental powers. The specific planning area for this Phase One Lee-Russell Hazard Mitigation Plan is two counties with six municipalities. Both county governments are governed by an elected commission. The cities of Auburn, Opelika and Phenix City have a Mayor/Council/City Manager form of government, whereas the smaller municipalities, Hurtsboro, Smiths Station and Loachopoka have a Mayor/Council form of government.

The mitigation strategies listed in Section 5.3 is framed by the capacity and capabilities of local jurisdictions to implement those particular actions through existing authorities, policies, programs, and resources.

Communities work together through the county Emergency Management Agency for assistance related to planning for mitigation and to implement specific strategies. Authority over spending is vested in local elected or appointed boards and commissions. Primarily, the county commissions and local municipal councils have been the leaders in deciding which mitigation strategies are worthy of investment. Other eligible jurisdictions have traditionally channeled mitigation projects through these local governmental bodies for sponsoring. The use of federal and state grants is a prevalent feather of the financial strategy for mitigation projects involving new construction and major rehabilitation of public facilities or expenditures.

The capabilities of each participating jurisdiction are defined by the authorities, policies, programs, and resources that each utilizes in pursuit of hazard mitigation. Each jurisdiction falls into one of several categories, which possesses distinct authorities and resources to establish hazard mitigation actions. For example, counties and municipalities differ in terms of statutory authority to pursue hazard mitigation. Meanwhile, tow communities with the same authority may approach mitigation entirely differently in terms of the exercise of their authority. School and utility boards are subject to even greater restrictions on their authority.

Table 5.1 summarizes the statutory authority and resources of each jurisdiction and its present use or intended future use of these powers to implement potential actions and types of actions listed in the hazard mitigation plan. The table describes powers or policies that are granted to different types of jurisdictions in general terms, describes the jurisdictions that currently apply those policies in their mitigation efforts, describes the jurisdictions that intend to apply those authorities and policies for future implementation, and describes the means by which each jurisdiction will incorporate the mitigation action into its existing powers, authorities, policies, and capabilities.

Table 5.1: Statutory Authority and Resources

Multi-Jurisdictional Hazard Mitigation Plan: Capability Assessment	Authorized for:	Practiced by:	Proposed for:	Incorporated through:
Police power: ability to regulate activities of individuals in the jurisdiction for purposes of health, safety, and public welfare	Municipalities			Council or Commission action to enact and enforce regulations
Control of public expenditures: ability to acquire property and improve property owned by the jurisdiction; capacity to borrow and expend funds	Municipalities, Counties, School Boards, Utilities			Action to approve expenditures by local county commission, city council, school board, or utility board
Building code enforcement: ability to enforce codes related to building materials and construction standards outside of flood hazard areas	Municipalities			Council or Commission action to enact and enforce regulations
Floodplain management authority: ability to regulate development in areas of special flood hazard in compliance with NFIP standards; includes authority to regulate land use and subdivisions inside of flood hazard areas	Municipalities, Counties			Council or Commission action to enact and enforce regulations
Purchase properties subject to flooding and maintain as permanent open space	Municipalities, Counties, School Boards, Utilities			Action to approve expenditures by local county commission, city council, school board, or utility board
Capital improvements: ability to plan and implement public infrastructure to mitigate hazards	Municipalities, Counties, School Boards, Utilities			Action to approve expenditures by local county commission, city council, school board, or utility board
Zoning authority: ability to divide political jurisdiction into districts for purposes of regulation buildings and their use, both inside and outside of flood hazard areas	Municipalities			Council action to enact and enforce regulations
Subdivision regulations: ability to regulate new developments involving new parcels and infrastructure, both inside and outside flood hazard areas	Municipalities, Counties			County Commission or Council action to enact and enforce regulations
Storm water management	Municipalities			Council action to

program: ability to regulate retention, detention, and release of storm water runoff				enact and enforce regulations
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Table 5.2 below provides a summary of local plans, ordinances, and programs currently in place, or being developed within jurisdictions in the Lee-Russell Planning Area. A “Yes” (Y) indicates the item is currently in place and being implemented. A “No” (N) indicates the item is not in place or being implemented. An asterisk (*) indicates the item is currently being developed for future implementation.

Table 5.2: Relevant Plans, Ordinances, and Programs

Jurisdiction	Zoning Ordinance	Code Enforcement	Master Plan (Date)	Certified Floodplain Manager	NFIP Participation	Subdivision Regulations
Lee County	N	Y	N		Y	Y
City of Auburn	Y	Y	2018-2030	Y	Y	Y
Town of Loachapoka	N	N	N	N	N	N
City of Opelika	Y	Y	2016-2030	Y	Y	Y
City of Smith Station	Y	Y	Y	N	Y	Y
Russell County	N	Y	2011		Y	Y
Town of Hurtsboro	N	N	N	N	Y	N
City of Phenix City	Y	Y	Y	Y	Y	Y

Table 5.3 below summarizes NFIP participation and policy statistics for each jurisdiction in the planning area as of December 31, 2019. More site specific information is provided in the Risk Assessment section. Jurisdictions that are non-participating in the NFIP Program have participated in the hazard mitigation planning process.

Table 5.3: National Flood Insurance Program (NFIP) Status

Jurisdiction	County	Participation Status	Initial FBHM Identified	Initial FIRM Identified	Current Effective Map Date
Lee County	Lee	Yes	03/31/1978	09/6/1981	11/02/2011
City of Auburn	Lee	Yes	06/07/1974	09/16/1981	11/02/2011
Town of Loachapoka	Lee	No			
City of Opelika	Lee	Yes	07/26/1974	09/16/1981	11/01/2011
City of Smith Station	Lee	Yes		11/02/2011	11/02/2011

Russell County	Russell				
Town of Hurtsboro	Russell	Yes	07/18/1975	0/06/1982	07/22/010
City of Phenix City	Russell	Yes	11/26/1976	09/16/1981	01/08/2014

This section identifies and analyzes a range of mitigation actions and projects under consideration to achieve the regional mitigation goals for reducing the effects of hazard events for the region at large, as well as each of the jurisdictions within the region. Local planning stakeholders thoroughly reviewed and considered the Risk Assessment and their local capabilities to determine the most appropriate plan of action for their jurisdictions. Each action or project listed has accessory information, such as designation of a lead agency, hazard(s) addressed, and potential funding source(s). The following table describes the key elements of the Mitigation Action Plans.

Table 5.4: Mitigation Actions and Projects for Consideration

Jurisdiction Name	
Goal	Category of goal that is met: #1: Manage the development of land and buildings to minimize risk of life and property loss due to hazard events (PREVENTION) #2: Protect structures and their occupants and contents from the damaging effects of hazard events (PROPERTY PROTECTION) #3: Preserve, rehabilitate, and enhance the beneficial functions of the natural environment to promote a balance between natural systems and social and economic demands (NATURAL RESOURCE PROTECTION) #4: Apply engineered structural modifications to natural systems and public infrastructure to reduce the potentially damaging impacts of hazards, where those modifications are feasible and environmentally suitable (STRUCTURAL MITIGATION) #5: Improve the efficiency, timing, and effectiveness of response and recovery efforts for hazard events (EMERGENCY SERVICES) #6: Educate and foster public awareness of hazards and techniques available for mitigation (PUBLIC EDUCATION AND AWARENESS)
Action Description	Title and description of action to be undertaken
Hazards Adresse	Hazard which the action addresses

Lead Agency	Entity responsible for undertaking the action
Funding Source	Level of funding required for action, where applicable
Priority/Status	<p>Categorization based on the following projected criteria:</p> <p>Completed: Notable mitigation projects implemented in the past five years</p> <p>Ongoing: Action in progress / perennial occurrence</p> <p>High: Projected implementation within five years</p> <p>Medium: Projected implementation between five and ten years</p> <p>Low: Projected implementation beyond ten years</p>

<p>Benefit/ Cost Score</p>	<p>The Benefit/Cost score included in the jurisdictional Mitigation Action Plans are considered at the planning level and does not include a full analysis of all costs and benefits associated with action implementation. For example, a mitigation action that scores “High” in benefits and “Low” in costs will be listed as “Moderate” in the plan due to providing a long-term solution, but with a high implementation cost. For some projects, such as routine or ongoing operations conducted with local operating funds and existing staff, this may be the only explicit comparison of costs and benefits. For projects of which grant funding or bond issues may be sought, more in-depth evaluations of costs and benefits may be required. As specific project scopes are detailed, the benefits and costs of an action can be identified with more precision and the benefit-cost ratio (BCR) that results from a full benefit-cost analysis may differ from the planning level Benefit/Cost score presented in the plan. It should be noted that higher scores do not necessarily correspond to high priorities, nor do low scores correspond to low priority projects. An important action with a high priority to a jurisdiction may have a lower Benefit/Cost score because of its complexity, assumed high expense, and other potential costs. Jurisdictions should not be discouraged or deterred from further consideration of actions which have low scores until additional, more specific, evaluations of the costs and benefits has been undertaken.</p> <p><u>Low</u>: Benefits: Projects that only benefit a limited population, or provides short-term benefits / Costs: projects likely to cost over \$100,000 and requiring additional funding or staffing outside of normal operations, and is complicated to implement.</p> <p><u>Moderate</u>: Benefits: Projects that would be felt by moderate amount of population in jurisdiction, or solves a problem for several years / Costs: projects that may need additional funding or continued study or staffing outside of normal operations, with estimated costs between \$10,000 and \$100,000.</p> <p><u>High</u>: Benefits: Projects that benefit many in the jurisdiction that are long- term solutions / Costs: projects that can be implemented by existing personnel with little additional burden on budget and uncomplicated to implement.</p>
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5.5.1

Lee County Mitigation Action Plan							
Goal	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority /Status	Benefit/ Cost Score	Jurisdiction
1	Develop and up to date map of current and future public and private dams/levees in all jurisdictions.	Dam Failure, Flooding, High Winds/Thunderstorms, TS/TD/Hurricane	LCEMA, Engineering Departments of Lee County, Auburn and Opelika	Local State Federal	Low	Moderate	All
1	Maintain up-to-date flood maps for Lee County in digital format by participating in FEMA's Floodplain Map Modernization Program	Flooding	Local Floodplain Managers for Lee County, Auburn, Opelika	Local ADECA AEMA	High	High	City of Auburn City of Opelika City of Smiths Station Lee County
1	Identify and map areas that are vulnerable to sinkholes by conducting asphalt and geotechnical soil testing.	Sinkholes/Land Subsidence	Lee County City of Opelika	Local State Federal	Low No progress	Low	City of Opelika Lee County
1	Continue to maintain GIS data from all jurisdictions to identify and map current and future critical facilities in each jurisdiction.	All	GIS Departments Auburn, Opelika, Lee County, LCEMA, LRCOG	Local State Federal	Medium On-going	High	All
4	Maintain a tree maintenance program to prevent loss and protect lives, property, and infrastructure during a natural hazard.	Hail, Lightning, High Winds/Thunderstorms, Tornado, TS/TD/Hurricane, Winter Storm	Public Works Departments, Opelika, Lee County; Arborist, City of Auburn	Local State funds, if available Federal funds, if available	Medium On-going	High	All
5	Maintain a debris management program before and after a natural hazard occurrence for residence, business, critical facilities and public roads.	All	Public Works and Engineering Departments in Auburn, Opelika and Lee County; LCEMA	Local FEMA	Medium	High	All

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Lee County Mitigation Action Plan							
1	Continue to implement mitigation projects to prevent future sinkholes from occurring in areas prone to this hazard.	Sinkholes/Land Subsidence	City of Opelika, Lee County	Public Works and Engineering Departments in Opelika and Lee County; LCEMA	Medium Many projects have been completed.	High	City of Opelika Lee County
1	Update the public utility subsystems.	Hail, Lightning, High Winds/Thunderstorms	APCO, TELC, Alagaso	Local	Low	Low	All
1	Promote the interconnection of the public water systems.	Drought	Municipal Water Systems; Loachapoka Water Authority; Smiths Station Water and Sewer Authority.	Local State Funds, if available Federal Funds, if available	Low No progress to date	Moderate	All
1	Continue to implement recommended projects from the Storm Water Drainage Plans of the City of Auburn, City of Opelika and Lee County into the Hazard Mitigation Plan.	Flooding	LCEMA Public Works and Engineering Departments in Auburn, Opelika and Lee County	Local State funds, if available Federal funds, if available	High	High	City of Auburn City of Opelika City of Smiths Station Lee County
4	Develop and maintain a dredging program where lakes, streams, creeks, and rivers can be dredged on an as-needed basis in an effort to keep them from overflowing and flooding.	Flooding, High Winds/Thunderstorms, TS/TD/Hurricane	Public Works and Engineering Departments in Opelika and Lee County.	Local State funds, if available Federal funds, if available	Medium Plan has been developed.	Moderate	All
4	Develop and coordinate a list of possible areas to build and/or repair retention ponds in an effort to keep repetitive flooding from damaging commercial and residential structures.	Flooding	Public Works and Engineering Departments in Opelika and Lee County.	Local State funds, if available Federal funds, if available	Low	Moderate	All

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Lee County Mitigation Action Plan							
1	Continue to maintain a list of roads and bridges that need to be mitigated, replaced, and repaired in an effort to keep repetitive flooding from being an issue in terms of egress and ingress.	Flooding	Engineering Departments in Auburn, Opelika and Lee County, AOMPO; LCEMA	Local State funds Federal funds	High	High	All
5	Maintain a reporting system to obtain detailed damage reports from agencies of law enforcement, emergency management services, fire rescue, and other governmental entities when natural hazards occur in the jurisdictions.	All	LCEMA, Auburn and Opelika Law Enforcement and Fire Departments, Lee County Sheriff, Volunteer Fire Departments	Local	Medium	High	All
2	Identify and implement relocation projects for residence and businesses impacted by flooding.	Flooding	LCEMA; Local Governments	Local FEMA	High	Moderate	All
2	Continue to acquire and preserve land that is subject to repetitive flooding from landowners who are willing to participate in the program.	Flooding	LCEMA; Local Governments	Local FEMA	High	Moderate	City of Auburn City of Opelika City of Smiths Station Lee County
2	Identify and implement wind retrofit options/procedures for homes that are subject to repetitive wind damage for landowners who are willing to participate in the program.	High Winds, Thunderstorms, Tornado, TS/TD/Hurricane	LCEMA	Local FEMA	Low	Moderate	All
6	Continue to implement an educational program with the State Forestry Office to promote effective land management practices and regulations with county landowners.	Wildfire	Alabama Forestry Commission, Volunteer Fire Departments, LCEMA	Local State	Medium	High	Lee County
5	Maintain, test and replace (as needed) weather sirens in the county.	All	LCEMA, All jurisdictions	Local FEMA	High	High	All
5	Seek funding for NOAA Weather Radios to be placed in areas of high citizen traffic, areas of high population of at risk populations, outdoor facilities, etc.	All	Lee County EMA, Lee County 911	Foundation Grants State funds, if available	Medium	High	All

Lee County Mitigation Action Plan

Lee County Mitigation Action Plan							
				FEMA			
5	Continue funding for portable HAM Radio stations to be placed in shelters, hospital/medical clinics, etc. during times of natural disasters to enable better communication abilities with service agencies.	All	LCEMA, Lee County 911, Red Cross, RACES HAM Radio Club	Local State Federal	High	High	All
5	Purchase, maintain, or work with existing electronic billboards on interstate off ramps and high traffic roadways/highways in Lee County that can be updated as needed to inform citizens of impending weather conditions or needed evacuation procedures.	All	Public Works and Engineering Departments in Auburn, Opelika and Lee County.	Local State Federal	Low	Low	All
5	Utilize technology, social media and internet options as part of the warning system.	All	LCEMA	Local State Federal	High	High	All
5	Conduct a survey for the county's emergency response agencies to identify any existing needs and possible funding sources in terms of safety equipment, personnel, and other needed resources.	All	LCEMA	Local State Federal	Medium On-going	Moderate	All
6	Continue to offer annual training courses on the occurrence of natural hazards and the recovery efforts associated with the natural hazard.	All	LCEMA	Local	Medium On-going	High	All
5	Explore funding options to renovate/expand the Lee County Emergency Operations Center	All	LCEMA	Local State Federal Foundation	Medium	Moderate	All
6	Maintain a media, website, and public information packet with available shelter information in the event of a disaster.	Flooding, High Winds/Thunderstorms, Tornado, TS/TD/Hurricane, Wildfire, Winter Storms	LCEMA, VOAD, Red Cross, Municipal and County Law Enforcement.	Local State Federal	Medium	High	All
4	Continue to develop and coordinate a list of independent homeowners, schools, and/or agencies who wish to have safe room shelters as part of their residence, school and/or agency. Implement a grant-writing	High Winds, Thunderstorms, Tornado, TS/TD/Hurricane	LCEMA, VOAD, Red Cross, Auburn City Schools, Opelika City Schools, Lee	Local State Federal	High	High	All

Lee County Mitigation Action Plan

	program in an effort to obtain funds.		County School District				
4	Continue to develop and coordinate a list of sites that might be available to host a community shelter in areas of high-risk populations.	Flooding, Tornado, TS/TD/Hurricane, Wildfire, Winter Storm	LCEMA, Local Government, Auburn City Schools, Opelika City Schools, Lee County School District	Local State Federal	Low	High	All
5	Increase the emergency water supply that is available to ensure sufficient supply during a natural disaster.	All	Municipal water systems, Loachapoka Water Authority, Smiths Station Water and Sewer Authority.	Local CDBG USDA	Medium	Moderate	All
5	Continue to acquire portable and fixed generators that will be available for mass care community shelters during times of natural disasters	All	LCEMA, Local Governments	Local State Federal	High	High	All
5	Maintain a recovery response team to initiate recovery efforts and to provide damage reports to the Lee County EMA	All	LCEMA	Local	High	High	All
5	Continue to maintain a database of contact personnel to send grant alerts regarding the availability of funds for equipment and training.	All	LCEMA, LRCOG	Local	High	High	All
6	Distribute natural hazard information at public buildings, such as the library, and on the internet to promote and assist residential and commercial owners in constructing storm shelters.	All	LCEMA	Local AEMA	High	High	All
6	Continue to hold Community Emergency Response Team (CERT) training for citizens of Lee County to assist in natural hazard preparation, planning and public outreach.	All	LCEMA	Local AEMA	High	High	All
6	Offer assistance to citizens by providing access to current maps	Flooding	LCEMA, Floodplain	Local State	High	High	All

Lee County Mitigation Action Plan

	and information on the National Flood Insurance Program.		Managers at Auburn, Lee County and Opelika		Maps are currently online with ADECA		
1	Continue to participate in NFIP by the following activities: 1) participate in floodplain identification and mapping, including any local requests for map updates; 2) offer community assistance to encourage property owners to participate in NFIP to encourage purchase of insurance as a protection against flood losses and 3) develop monitoring activities.	Flooding	LCEMA, Floodplain Managers at Auburn, Lee County and Opelika	Local	High	High	City of Auburn City of Opelika City of Smiths Station Lee County
5	Purchase generators to keep pumps/lift stations and other critical water facilities working in the event of power outages, ensuring that communities have access to potable water.	All	LCEMA, Municipal Water Systems, Loachapoka Water Authority, Smiths Station Water and Sewer Authority.	Local State Federal	High	High	All

Russell County Mitigation Action Plan

Goal	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit/Cost Score	Jurisdiction
1	Develop an up to date map of all current or planned private and public dams and levees in all jurisdictions	Flooding High Winds/Thunderstorms	Russell County Engineering; Phenix City Engineering; RCEMA	Local funds State funds, if available Federal funds, if available	Low	Medium	All
1	Maintain up to date flood maps for Russell County in digital format by participating in FEMA's Floodplain Map Modernization Program	Flooding	Russell County Engineering; Phenix City Engineering; Floodplain Managers	Local funds AEMA ADECA	High In progress	High	All
1	Integrate existing GIS data into one shareable file	All	RCEMA; City of Phenix City; Russell County Commission	Local	Medium In Progress	Moderate	All
4	Implement a tree maintenance program (in ROW) to prevent loss and protect lives, property and infrastructure	Hail, High Winds/Thunderstorms, Tornado, TS/TD/Hurricanes, Winter Storm	Russell County, Phenix City Public Works, Maintenance and Engineering Departments	Local State funds, if available Federal funds, if available	Medium On-going	High	All
5	Maintain a debris management program for homeowners, businesses, critical facilities and infrastructure after natural hazard events	Flooding, Hail, Sinkholes, High Winds/Thunderstorms, Tornado, TS/TD/Hurricane, Wildfire, Winter Storm	Russell County; Phenix City Public Works, Maintenance and Engineering Departments	Local State funds, if available Federal funds, if available	Medium	Moderate	All

Russell County Mitigation Action Plan							
4	Develop a dredging program where lakes, streams, creeks, and rivers can be dredged on an as needed basis in an effort to keep them from overflowing and flooding commercial, residential and public structures and infrastructure.	Flooding, High Winds/Thunderstorms, TS/TD/Hurricane	Russell County, Phenix City Public Works and Engineering Departments	Local State funds, if available Federal funds, if available	Medium	High	All
1	Continue to maintain and enforce regulations for silt fences to prevent erosion.	Flooding, High Winds/Thunderstorms, TS/TD/Hurricanes	Russell County and Phenix City Public Works and Engineering Departments	Local	Medium	High	All
1	Study, develop and implement a storm water drainage plan	Flooding, High Winds/Thunderstorms, TS/TD/Hurricanes	Russell County, Phenix City Public Works and Engineering Departments	Local State funds, if available Federal funds, if available	Medium	Moderate	All
2	Keep accurate lists of properties in Russell County that may be candidates for full or partial buyouts, elevations and/or wind retrofits.	Flooding, High Winds/Thunderstorms, Tornado, TS/TD/Hurricane	RCEMA	Local State funds Federal funds	Medium On-going	Moderate	All
5	Continue to implement a reporting system to	All	RCEMA, Phenix City and Russell County Law	Local	Medium	High	All

Russell County Mitigation Action Plan

	obtain detailed damage reports from law enforcement, emergency management services, fire, rescue and other governmental entities. I		Enforcement, PC Fire Department, Volunteer Fire Departments				
5	Utilize cellular and internet applications for damage reporting	All	RCEMA	Local State funds Federal funds	High	High	All
1	Continue to acquire and preserve land that is subject to repetitive flooding from landowners who are willing to participate in the program	Flooding	RCEMA	Local FEMA	Medium	Moderate	All
6	Develop an educational program with the state forestry office by distributing land management practices and regulation materials to landowners	Wildfire	State Forestry Department, RCEMA	Local State	Low	Moderate	All
2	Identify and construct firebreaks around critical facilities that are vulnerable to wildfires	Drought, Wildfire	State Forestry Department, RCEMA	Local State	Low	Low	All

Russell County Mitigation Action Plan							
5	Continue to seek and secure funding to place outdoor warning sirens in needed places throughout the county	All	RCEMA	Local AEMA FEMA	Medium	Moderate	All
5	Continue to enhance and seek funding and/or partnerships with other agencies to implement mass automated notification systems throughout the county.	All	RCEMA, Russell County 911 Coordinator, Phenix City Schools, Russell County Schools	Local AEMA FEMA USDA	High	Moderate	All
5	Seek and secure funding for NOAA Weather Radios to be placed in areas with high populations of vulnerable citizens and or where large numbers of citizens congregate.	Flooding, Hail, High Winds/Thunderstorms, Tornado, TS/TD/Hurricane, Winter Storm	RCEMA, Russell County 911 Coordinator	Local AEMA FEMA USDA	High On-going	High	All
5	Maintain Web EOC	All	RCEMA	Local FEMA	High	High	All
5	Conduct a survey of the county's emergency response agencies to identify existing needs	All	RCEMA, Phenix City and Russell County Law Enforcement, PC Fire Department;	Local	Medium	High	All

Russell County Mitigation Action Plan							
	and possible funding sources in terms of equipment, personnel, and resources.		Volunteer Fire Departments				
6	Continue to offer training courses on the occurrence of natural hazards and recovery efforts associated with natural hazards.	All	RCEMA	Local State funds, if available Federal funds, if available	Medium On-going	High	All
6	Maintain a media, website and public information packet with shelter locations and services available in the event of a disaster.	All	RCEMA, Phenix City and Russell County Law Enforcement, PC Fire Department, Red Cross	Local	Medium	High	All
5	Develop and maintain a list of homeowners and /or agencies who wish to have a safe room. Secure funds to assist homeowners and agencies in constructing safe rooms.	High Winds/Thunderstorms, Tornado	RCEMA	Local AEMA FEMA	Medium On-going	High	All
5	Work with transportation providers to safely move individuals to shelter.	Flooding, High Winds/Thunderstorms, Tornado, TS/TD/Hurricane, Winter Storm	RCEMA, Phenix City Express Public Transit, Phenix City Schools,	Local State funds, if available	Medium	High	All

Russell County Mitigation Action Plan							
			Russell County Schools	Federal funds, if available			
4	Obtain funding to support the construction of community shelters in areas of need and/or retrofit areas in existing schools so students can shelter in place.	Tornado, Winter Storms	RCEMA, Phenix City Schools, Russell County Schools	Local AEMA FEMA	Medium	Moderate	All
5	Continue to maintain a recovery response team to provide damage reports to Russell County EMA.	Flooding, High Winds/Thunderstorms, Tornado, TS/TD/Hurricanes, Winter Storm	RCEMA; Phenix City and Russell County Law Enforcement, PC Fire Department, Red Cross	Local	Medium	High	All
5	Continue to maintain a database of contract personnel to send grant alerts concerning the availability of funds for equipment and training.	All	RCEMA LRCOG	Local	Medium	High	All
6	Distribute natural hazard information via all available outlets, including social media.	All	RCEMA	Local State funds, if available Federal funds, if available	Medium On-going	High	All
5	Continue to hold Community Emergency	All	RCEMA	Local	High On-going	High	All

Russell County Mitigation Action Plan

	Response Team (CERT) Training and Be Ready Days for citizens to increase their knowledge and ability to respond effectively to natural hazard events.			State funds, if available FEMA			
1	All local governments will continue to participate in NFIP by 1) Participating in floodplain identification and mapping, 2) offering assistance and encouraging property owners to participate in NFIP as protection against flood losses, and 3) Developing monitoring activities.	Flooding, High Winds/Thunderstorms, TS/TD/Hurricane	RCEMA, Phenix City City Manager, Russell County Administrator, Hurtsboro Mayor	Local State funds, if available Federal funds, if available	High All participating	High	All
6	Make current flood maps and NFIP information available to social media websites, brochures and training materials.	Flooding, High Winds/Thunderstorms, TS/TD/Hurricane	RCEMA, Floodplain Managers in Russell County and Phenix City	Local Federal funds, if available	Medium On-going	High	All
5	Purchase generators and trailers in an effort to keep lift stations at	Flooding, High Winds/Thunderstorms, Tornado, TS/TD/Hurricane, Winter Storm	RCEMA, Phenix City Utilities, Russell County Water	Local AEMA	Medium	High	All

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Russell County Mitigation Action Plan

	water distributors working in the event of power outages, ensuring that there will be the ability to have potable water.		Authority, Fort Mitchell Water and Sewer System, Hurtsboro Water Works	Federal funds			
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Lee-Russell COG Mitigation Actions

Goal	Action Description	Hazard	Lead Agency	Funding Source	Priority/ Status	Benefits/ Cost Score
	Conduct a utilities study to determine the potential impact from hazard, and identify any potential projects to eliminate any potential damage.	All	LRCOG			
	Conduct a storm water study to identify problem areas and identify any future projects.	Flooding/ Drought				
	Develop a comprehensive watershed plan for the region.	Flooding/ Drought				
	Implement GIS to assist in hazard mitigation planning	All				
	Conduct a safe railroad crossing study to locate dangerous crossings, and identify potential future projects	Human				
	Conduct a community evacuation route studies to identify potential new projects	All				
	Identify drought					

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	indicators for the region in order to identify potential future projects	Drought				
	Hold community workshops and presentation about the importance of hazard planning in order to increase awareness of hazards.	All				

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Section 6 – Plan Maintenance Process

This section of the plan addresses requirements of Interim Final Rule (IFR) Section 201.6(C) (4).

Section Contents

- 6.1 Hazard Mitigation Plan Monitoring, Evaluation, and Update Process
- 6.2 Hazard Mitigation Plan Incorporation
- 6.3 Public Awareness/Participation

6.1 Hazard Mitigation Plan Monitoring, Evaluation, and Update Process

The Lee-Russell Council of Governments (LRCOG) will facilitate plan maintenance activities with assistance from the AEMA Division D Regional Coordinator, local EMA directors, and other regional planning agencies as their county plans are phased in through the five-year framework of the Hazard Mitigation Plan. Local EMA directors will serve as a liaison to participating jurisdictions with their respective counties through their local processes, such as Local Emergency Planning Committee (LEPC) or similar stakeholder groups. The plan monitoring review process shall be chaired by the elected AAEM representative (currently Ernie --, Autauga County EMA Director), from AEMA Division D. Election of an AAEM representative occurs every summer on an annual basis. Periodic review and revision of the Hazard Mitigation Plan is important to ensure the plan's currency and compliance with applicable regulations and to assess the progress of local mitigation actions. Review and revision of the Hazard Mitigation Plan may occur through the following two procedures:

Annual Review Process

On at least an annual basis, each participating county EMA official shall facilitate a meeting in their respective county and include local jurisdictions and other stakeholders, such as the Local Emergency Planning Committee. The exact meeting process in each participating county will be slightly different. At a minimum, the scope of the annual county-level plan review meeting will be to review and evaluate completed mitigation actions for effectiveness, review status of high-priority or ongoing mitigation actions, discuss possible changes to hazard vulnerability or other elements of the risk assessment, assess any major land use changes, and discuss any other relevant issue pertaining to the Hazard Mitigation Plan. The general public will be invited to attend this meeting through public outreach, as further described in Section 6.3 below, and encouraged to provide their input into the annual review.

Subsequently, a regional meeting between LRCOG, local EMA officials, AEMA Division D Coordinator, and regional stakeholders will be held to review information collected at the county-level meetings and revise the plan. It is viewed appropriate by the local EMA directors that this meeting shall normally coincide with an AEMA Division D quarterly meeting. Any major revision made to the Hazard Mitigation Plan that affects the region as a whole will be distributed to all jurisdictions for adoption in a public session. Otherwise, any project added to a specific Jurisdictional Mitigation Action Plan will be adopted by that specific jurisdiction in a public session.

Emergency review Process

In certain instances, such as a disaster occurrence impacting a participating jurisdiction, the full Annual Review Process may not be timely enough to address unforeseen issues created by a particular event in these situations, a county EMA official may facilitate a county-level plan review meeting, similar to the process described above in the Annual Review Process, with the requisite public outreach. Once this meeting is completed, a local amendment may be adopted by a participating jurisdiction that only pertains to the revision of their specific Jurisdictional Mitigation Action Plan in a public session. After any local amendment, the local county EMA official shall submit documentation of the local amendment to the Chair of the plan monitoring and review process.

Five-Year Plan Update

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Before the five-year expiration (which will begin with the adoption of Phase One, Lee-Russell region) of the Regional Hazard Mitigation Plan, a thorough review, beginning approximately 18 months prior to plan expiration, shall be held to determine any significant changes in the AEMA Division D planning area that may affect the region's vulnerability to hazard impacts, and an evaluation of the mitigation strategy and jurisdictional mitigation action plans developed as part of this process. The remaining AEMA Division D counties will be included in this Regional Plan in a phased process with the goal of having the initial full AEMA Division D plan completed by 2025. This plan update shall incorporate any changes to federal or state regulation that may affect the Hazard Mitigation Plan contents. The plan update process will follow a local-driven, public process, similar to the plan review processes outlined above.

In addition, multiple state, regional and local partners will be consulted to provide data or comments in plan formation. These entities include the U.S. Army Corps of Engineers, Fort Benning, Electrical Cooperatives, Alabama Forestry Commission, Geological Survey of Alabama (GSA), Alabama Department of Public Health (ADPH), Alabama Department of Transportation (ALDOT), Alabama Department of Environmental Management (ADEM), Alabama Historical Commission (AHC), neighboring county EMA offices, regional academic providers, and private sector entities. Upon completion of this review and update, the updated Hazard Mitigation Plan will be submitted to the AEMA and FEMA for review and approval.

6.2 Hazard Mitigation Plan Incorporation

Once the Phase One, Lee-Russell Region Hazard Mitigation Plan is "approvable upon adoption" by FEMA, each jurisdiction shall proceed with adoption procedures. Each proposed action listed in the jurisdictional mitigation action plans are assigned to one or multiple lead agencies or departments in order to assign responsibility and accountability of action implementation to specific sources. In addition to the assigned local agency or department, each mitigation action plan also has a priority or status assigned that roughly coincides with an implementation timeline. The local jurisdictions in AEMA Division D will work to seek to provide operational funding to actions that are ongoing and seek outside funding for capital projects that are outside the realm of normal funding during both pre-disaster and post-disaster periods.

The participating jurisdictions will integrate this Hazard Mitigation Plan into appropriate and relevant municipal and county government decision-making processes, where feasible. This includes integrating the findings of the Hazard Mitigation Plan into documents, such as comprehensive or master plans, future land use plans, subdivision regulations, building regulations, capital improvement plans, or similar mechanisms. Local EMA officials or planning staffs of the appropriate regional planning organization will provide technical assistance for incorporation, upon request. The participating jurisdictions will also work to ensure the goals and actions of local planning documents are consistent with the goals and mitigation actions of the Hazard Mitigation Plan, and will not introduce additional hazard vulnerabilities to the local area and region at-large. Local EMA directors will incorporate applicable information from this Hazard Mitigation Plan into other required emergency management plans, including each county's Emergency Operation Plan and county THIRAs. During county-level plan reviews, participation communities will be asked to record the planning documents in which elements of the Hazard Mitigation Plan were incorporated.

The Hazard Mitigation Plan will also be provided to other affected regional planning agencies for consistency with regional planning and economic development activities, as well as local economic development councils.

6.3 Public Awareness/Participation

Public participation in the hazard mitigation planning process, including monitoring and review of the existing plan, and development and adoption of future plans, is a very important component. Efforts will continue to involve local, state and government agencies, businesses, academia and the general public in the ongoing mitigation planning process to the maximum extent possible.

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As described in the Monitoring, Evaluation, and Update process, any significant changes, amendments, or updates to the Hazard Mitigation Plan shall be discussed in open meetings prior to any adoption procedures. Any plan updates or major revisions will be adopted during a public session. The public will be informed of public hearings and other Hazard Mitigation related meetings through a variety of media sources, including but not limited to: local newspaper advertisements and notices, radio advertising, postings at high traffic community areas, booths at local Severe Weather Expo events, social media, websites, etc. LRCOG and local EMA offices will keep public copies and provide copies of the Hazard Mitigation Plan to each County Commission office, seats of government in each municipality, and other appropriate public locations, i.e. library, senior citizens center. Links to the plan will be posted on appropriate websites. Press releases will be published via various media to inform the general public and stakeholders that the Hazard Mitigation Plan is available for review, where to find the Hazard Mitigation Plan, and how the public can play a role in its creation and future revision.

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Section 7 – Appendix

This section of the plan is dedicated to the Appendix.

Section Contents

- 7.1 Appendix A: Community Survey
- 7.2 Appendix B: Agendas
- 7.3 Appendix C: Briefs, Advertisement, Sign-in Sheets
- 7.4 Appendix D: Hazard Events Tables

7.1 Community Survey Questions

LEE COUNTY ALABAMA HAZARD MITIGATION PLAN UPDATE 2019 PUBLIC SURVEY

The information from this survey will help Lee County EMA develop effective strategies to reduce the effects of hazards such as floods, tornadoes and severe storms on life and property.

1. Where in Lee County do you live?

- Auburn Auburn University Loachapoka Opelika Smiths Station
 Other area of Lee County

- Does it flood where you live?** Yes No I don't know
 Do you have flood insurance? Yes No I don't know

3. How prepared do you feel for disasters such as tornadoes, floods or severe storms?

- Not prepared Somewhat Prepared Prepared Very Prepared

What would help you feel more prepared? *(Check all that apply to you/your household)*

- Educational brochures Community classes on natural hazards Safe Room
 Community shelters Relocate to a safer location Readiness kit

4. Which information sources are the most effective at warning you of approaching storms or disasters in Lee County?

(Check all that apply to you)

- Cell phone Facebook Internet Web Site iPad Newspaper Radio
 Outdoor Sirens Television Telephone Twitter Weather Alert Radio

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5. Please indicate your personal experience and level of concern about the effects of each natural hazard’s potential impact on life and property in Lee County.

Hazard	Have Experienced	Not Concerned	Concerned	Very Concerned
Dam Failure				
Drought				
Earthquakes				
Extreme Temperature (too hot/too cold)				
Flooding				
Hail				
High Wind/Thunderstorm				
Landslides				
Lightning				
Sinkhole				
Tropical Storms/Hurricane				
Tornado				
Wildfire				
Winter Storm				

Please leave this survey with the person who gave it to you today or mail to: Tracie Hadaway, Lee-Russell Council of Governments; 2207 Gateway Drive; Opelika, AL 36801 Questions: 334-528-9237 or thadaway@lrcoq.com

RUSSELL COUNTY ALABAMA HAZARD MITIGATION PLAN UPDATE 2019 PUBLIC SURVEY

The information from this survey will help Russell County EMA develop effective strategies to reduce the effects of hazards such as floods, tornadoes and severe storms on life and property.

2. Where in Russell County do you live?

- Hurtsboro Phenix City Unincorporated Russell County

2. Does it flood where you live?

- Yes No I don’t know

Do you have flood insurance?

- Yes No I don’t know

4. How prepared do you feel for disasters such as tornadoes, floods or severe storms?

- Not prepared Somewhat Prepared Prepared Very Prepared

What would help you feel more prepared? (Check all that apply to you/your household)

- Educational brochures Community classes on natural hazards Safe Room
 Community shelters Relocate to a safer location Readiness kit

- 6. Which information sources are the most effective at warning you of approaching storms or disasters in Russell County? (Check all that apply to you)**

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Cell phone Facebook Internet Web Site iPad Newspaper Radio

Outdoor Sirens Television Telephone Twitter Weather Alert Radio

DRAFT

Please indicate your personal experience and level of concern about the effects of each natural hazard's potential impact on life and property in Russell County.

Hazard	Have Experienced	Not Concerned	Concerned	Very Concerned
Dam Failure				
Drought				
Earthquakes				
Extreme Temperature (too hot/too cold)				
Flooding				
Hail				
High Wind/Thunderstorm				
Landslides				
Lightning				
Sinkhole				
Tropical Storm/Hurricane				
Tornado				
Wildfire				
Winter Storm				

Please leave this survey with the person who gave it to you today or mail to: Tracie Hadaway, Lee-Russell Council of Governments; 2207 Gateway Drive; Opelika, AL 36801 Questions: 334-528-9237 or thadaway@lrcog.com

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7.2 Appendix B: Agendas

AGENDA

PROJECT

Lee-Russell Planning Area Hazard Mitigation Plan

LOCATION & TIME

Russell County Courthouse 1000 Broad Street, Phenix City, AL 36867 on January 22nd, 2020

AGENDA

- Introductions
- PowerPoint
 - Divisions in Alabama & Counties in Division D
 - Updates to Stakeholders and Technical Advisors
 - Division D Goals
 - Introduce the Community Survey
 - Russell County Survey Findings
 - How to Measure Community Resilience
 - Social Vulnerability
 - Hazards Ranked
 - Recap Past Hazards Events
- Questions From the Public
- Conclusions

AGENDA

PROJECT

Lee-Russell Planning Area Hazard Mitigation Plan

LOCATION & TIME

Russell County Courthouse 1000 Broad Street, Phenix City, AL 36867 on January 16th, 2020

AGENDA

- Introductions
- PowerPoint
 - Divisions in Alabama & Counties in Division D
 - Updates to Stakeholders and Technical Advisors
 - Division D Goals
 - Introduce the Community Survey
 - Russell County Survey Findings
 - How to Measure Community Resilience
 - Social Vulnerability
 - Hazards Ranked
 - Recap Past Hazards Events
- Questions
- Conclusions

AGENDA

PROJECT

Lee-Russell Planning Area Hazard Mitigation Plan

LOCATION & TIME

Lee County Emergency Management Agency 908 Ave B, Opelika, AL 36801 on January 14th, 2020

AGENDA

- Introductions
- PowerPoint
 - Divisions in Alabama & Counties in Division D
 - Updates to Stakeholders and Technical Advisors
 - Division D Goals
 - Introduce the Community Survey
 - Russell County Survey Findings
 - How to Measure Community Resilience
 - Social Vulnerability
 - Hazards Ranked
 - Recap Past Hazards Events
- Questions
- Conclusions

AGENDA

PROJECT

Lee-Russell Planning Area Hazard Mitigation Plan

LOCATION & TIME

Lee County Emergency Management Agency 908 Ave B, Opelika, AL 36801 on November 5th, 2019

AGENDA

- Introductions
- PowerPoint
 - Divisions in Alabama & Counties in Division D
 - Updates to Stakeholders and Technical Advisors
 - Plan Requirements, Process, and Timeline
 - Role of Stakeholders and Technical Advisors
 - Benefits of Mitigation Planning
 - Mission Statement
 - Hazard Identified
 - Historical Hazard Events Recap
- Questions
- Conclusions

AGENDA

PROJECT

Lee-Russell Planning Area Hazard Mitigation Plan

LOCATION & TIME

Russell County Courthouse 1000 Broad Street, Phenix City, AL 36867 on October 31st, 2019

AGENDA

- Introductions
- PowerPoint
 - Divisions in Alabama & Counties in Division D
 - Updates to Stakeholders and Technical Advisors
 - Plan Requirements, Process, and Timeline
 - Role of Stakeholders and Technical Advisors
 - Benefits of Mitigation Planning
 - Mission Statement
 - Hazard Identified
 - Historical Hazard Events Recap
- Questions
- Conclusions

AGENDA

PROJECT

Lee-Russell Planning Area Hazard Mitigation Plan

LOCATION & TIME

Lee County Emergency Management Agency 908 Ave B, Opelika, AL 36801 on October 17th, 2019

AGENDA

- Introductions
 - PowerPoint
 - Divisions in Alabama & Counties in Division D
 - Benefits of Mitigation Planning
 - Legal Regulations for Local Hazard Mitigation
 - Plan Requirements
 - Core Planning Team for Division D
 - Responsibilities, Processes, Timeline
 - Hazards Introduced
 - Risk Index
 - Questions
 - Conclusion
-

AGENDA

PROJECT

Lee-Russell Planning Area Hazard Mitigation Plan

LOCATION & TIME

Russell County Courthouse 1000 Broad Street, Phenix City, AL 36867, on October 10th, 2019

AGENDA

- Introductions
- PowerPoint
 - Divisions in Alabama & Counties in Division D
 - Benefits of Mitigation Planning
 - Legal Regulations for Local Hazard Mitigation
 - Plan Requirements
 - Core Planning Team for Division D
 - Responsibilities, Processes, Timeline
 - Hazards Introduced
 - Risk Index
- Questions
- Conclusion

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7.3 Flyers, Briefings, and Sign-in Sheets

October 31st and November 5th, Plan Update, Lee-Russell Council of Governments Website

Hazard Mitigation 2019 Update Public Surveys

Lee-Russell Council of Governments is collecting survey data from Lee and Russell County residents for the Hazard Mitigation 2019 Update. The information from these surveys will help Lee and Russell County EMA's develop effective strategies to reduce the effects of hazards such as floods, tornadoes and severe storms on life and property. Please click your corresponding counties link below to fill out a short survey.

[LEE COUNTY RESIDENT SURVEYS](#)

[RUSSELL COUNTY RESIDENT SURVEYS](#)

Russell County Hazard Mitigation Plan Update
Public Invited - Mitigation Strategies
October 31, 2019
10:00 – Noon EDT
Russell County Commission Chambers
1000 Broad Street
Phenix City, AL

Lee County Hazard Mitigation Plan Update
Public Invited – Mitigation Strategies
November 5, 2019
1:00 pm – 3:00 pm CST
Lee County EMA
908 Avenue B
Opelika, AL

Lee-Russell Council of Governments
2207 Gateway Drive Opelika, AL 36801-6834
Phone: (334) 749-5264 Fax: (334) 749-6582
1-800-243-5463 (1-800-AGELINE)

January 14th and January 16th, Plan Update, Lee-Russell Council of Governments Website

Hazard Mitigation Plan Update Open Houses

Lee-Russell Hazard Mitigation Plan Update
Public Briefing
January 14, 2020
1:00 CST
Lee County EMA
908 Avenue B
Opelika, AL

Lee-Russell Hazard Mitigation Plan Update
Public Briefing
January 16, 2020
10:00 EST
Russell County Commission Chambers
1000 Broad Street
Phenix City, AL

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January 14th, Plan Update, Opelika EMA Website

Your EMA Emergency Preparedness Citizen Engagement Disaster



Public Meeting Lee-Russel County Hazard Mitigation

1:00pm CST
January 14, 2020
908 Avenue B
Opelika, AL

We encourage all to attend!

Lee County Alerts

Sign up below in order to receive Important Messages and
Emergency Alert Notifications from Lee County Alabama
Emergency Management Agency!

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January 22nd, Public Briefing, Russell County Commissioner Meeting

PUBLIC BRIEFING

PROJECT

Lee-Russell Planning Area Hazard Mitigation Plan

LOCATION & TIME

Russell County Courthouse 1000 Broad Street, Phenix City, AL 36867 at 9:15 January 22nd, 2020

PURPOSE

The Lee-Russell Council of Governments (LRCOG) will be presenting a brief presentation about the update for the Lee-Russell Planning Area Hazard Mitigation Plan at 9:15 am Eastern Time. The purpose of the presentation is to brief the public on the draft update of the first phase of AEMA, Division D, Regional Hazard Mitigation Plan.

A draft copy of the draft plan can be found at our website, www.lrcog.com

For more information, please contact:

Tracie Hadaway

Planning and Economics Director

theadaway@lrcog.com

334-749-5264

Taylor Esco

Planning and Economic Specialist

tesco@lrcog.com

334-749-5264

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January 30th, Open House, Lee-Russell Council of Governments, Newspaper

PUBLIC BRIEFING

The Lee-Russell Council of Governments (LRCOG) will be hosting an Open House for the Lee-Russell Planning Area Hazard Mitigation Plan update. The open house will take place on January 30, 2020 from 4:00 pm CST-7:00 pm CST at the Lee-Russell COG office, 2207 Gateway Drive, Opelika, AL. The purpose of the Open House is to brief the public on the draft update of the first phase of AEMA, Division D, Regional Hazard Mitigation Plan.

A draft copy of the draft plan can be found at our website, www.lrcog.com.

If you have any questions regarding the plan or the meeting, please contact Tracie Hadaway, thadaway@lrcog.com or Taylor Esco, tesco@lrcog.com or 334-749-5264.

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October 10th, Public Meeting, Sign-In Sheet

Division D Hazard Mitigation Plan
 Russell County Sub-Committee Meeting
 October 10, 2019

Name (Please Print)	Organization	Signature	E-Mail
Lisa Sandt	Lecog		lsandt@leco.org.com
Seigal Tim	Fort Rann Fire Dept		Timothy.J.Seigal@leco.org.com @mail.mll
Tary WYONA	FT BRUN. EM		Tary.W.Wyona@leco.org.com G.M.H.R.M.L.L.
Tim Price	FA Beam At		timothyprice@leco.org.com
SOMANINA CATO	RUSSELL COUNTY EMA		scato@rcema.us
DAVID MARTIN	RUSSELL COUNTY EMA		dmartin@rcema.us
BOB FRANKLIN	RUSSELL COUNTY EMA		bfranklin@rcema.us
Lt. Low Russell	Russell County School District		lrussell@rcso.org
Marianne Michael	Troy University		mami.chae@troy.edu
T.J. Hughes	Phenix City		Hughes@phenixcity.gov
R. Ke Goodman	Tallapoosa River Electric Coop		Rgoodman@trcc.coop

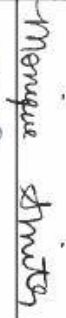





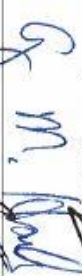

Division D Hazard Mitigation Plan
 Russell County Sub-Committee Meeting
 October 10, 2019

Name (Please Print)	Organization	Signature	E-Mail
RILEY LAND	COUNCILS EMA/HHS	<i>[Signature]</i>	RILEY@COUNCILS.ORG
Angel Moore	PC ENGINEERING	<i>[Signature]</i>	AMORE@PHENIXCITYGA.ORG
MIKE PATILLO	PC ENGS.	<i>[Signature]</i>	MPATILLO@PHENIXCITYGA.ORG
Dane Alexander	AEMS Companies	<i>[Signature]</i>	DALEXANDER@AEMSCOMPANIES.COM
Nathan Walters	PCOE	<i>[Signature]</i>	NWALTERS@CYBER.NET
Jennifer Davidson	Alabama Extension Russell	<i>[Signature]</i>	JENNTDR@AUBURN.EDU
KRISTIN KENNEDY	Phenix City Fire Rescues	<i>[Signature]</i>	KKENNEDY@PHENIXCITYGA.ORG
OMAR ARMSTRONG	ALDOT	<i>[Signature]</i>	ARMSTRONG@DOT.STATE.AL.US
Monique Smith	ASMA	<i>[Signature]</i>	MONIQUE.SMITH@CMAA.ORG
<i>[Signature]</i>	COUNTY ADMIN	<i>[Signature]</i>	JENNIFER@RUSSELLCOUNTYGA.ORG

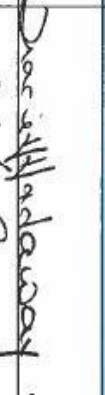




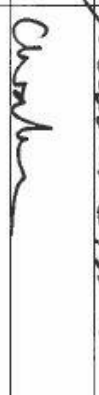


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October 17th, Public Meeting, Sign-In Sheet

Division D Hazard Mitigation Plan
Lee County Sub-Committee Meeting
October 17, 2019

Name (Please Print)	Organization	Signature	E-Mail
Monique Smith	ACEMA		monique.smith@acema.alabama.gov
Kathryn Carson	ACEMA		
Dylon J. Rather	Opelika Fire		bprather@opelika-al.gov
Austin Bayles	EMC EMS		austin.bayles@emc.al.gov
Austin Jones	LC EMA		austing@lcema.com
Tim Woody	City of Auburn		twoody@auburnalabama.gov
Cary Hanks	Alabama Power Co		cmhanks@southernco.com
Mike Aljager	City of Opelika/ESSA		mikeal@opelika-al.gov









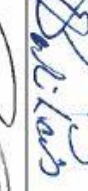

Division D Hazard Mitigation Plan
 Lee County Sub-Committee Meeting
 October 17, 2019

Name (Please Print)	Organization	Signature	E-Mail
Tracie Hadaway	LRCOG		theadaway@lrcog.com
Jon Kinney	DREKA Fire		jkenedy@opika-91.gov
Kita Smith	LEMA		ksmith@lema.com
Randy Causey Sebastian Dixon	EAMC Alabama Power	 	randy.causey@eamc.org sdixon@sebastianpower.com
Chris Warrick	LEE CO S.O.		cwarrick@leecountysheriff.org
Dennis Keener	Auburn City Schools		dkeener@auburnschools.org
Matt Jordan	Auburn Fire		mjordan@auburnfire.org
-	-	-	-


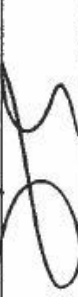

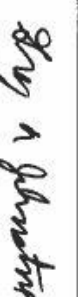
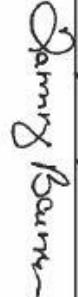

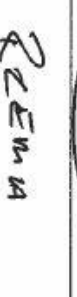

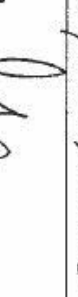
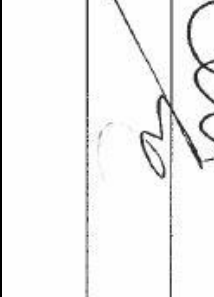
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October 31st, Public Meeting, Sign-In Sheet

Division D Hazard Mitigation Plan
 Russell County Sub-Committee Meeting
 October 31, 2019

Name (Please Print)	Organization	Signature	E-Mail
Eula Phillips	Town of Kirkston		eula.oe@att.net
Shaun Blakney	Russell Co Engr		sblakney@rhd.com
Dave Alexander	ATWS Inc		dalexander@ATWSCompany.com
Ray Summ	PUBBY Inc		RSM174@PUBBYINC.COM
Jackie Scaus	CVCC		jackie.scaus@cvcc.edu
Robbald Goodard	KDOT		craig.ford@kdot.state.ak.us
Jeffrey Martin	Riverside Comm.		
Erica Hare	Jack Hugston Mem Hosp.		ehare@jmhospital.com
Eric Davis	AKDOT		edavis@dot.state.ak.us
Jason Skibbs	F		jason@excelsiormarketing.com

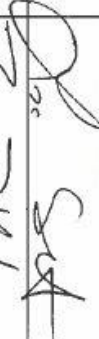







Division D Hazard Mitigation Plan
 Russell County Sub-Committee Meeting
 October 31, 2019

Name (Please Print)	Organization	Signature	E-Mail
Lisa Sault	LRCOG		lsault@lrcog.com
JAMANTHA CATO	RCEMA		scato@rcema.us
DAVID MARTIN	RCEMA		dmartin@rcema.us
BOB FRANKLIN	RCEMA		bfranklin@rcema.us
Greg Idonstone	Continental Carbon		gidonstone@continentalcarbon.com
Tammy Barnes	RCISOE		barneste@russellco.net
Ward Dudley	RCBOC		dudleyh@russellco.net
Bue Franklin	RCBOC		bfranklin@rcema.us
MIKE PATILLO	CITY OF PC		mipath@geoplenixcityhd.us
Angel Moore	CITY of PC		amoore@pnen.xichipol.us
Sergey Tim	FOR BERNIS FIRE DEPT		Timothy.J.Sergal.civ@gmail.com

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November 5th, Public Meeting, Sign-In Sheet


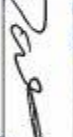





Division D Hazard Mitigation Plan
Lee County Sub-Committee Meeting
November 5, 2019

Name (Please Print)	Organization	Signature	E-Mail
Lisa Sandt	Lecog		lsandt@lrecog.com
Byron Pather	OFD		bpathner@opflkn.com
Rita Smith	LEEMA		rsmith@lrecog.com
CHRIS HARRIS	AUBURN CITY SERVICES		CHARRIS@AUBURNCSOS.COM
Ashin Jones	LEEMA		ashinj@lrecog.com
Austin Bayles	EA EMS		austin.bayles@eaems.com
Mike Harper	EA EMS		mike.harper@eaems.com
Tim Woody	City of Aub		timwoody@auburnlebanon.org

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January 16th, Public Meeting, Sign-In Sheet

Division D Hazard Mitigation Plan
Russell County Sub-Committee Meeting
January 16, 2020


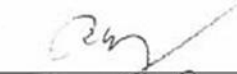
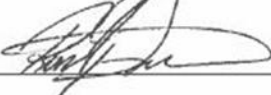




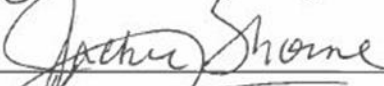
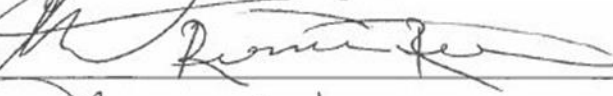
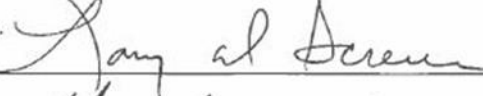
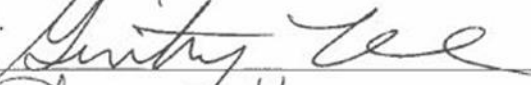
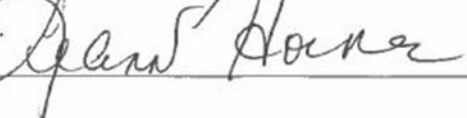
Name (Please Print)	Organization	Signature	E-Mail
SAMANTHA CATO	RUSSELL COUNTY EMA		scato@rcema.us
DAVID MARTIN	RUSSELL COUNTY EMA		dmartin@rcema.us
BOB FRANKLIN	RUSSELL COUNTY EMA		bfranklin@rcema.us
Victor Cross	Russell County ED		vic48@icloud.com
Vivian Covington	Town of Hurtstboro		hurtstboromap@gmail.com
Shawn Blakney	Russell County Engineering		sblakney@rced.us
LEANN HERNANDEZ	Russell County Administration		leann.hernandez@rcsll.com

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January 22nd, Public Meeting, Sign-In Sheet

PUBLIC HEARING FOR
HAZARD MITIGATION PLAN PUBLIC BRIEFING

Date: January 22, 2020

Name	Topic
1. 	
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Public Hearing

Date: January 22, 2019

Name
14. <i>Stacie Epps</i>
15. <i>Lee Langston</i>
16. <i>Jeff Hirtz</i>
17. <i>Patricia Corbett</i>
18. <i>Naomi Elton</i>
19. <i>[Signature]</i>
20. <i>Shelli Brown</i>
21. <i>Larry Person</i>
22. <i>Reggie Martin</i>
23. <i>Charm Corbett</i>
24.
25.
26.

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7.4 Appendix D: Hazard Event Tables

Lee-Russell Extreme Temperatures

Location	County/Zone	St.	Date	Type	Dth	Inj	PrD	CrD
LEE (ZONE)	LEE (ZONE)	AL	2/3/1996	Cold/wind Chill	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	2/3/1996	Cold/wind Chill	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	2/23/1996	Heat	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	3/7/1996	Cold/wind Chill	0	0	0.00K	1.000M
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	3/7/1996	Cold/wind Chill	0	0	0.00K	1.000M
LEE (ZONE)	LEE (ZONE)	AL	1/24/2003	Extreme Cold/wind Chill	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	1/24/2003	Extreme Cold/wind Chill	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	8/8/2007	Heat	0	60	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	6/28/2012	Heat	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	7/1/2012	Heat	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	7/26/2012	Heat	0	0	0.00K	0
LEE (ZONE)	LEE (ZONE)	AL	1/6/2014	Cold/wind Chill	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	1/6/2014	Cold/wind Chill	0	0	0.00K	0.00K

Lee-Russell Drought Events

Location	County/Zone	St.	Date	Type	Dth	Inj	PrD	CrD
LEE (ZONE)	LEE (ZONE)	AL	7/11/2006	Drought	0	0	0.00K	0.00K

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RUSSELL (ZONE)	4	AL	7/11/2006	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	8/1/2006	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	8/1/2006	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	9/1/2006	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	9/1/2006	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	5/22/2007	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	5/22/2007	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	6/1/2007	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	6/1/2007	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	7/1/2007	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	7/1/2007	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	8/1/2007	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	8/1/2007	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	9/1/2007	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	9/1/2007	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	10/1/2007	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	10/1/2007	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	11/1/2007	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	11/1/2007	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	12/1/2007	Drought	0	0	0.00K	0.00K

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RUSSELL (ZONE)	RUSSELL (ZONE)	AL	12/1/2007	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	1/1/2008	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	1/1/2008	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	2/1/2008	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	2/1/2008	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	3/1/2008	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	3/1/2008	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	4/1/2008	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	4/1/2008	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	5/1/2008	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	6/1/2008	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	6/24/2008	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	7/1/2008	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	7/1/2008	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	8/1/2008	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	8/1/2008	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	9/14/2010	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	9/21/2010	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	9/21/2010	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	10/1/2010	Drought	0	0	0.00K	0.00K

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RUSSELL (ZONE)	RUSSELL (ZONE)	AL	10/1/2010	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	11/1/2010	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	11/23/2010	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	12/1/2010	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	12/1/2010	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	1/1/2011	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	1/1/2011	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	1/1/2011	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	1/1/2011	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	2/1/2011	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	2/1/2011	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	2/4/2011	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	3/1/2011	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	3/1/2011	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	3/1/2011	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	4/1/2011	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	4/5/2011	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	4/5/2011	Drought	0	0	0.00K	0.00K

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LEE (ZONE)	LEE (ZONE)	AL	5/1/2011	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	5/10/2011	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	6/1/2011	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	6/1/2011	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	7/1/2011	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	7/1/2011	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	8/1/2011	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	8/1/2011	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	9/1/2011	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	9/1/2011	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	10/1/2011	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	10/1/2011	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	11/1/2011	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	11/1/2011	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	12/1/2011	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	12/1/2011	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	1/1/2012	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	1/1/2012	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	2/1/2012	Drought	0	0	0.00K	0.00K

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RUSSELL (ZONE)	RUSSELL (ZONE)	AL	2/1/2012	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	3/1/2012	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	3/1/2012	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	4/1/2012	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	4/1/2012	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	5/1/2012	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	5/1/2012	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	6/1/2012	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	6/1/2012	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	7/1/2012	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	7/1/2012	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	8/1/2012	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	8/1/2012	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	9/1/2012	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	9/1/2012	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	10/1/2012	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	10/1/2012	Drought	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	11/1/2012	Drought	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	11/1/2012	Drought	0	0	0.00K	0.00K

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COUNTYWIDE	LEE CO.	AL	1/7/1998	Flash Flood	0	0	25.00K	5.00K
COUNTYWIDE	RUSSELL CO.	AL	1/7/1998	Flash Flood	0	0	25.00K	5.00K
COUNTYWIDE	RUSSELL CO.	AL	3/8/1998	Flash Flood	0	0	75.00K	10.00K
COUNTYWIDE	LEE CO.	AL	6/28/1999	Flash Flood	0	0	1.500M	0.00K
SEALE	RUSSELL CO.	AL	3/3/2001	Flash Flood	0	0	14.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	5/8/2003	Flood	0	0	1.750M	100.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	5/8/2003	Flood	0	0	200.00K	25.00K
COUNTYWIDE	LEE CO.	AL	7/1/2003	Flash Flood	0	0	40.00K	0.00K
AUBURN	LEE CO.	AL	7/26/2004	Flash Flood	0	0	75.00K	0.00K
COUNTYWIDE	RUSSELL CO.	AL	9/16/2004	Flash Flood	0	0	25.00K	0.00K
COUNTYWIDE	LEE CO.	AL	3/27/2005	Flash Flood	0	0	20.00K	0.00K
PHENIX CITY	RUSSELL CO.	AL	3/27/2005	Flash Flood	0	0	22.00K	0.00K
COUNTYWIDE	LEE CO.	AL	3/31/2005	Flash Flood	0	0	80.00K	0.00K
COUNTYWIDE	LEE CO.	AL	4/1/2005	Flash Flood	0	0	300.00K	0.00K
COUNTYWIDE	RUSSELL CO.	AL	7/10/2005	Flash Flood	0	0	17.00K	0.00K
AUBURN	LEE CO.	AL	11/15/2006	Flash Flood	0	0	0.00K	0.00K
SALEM	LEE CO.	AL	9/19/2009	Flash Flood	0	0	0.00K	0.00K
LADONIA	RUSSELL CO.	AL	9/19/2009	Flash Flood	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	11/10/2009	Flood	0	0	0.00K	0.00K

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STONEWALL	LEE CO.	AL	12/14/2009	Flash Flood	0	0	5.00K	0.00K
PITTSVIEW	RUSSELL CO.	AL	12/14/2009	Flash Flood	0	0	10.00K	0.00K
HURTSBORO	RUSSELL CO.	AL	5/3/2010	Flash Flood	0	0	10.00K	0.00K
ROANOKE JCT	LEE CO.	AL	6/26/2011	Flash Flood	0	0	50.00K	0.00K
PHENIX CITY	RUSSELL CO.	AL	9/20/2011	Flash Flood	0	0	20.00K	0.00K
AUBURN	LEE CO.	AL	8/15/2013	Flash Flood	0	0	0.00K	0.00K
MITCHELL XRD	LEE CO.	AL	4/7/2014	Flash Flood	0	0	0.00K	0.00K
ROANOKE JCT	LEE CO.	AL	8/11/2014	Flash Flood	0	0	0.00K	0.00K
NORTH AUBURN	LEE CO.	AL	12/24/2015	Flash Flood	0	0	0.00K	0.00K
LOFLIN	RUSSELL CO.	AL	12/24/2015	Flash Flood	0	0	0.00K	0.00K
VALLEY	LEE CO.	AL	12/25/2015	Flash Flood	0	0	0.00K	0.00K
HURTSBORO	RUSSELL CO.	AL	1/2/2017	Flash Flood	0	0	0.00K	0.00K
LADONIA	RUSSELL CO.	AL	7/25/2017	Flash Flood	0	0	0.00K	0.00K
J C MEADOWS XRDS	LEE CO.	AL	5/23/2018	Flash Flood	0	0	0.00K	0.00K
LADONIA	RUSSELL CO.	AL	5/23/2018	Flash Flood	0	0	0.00K	0.00K
UNLAND	RUSSELL CO.	AL	6/17/2018	Flash Flood	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	8/14/2018	Flash Flood	0	0	0.00K	0.00K
NUCKOLS	RUSSELL CO.	AL	6/8/2019	Flash Flood	0	0	0.00K	0.00K

Lee Russell Hail Events

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<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
LEE CO.	LEE CO.	AL	5/21/1990	Hail	1.75 in.	0	0	0.00K	0.00K
RUSSELL CO.	RUSSELL CO.	AL	4/29/1991	Hail	1.00 in.	0	0	0.00K	0.00K
RUSSELL CO.	RUSSELL CO.	AL	5/13/1993	Hail	0.75 in.	0	0	0.00K	0.00K
Opelika	LEE CO.	AL	3/18/1995	Hail	0.75 in.	0	0	0.00K	0.00K
Gold Hill	LEE CO.	AL	4/23/1995	Hail	1.75 in.	0	0	0.00K	0.00K
Marvyn	LEE CO.	AL	10/27/1995	Hail	0.88 in.	0	0	0.00K	0.00K
Smiths	LEE CO.	AL	12/18/1995	Hail	0.75 in.	0	0	0.00K	0.00K
SALEM	LEE CO.	AL	3/16/1996	Hail	1.00 in.	0	0	12.00K	0.00K
SMITH STATION	LEE CO.	AL	3/18/1996	Hail	0.75 in.	0	0	8.00K	5.00K
BEAUREGARD	LEE CO.	AL	4/14/1996	Hail	0.75 in.	0	0	8.00K	2.00K
SEALE	RUSSELL CO.	AL	4/14/1996	Hail	0.75 in.	0	0	8.00K	2.00K
SEALE	RUSSELL CO.	AL	4/29/1996	Hail	1.75 in.	0	0	25.00K	5.00K
PHENIX CITY	RUSSELL CO.	AL	6/15/1996	Hail	0.75 in.	0	0	10.00K	0.00K
SMITHS	LEE CO.	AL	6/23/1996	Hail	0.75 in.	0	0	10.00K	0.00K
PHENIX CITY	RUSSELL CO.	AL	3/13/1997	Hail	0.88 in.	0	0	4.00K	0.00K
PHENIX CITY	RUSSELL CO.	AL	5/3/1997	Hail	1.00 in.	0	0	4.00K	0.00K
AUBURN	LEE CO.	AL	5/9/1997	Hail	0.75 in.	0	0	4.00K	0.00K
SMITHS STATION	LEE CO.	AL	5/9/1997	Hail	1.25 in.	0	0	6.00K	0.00K
PHENIX CITY	RUSSELL CO.	AL	5/9/1997	Hail	0.75 in.	0	0	4.00K	0.00K

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OPELIKA	LEE CO.	AL	7/15/1997	Hail	0.75 in.	0	0	3.00K	0.00K
SMITHS STATION	LEE CO.	AL	11/1/1997	Hail	0.75 in.	0	0	2.00K	0.00K
OPELIKA	LEE CO.	AL	11/1/1997	Hail	1.75 in.	0	0	8.00K	0.00K
MARVYN	LEE CO.	AL	3/20/1998	Hail	0.75 in.	0	0	0.00K	0.00K
SEALE	RUSSELL CO.	AL	4/3/1998	Hail	0.75 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	4/8/1998	Hail	0.75 in.	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	4/8/1998	Hail	1.00 in.	0	0	2.00K	2.00K
AUBURN	LEE CO.	AL	4/8/1998	Hail	1.00 in.	0	0	2.00K	2.00K
OPELIKA	LEE CO.	AL	4/8/1998	Hail	0.88 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	5/3/1998	Hail	0.75 in.	0	0	0.00K	0.00K
HURTSBORO	RUSSELL CO.	AL	5/3/1998	Hail	0.88 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	6/5/1998	Hail	0.75 in.	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	6/25/1998	Hail	0.75 in.	0	0	0.00K	0.00K
SMITHS	LEE CO.	AL	10/7/1998	Hail	0.75 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	10/7/1998	Hail	0.88 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	2/27/1999	Hail	0.75 in.	0	0	0.00K	0.00K
COTTONTON	RUSSELL CO.	AL	4/15/1999	Hail	1.00 in.	0	0	0.00K	0.00K
SMITHS	LEE CO.	AL	5/6/1999	Hail	0.75 in.	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	5/13/1999	Hail	0.75 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	5/13/1999	Hail	1.00 in.	0	0	0.00K	0.00K

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HURTSBORO	RUSSELL CO.	AL	5/13/1999	Hail	0.88 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	6/4/1999	Hail	0.75 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	6/4/1999	Hail	1.00 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	2/13/2000	Hail	0.75 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	2/13/2000	Hail	0.88 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	2/13/2000	Hail	1.00 in.	0	0	0.00K	0.00K
SALEM	LEE CO.	AL	2/13/2000	Hail	0.75 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	3/10/2000	Hail	0.75 in.	0	0	0.00K	0.00K
SEALE	RUSSELL CO.	AL	3/10/2000	Hail	0.75 in.	0	0	0.00K	0.00K
PHENIX CITY	RUSSELL CO.	AL	3/10/2000	Hail	1.00 in.	0	0	0.00K	0.00K
PHENIX CITY	RUSSELL CO.	AL	3/10/2000	Hail	0.75 in.	0	0	0.00K	0.00K
HURTSBORO	RUSSELL CO.	AL	8/9/2000	Hail	0.88 in.	0	0	0.00K	0.00K
HURTSBORO	RUSSELL CO.	AL	8/9/2000	Hail	0.88 in.	0	0	0.00K	0.00K
SMITHS	LEE CO.	AL	8/10/2000	Hail	1.00 in.	0	0	1.00K	0.00K
AUBURN	LEE CO.	AL	8/10/2000	Hail	0.75 in.	0	0	0.00K	0.00K
SMITHS	LEE CO.	AL	6/3/2001	Hail	0.75 in.	0	0	0.00K	0.00K
SEALE	RUSSELL CO.	AL	6/3/2001	Hail	0.88 in.	0	0	0.00K	0.00K
LOACHAPOKA	LEE CO.	AL	7/10/2001	Hail	1.00 in.	0	0	0.00K	0.00K
COTTONTON	RUSSELL CO.	AL	3/31/2002	Hail	0.75 in.	0	0	0.00K	0.00K
FT MITCHELL	RUSSELL CO.	AL	3/31/2002	Hail	0.75 in.	0	0	0.00K	0.00K

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FT MITCHELL	RUSSELL CO.	AL	5/11/2002	Hail	0.75 in.	0	0	0.00K	0.00K
MARVYN	LEE CO.	AL	5/30/2002	Hail	1.00 in.	0	0	2.00K	0.00K
SALEM	LEE CO.	AL	6/4/2002	Hail	1.00 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	8/20/2002	Hail	0.75 in.	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	8/20/2002	Hail	0.75 in.	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	1/22/2003	Hail	0.75 in.	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	3/14/2003	Hail	0.88 in.	0	0	0.00K	0.00K
PITTSVIEW	RUSSELL CO.	AL	3/14/2003	Hail	1.75 in.	0	0	5.00K	0.00K
OPELIKA	LEE CO.	AL	3/19/2003	Hail	0.75 in.	0	0	0.00K	0.00K
FT MITCHELL	RUSSELL CO.	AL	3/19/2003	Hail	0.75 in.	0	0	0.00K	0.00K
PHENIX CITY	RUSSELL CO.	AL	3/19/2003	Hail	0.75 in.	0	0	0.00K	0.00K
LOACHAPOKA	LEE CO.	AL	4/25/2003	Hail	2.75 in.	0	0	250.00K	0.00K
PHENIX CITY	RUSSELL CO.	AL	4/25/2003	Hail	2.00 in.	0	0	80.00K	0.00K
HURTSBORO	RUSSELL CO.	AL	4/25/2003	Hail	1.75 in.	0	0	35.00K	0.00K
SEALE	RUSSELL CO.	AL	5/1/2003	Hail	0.75 in.	0	0	0.00K	0.00K
HURTSBORO	RUSSELL CO.	AL	4/12/2004	Hail	0.75 in.	0	0	0.00K	0.00K
PHENIX CITY	RUSSELL CO.	AL	4/12/2004	Hail	0.75 in.	0	0	0.00K	0.00K
HURTSBORO	RUSSELL CO.	AL	6/27/2004	Hail	0.75 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	10/19/2004	Hail	1.75 in.	0	0	2.00K	0.00K

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SMITHS	LEE CO.	AL	3/22/2005	Hail	1.75 in.	0	0	16.00K	0.00K
SEALE	RUSSELL CO.	AL	3/22/2005	Hail	1.75 in.	0	0	22.00K	0.00K
PITTSVIEW	RUSSELL CO.	AL	3/26/2005	Hail	0.88 in.	0	0	0.00K	0.00K
HOLY TRINITY	RUSSELL CO.	AL	3/26/2005	Hail	1.25 in.	0	0	0.00K	0.00K
LOACHAPOKA	LEE CO.	AL	3/27/2005	Hail	0.75 in.	0	0	0.00K	0.00K
COTTONTON	RUSSELL CO.	AL	3/27/2005	Hail	0.75 in.	0	0	0.00K	0.00K
LOACHAPOKA	LEE CO.	AL	3/31/2005	Hail	1.75 in.	0	0	23.00K	0.00K
LOACHAPOKA	LEE CO.	AL	4/22/2005	Hail	1.00 in.	0	0	1.00K	0.00K
LADONIA	RUSSELL CO.	AL	4/22/2005	Hail	0.88 in.	0	0	1.00K	0.00K
SEALE	RUSSELL CO.	AL	4/22/2005	Hail	1.75 in.	0	0	4.00K	0.00K
SMITHS	LEE CO.	AL	5/20/2005	Hail	1.00 in.	0	0	0.00K	0.00K
HURTSBORO	RUSSELL CO.	AL	6/2/2005	Hail	1.00 in.	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	8/17/2005	Hail	0.75 in.	0	0	0.00K	0.00K
BLEECKER	LEE CO.	AL	12/28/2005	Hail	0.75 in.	0	0	0.00K	0.00K
SMITHS	LEE CO.	AL	12/28/2005	Hail	0.75 in.	0	0	0.00K	0.00K
FT MITCHELL	RUSSELL CO.	AL	12/28/2005	Hail	2.75 in.	0	0	6.00K	0.00K
COTTONTON	RUSSELL CO.	AL	12/28/2005	Hail	0.75 in.	0	0	0.00K	0.00K
HOLY TRINITY	RUSSELL CO.	AL	12/28/2005	Hail	1.75 in.	0	0	2.00K	0.00K
OPELIKA	LEE CO.	AL	3/20/2006	Hail	1.00 in.	0	0	0.00K	0.00K
SMITHS	LEE CO.	AL	3/20/2006	Hail	1.00 in.	0	0	0.00K	0.00K

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OPELIKA	LEE CO.	AL	4/8/2006	Hail	0.88 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	5/10/2006	Hail	1.00 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	5/13/2006	Hail	0.88 in.	0	0	0.00K	0.00K
PHENIX CITY	RUSSELL CO.	AL	5/13/2006	Hail	0.88 in.	0	0	0.00K	0.00K
LOACHAPOKA	LEE CO.	AL	10/11/2006	Hail	0.88 in.	0	0	0.00K	0.00K
HURTSBORO	RUSSELL CO.	AL	2/13/2007	Hail	1.75 in.	0	0	0.00K	0.00K
HURTSBORO	RUSSELL CO.	AL	4/11/2007	Hail	2.75 in.	0	0	0.00K	0.00K
SEALE	RUSSELL CO.	AL	4/11/2007	Hail	4.00 in.	0	0	100.00K	0.00K
OPELIKA	LEE CO.	AL	6/11/2007	Hail	0.88 in.	0	0	0.00K	0.00K
SEALE	RUSSELL CO.	AL	3/14/2008	Hail	0.88 in.	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	4/4/2008	Hail	0.75 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	4/4/2008	Hail	1.00 in.	0	0	0.00K	0.00K
ANDREWS	LEE CO.	AL	4/4/2008	Hail	1.75 in.	0	0	0.00K	0.00K
MOTTS	LEE CO.	AL	3/28/2009	Hail	0.75 in.	0	0	0.00K	0.00K
SMITHS STATION	LEE CO.	AL	3/28/2009	Hail	0.88 in.	0	0	0.00K	0.00K
MOTTS	LEE CO.	AL	3/28/2009	Hail	0.75 in.	0	0	0.00K	0.00K
SHOTWELL	LEE CO.	AL	3/28/2009	Hail	0.75 in.	0	0	0.00K	0.00K
SEALE	RUSSELL CO.	AL	4/5/2009	Hail	1.75 in.	0	0	0.00K	0.00K
ROXANA	LEE CO.	AL	4/10/2009	Hail	1.00 in.	0	0	0.00K	0.00K
SMITHS STATION	LEE CO.	AL	4/10/2009	Hail	1.25 in.	0	0	0.00K	0.00K

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SEALE	RUSSELL CO.	AL	4/10/2009	Hail	1.75 in.	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	5/28/2009	Hail	0.75 in.	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	5/28/2009	Hail	0.75 in.	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	6/2/2009	Hail	0.88 in.	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	7/5/2009	Hail	0.75 in.	0	0	0.00K	0.00K
CAWATCHEE	LEE CO.	AL	4/24/2010	Hail	0.88 in.	0	0	0.00K	0.00K
SMITHS STATION	LEE CO.	AL	4/24/2010	Hail	0.75 in.	0	0	0.00K	0.00K
LADONIA	RUSSELL CO.	AL	6/19/2010	Hail	1.00 in.	0	0	0.00K	0.00K
SALEM	LEE CO.	AL	8/2/2010	Hail	1.00 in.	0	0	0.00K	0.00K
HURTSBORO	RUSSELL CO.	AL	3/26/2011	Hail	1.00 in.	0	0	0.00K	0.00K
LOFLIN	RUSSELL CO.	AL	3/27/2011	Hail	1.75 in.	0	0	0.00K	0.00K
CRAWFORD	RUSSELL CO.	AL	3/27/2011	Hail	1.25 in.	0	0	0.00K	0.00K
FLOURNOYS	RUSSELL CO.	AL	3/27/2011	Hail	0.75 in.	0	0	0.00K	0.00K
FT MITCHELL	RUSSELL CO.	AL	3/27/2011	Hail	1.50 in.	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	4/4/2011	Hail	0.75 in.	0	0	0.00K	0.00K
FT MITCHELL	RUSSELL CO.	AL	4/4/2011	Hail	0.88 in.	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	4/15/2011	Hail	1.75 in.	0	0	0.00K	0.00K
MITCHELL XRD	LEE CO.	AL	6/16/2011	Hail	1.00 in.	0	0	0.00K	0.00K
CHEWACLA	LEE CO.	AL	6/17/2011	Hail	1.00 in.	0	0	0.00K	0.00K

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LADONIA	RUSSELL CO.	AL	7/14/2011	Hail	0.88 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	5/21/2012	Hail	0.88 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	5/21/2012	Hail	1.00 in.	0	0	0.00K	0.00K
CRAWFORD	RUSSELL CO.	AL	5/21/2012	Hail	1.00 in.	0	0	0.00K	0.00K
CRAWFORD	RUSSELL CO.	AL	5/21/2012	Hail	0.75 in.	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	7/5/2012	Hail	1.00 in.	0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	7/5/2012	Hail	0.88 in.	0	0	0.00K	0.00K
GIRARD	RUSSELL CO.	AL	7/5/2012	Hail	1.00 in.	0	0	0.00K	0.00K
WHATLEY XRD	LEE CO.	AL	3/18/2013	Hail	1.00 in.	0	0	0.00K	0.00K
GRIFFEN MILL	LEE CO.	AL	3/18/2013	Hail	3.00 in.	0	0	0.00K	0.00K
SMITHS	LEE CO.	AL	3/18/2013	Hail	1.75 in.	0	0	0.00K	0.00K
SMITHS	LEE CO.	AL	3/18/2013	Hail	1.50 in.	0	0	0.00K	0.00K
PHENIX CITY	RUSSELL CO.	AL	3/18/2013	Hail	2.00 in.	0	0	0.00K	0.00K
PHENIX CITY	RUSSELL CO.	AL	3/18/2013	Hail	1.25 in.	0	0	0.00K	0.00K
BEEHIVE	LEE CO.	AL	6/24/2015	Hail	1.00 in.	0	0	0.00K	0.00K
NUCKOLS	RUSSELL CO.	AL	4/6/2016	Hail	1.00 in.	0	0	0.00K	0.00K
PHENIX CITY	RUSSELL CO.	AL	4/6/2016	Hail	1.00 in.	0	0	0.00K	0.00K

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MITCHELL XRD	LEE CO.	AL	4/5/2017	Hail	1.00 in.	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	4/5/2017	Hail	1.00 in.	0	0	0.00K	0.00K
SALEM	LEE CO.	AL	4/5/2017	Hail	1.00 in.	0	0	0.00K	0.00K
BLEECKER	LEE CO.	AL	4/5/2017	Hail	1.00 in.	0	0	0.00K	0.00K
SMITHS STATION	LEE CO.	AL	4/5/2017	Hail	1.75 in.	0	0	0.00K	0.00K
GLENVILLE	RUSSELL CO.	AL	4/5/2017	Hail	1.75 in.	0	0	0.00K	0.00K
CRAWFORD	RUSSELL CO.	AL	4/5/2017	Hail	1.75 in.	0	0	0.00K	0.00K
LADONIA	RUSSELL CO.	AL	4/5/2017	Hail	1.75 in.	0	0	0.00K	0.00K
LADONIA	RUSSELL CO.	AL	4/5/2017	Hail	1.75 in.	0	0	0.00K	0.00K
GLENVILLE	RUSSELL CO.	AL	4/5/2017	Hail	1.75 in.	0	0	0.00K	0.00K
POWLEDGE	LEE CO.	AL	2/7/2018	Hail	1.25 in.	0	0	0.00K	0.00K
CHEWACLA	LEE CO.	AL	7/21/2018	Hail	1.50 in.	0	0	0.00K	0.00K
LADONIA	RUSSELL CO.	AL	7/21/2018	Hail	1.75 in.	0	0	0.00K	0.00K
SANDFORT	RUSSELL CO.	AL	7/21/2018	Hail	1.00 in.	0	0	0.00K	0.00K
NUCKOLS	RUSSELL CO.	AL	7/21/2018	Hail	1.75 in.	0	0	0.00K	0.00K

Lee Russell Lightning Events

Location	County/Zone	St.	Date	Type	Dth	Inj	PrD	CrD
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AUBURN	LEE CO.	AL	6/23/1996	Lightning	0	0	15.00K	0.00K
AUBURN	LEE CO.	AL	6/23/1996	Lightning	0	0	15.00K	0.00K
AUBURN	LEE CO.	AL	9/9/1996	Lightning	0	0	20.00K	0.00K
AUBURN	LEE CO.	AL	4/27/1997	Lightning	0	0	10.00K	0.00K
AUBURN	LEE CO.	AL	7/11/1998	Lightning	0	0	10.00K	0.00K
OPELIKA	LEE CO.	AL	5/30/2002	Lightning	0	0	3.00K	0.00K
OPELIKA	LEE CO.	AL	7/23/2002	Lightning	0	0	75.00K	0.00K
OPELIKA	LEE CO.	AL	12/24/2002	Lightning	0	0	7.00K	0.00K
MC CULLOH	LEE CO.	AL	8/15/2003	Lightning	0	0	1.50K	0.00K
AUBURN	LEE CO.	AL	4/14/2007	Lightning	0	0	2.00K	0.00K
SEALE	RUSSELL CO.	AL	7/11/2008	Lightning	0	0	50.00K	0.00K
BEEHIVE	LEE CO.	AL	7/22/2008	Lightning	0	0	100.00K	0.00K
PINE GROVE	LEE CO.	AL	5/10/2009	Lightning	0	0	75.00K	0.00K
CAWATCHEE	LEE CO.	AL	7/21/2017	Lightning	1	0	0.00K	0.00K

Lee-Russell Thunderstorm, Winds, and Heavy Rain Evens

	Count y/ Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
LEE CO.	LEE CO.	AL	2/10/1990	4:15	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
RUSSELL CO.	RUSSELL CO.	AL	2/10/1990	6:00	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
LEE CO.	LEE CO.	AL	2/22/1990	8:15	CST	Thunderstorm Wind	0 kts.	0	1	0.00K	0.00K

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LEE CO.	LEE CO.	AL	4/10/1990	16:00	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
LEE CO.	LEE CO.	AL	4/10/1990	16:30	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
LEE CO.	LEE CO.	AL	4/10/1990	16:45	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
RUSSELL CO.	RUSSELL CO.	AL	4/28/1990	12:50	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
RUSSELL CO.	RUSSELL CO.	AL	5/21/1990	15:10	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
RUSSELL CO.	RUSSELL CO.	AL	5/21/1990	15:10	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
LEE CO.	LEE CO.	AL	7/23/1990	16:28	CST	Thunders torm Wind	61 kts.	0	0	0.0 OK	0.0 OK
LEE CO.	LEE CO.	AL	7/23/1990	17:22	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
LEE CO.	LEE CO.	AL	3/1/1991	15:15	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
RUSSELL CO.	RUSSELL CO.	AL	3/20/1991	9:30	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
LEE CO.	LEE CO.	AL	3/29/1991	9:20	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
RUSSELL CO.	RUSSELL CO.	AL	3/29/1991	9:30	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
RUSSELL CO.	RUSSELL CO.	AL	3/29/1991	10:30	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
RUSSELL CO.	RUSSELL CO.	AL	4/9/1991	18:50	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
LEE CO.	LEE CO.	AL	5/5/1991	14:50	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
LEE CO.	LEE	AL	5/5/1991	15:	CST	Thunders	0	0	0	0.0	0.0

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	CO.			10		form Wind	kts.			OK	OK
RUSSELL CO.	RUSSELL CO.	AL	5/5/1991	16:00	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
LEE CO.	LEE CO.	AL	5/5/1991	16:30	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
LEE CO.	LEE CO.	AL	6/4/1991	14:25	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
LEE CO.	LEE CO.	AL	4/20/1992	16:00	PST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
RUSSELL CO.	RUSSELL CO.	AL	7/1/1992	12:50	PST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
LEE CO.	LEE CO.	AL	8/27/1992	13:50	PST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
LEE CO.	LEE CO.	AL	8/27/1992	15:15	PST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
LEE CO.	LEE CO.	AL	11/22/1992	10:30	PST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
RUSSELL CO.	RUSSELL CO.	AL	11/22/1992	13:02	PST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
RUSSELL CO.	RUSSELL CO.	AL	5/13/1993	9:15	CST	Thunders torm Wind	0 kts.	0	0	0.0 OK	0.0 OK
Auburn	LEE CO.	AL	6/26/1994	17:40	CST	Thunders torm Wind	50 kts.	0	0	50.00K	0.0 OK
Auburn	LEE CO.	AL	7/27/1994	11:30	CST	Thunders torm Wind	0 kts.	0	0	50.00K	0.0 OK
Auburn	LEE CO.	AL	10/11/1994	0:00	CST	Thunders torm Wind	0 kts.	0	0	0.05K	0.0 OK
LEE CO.	LEE CO.	AL	5/15/1995	15:00	CST	Thunders torm Wind	0 kts.	0	0	15.00K	0.0 OK
Opelika	LEE CO.	AL	5/15/1995	15:22	CST	Thunders torm	50 kts.	0	0	0.0 OK	0.0 OK

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						Wind					
Salem	LEE CO.	AL	7/16/1995	17:55	CST	Thunders torm Wind	0 kts.	0	0	2.0 OK	0.0 OK
Montgomery	LEE CO.	AL	7/17/1995	12:55	CST	Thunders torm Wind	0 kts.	0	0	2.0 OK	0.0 OK
Opelika	LEE CO.	AL	7/29/1995	17:00	CST	Thunders torm Wind	0 kts.	0	0	2.0 OK	0.0 OK
Auburn	LEE CO.	AL	8/19/1995	20:45	CST	Thunders torm Wind	0 kts.	0	0	12.00K	0.0 OK
OPELIKA	LEE CO.	AL	1/26/1996	22:20	CST	Thunders torm Wind	50 kts.	0	0	15.00K	0.0 OK
OPELIKA	LEE CO.	AL	3/6/1996	6:00	CST	Thunders torm Wind	50 kts.	0	0	80.00K	10.00K
OPELIKA	LEE CO.	AL	3/6/1996	23:50	CST	Thunders torm Wind	70 kts.	1	0	50.00K	0.0 OK
SEALE	RUSSELL CO.	AL	3/18/1996	22:40	CST	Thunders torm Wind	50 kts.	0	0	25.00K	8.0 OK
SEALE	RUSSELL CO.	AL	6/15/1996	17:25	CST	Thunders torm Wind	50 kts.	0	0	20.00K	2.0 OK
PHENIX CITY	LEE CO.	AL	6/20/1996	16:00	CST	Thunders torm Wind	50 kts.	0	0	25.00K	0.0 OK
AUBURN	LEE CO.	AL	7/5/1996	18:20	CST	Thunders torm Wind	50 kts.	0	0	5.0 OK	0.0 OK
OPELIKA	LEE CO.	AL	9/21/1996	14:00	CST	Thunders torm Wind	50 kts.	0	0	8.0 OK	1.0 OK
AUBURN	LEE CO.	AL	1/24/1997	9:00	CST	Thunders torm Wind	50 kts.	0	0	7.0 OK	1.0 OK
SEALE	RUSSELL CO.	AL	3/30/1997	17:55	CST	Thunders torm Wind	50 kts.	0	0	5.0 OK	0.0 OK
SEALE	RUSSELL CO.	AL	4/22/1997	17:30	CST	Thunders torm Wind	50 kts.	0	0	4.0 OK	0.0 OK

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FT MITCHELL	RUSSELL CO.	AL	6/14/1997	15:00	CST	Thunders torm Wind	50 kts.	0	0	5.0 OK	0.0 OK
SEALE	RUSSELL CO.	AL	11/1/1997	16:00	CST	Thunders torm Wind	50 kts.	0	0	10.00K	0.0 OK
LADONIA	RUSSELL CO.	AL	11/21/1997	19:15	CST	Thunders torm Wind	50 kts.	0	0	7.0 OK	0.0 OK
AUBURN	LEE CO.	AL	6/5/1998	15:50	CST	Thunders torm Wind	55 kts.	1	0	10.00K	0.0 OK
PHENIX CITY	RUSSELL CO.	AL	6/5/1998	16:15	CST	Thunders torm Wind	50 kts.	0	0	10.00K	0.0 OK
HURTSBORO	RUSSELL CO.	AL	6/5/1998	16:15	CST	Thunders torm Wind	60 kts.	0	2	25.00K	0.0 OK
AUBURN	LEE CO.	AL	6/19/1998	13:35	CST	Thunders torm Wind	50 kts.	0	0	15.00K	0.0 OK
AUBURN	LEE CO.	AL	7/11/1998	14:50	CST	Thunders torm Wind	55 kts.	0	0	20.00K	0.0 OK
CRAWFORD	RUSSELL CO.	AL	3/3/1999	2:30	CST	Thunders torm Wind	55 kts.	0	0	15.00K	0.0 OK
PHENIX CITY	RUSSELL CO.	AL	4/15/1999	4:50	CST	Thunders torm Wind	65 kts.	0	0	40.00K	0.0 OK
COTTONTON	RUSSELL CO.	AL	4/15/1999	5:30	CST	Thunders torm Wind	50 kts.	0	0	2.0 OK	0.0 OK
PITTSVIEW	RUSSELL CO.	AL	4/27/1999	11:45	CST	Thunders torm Wind	55 kts.	0	0	8.0 OK	0.0 OK
HOPEWELL	LEE CO.	AL	5/7/1999	18:25	CST	Thunders torm Wind	50 kts.	0	0	0.0 OK	0.0 OK
PHENIX CITY	RUSSELL CO.	AL	8/12/1999	18:20	CST	Thunders torm Wind	55 kts.	0	0	5.0 OK	0.0 OK
PHENIX CITY	RUSSELL CO.	AL	8/19/1999	16:00	CST	Thunders torm Wind	55 kts.	0	0	8.0 OK	0.0 OK
LADONIA	RUSSELL CO.	AL	8/20/1999	15:	CST	Thunders	55	0	0	5.0	0.0

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	LL CO.			05		torm Wind	kts.			OK	OK
LOACHAPO KA	LEE CO.	AL	9/8/1999	17: 55	CST	Thunders torm Wind	50 kts.	0	0	1.0 OK	0.0 OK
PHENIX CITY	RUSSE LL CO.	AL	3/11/2000	8:4 5	CST	Thunders torm Wind	55 kts. E	0	0	2.0 OK	0.0 OK
PHENIX CITY	RUSSE LL CO.	AL	3/11/2000	8:5 0	CST	Thunders torm Wind	55 kts. E	0	0	3.0 OK	0.0 OK
COUNTYWI DE	LEE CO.	AL	7/20/2000	18: 55	CST	Thunders torm Wind	55 kts. E	0	0	30. 00K	0.0 OK
AUBURN	LEE CO.	AL	7/23/2000	13: 00	CST	Thunders torm Wind	55 kts. E	0	0	2.0 OK	0.0 OK
OPELIKA	LEE CO.	AL	1/19/2001	10: 40	CST	Thunders torm Wind	50 kts. E	0	0	2.0 OK	0.0 OK
LOACHAPO KA	LEE CO.	AL	3/15/2001	2:1 0	CST	Thunders torm Wind	50 kts. E	0	0	2.0 OK	0.0 OK
AUBURN	LEE CO.	AL	3/15/2001	2:1 5	CST	Thunders torm Wind	52 kts. E	0	0	2.0 OK	0.0 OK
PHENIX CITY	RUSSE LL CO.	AL	3/15/2001	3:2 0	CST	Thunders torm Wind	50 kts. E	0	0	3.0 OK	0.0 OK
HURTSBOR O	RUSSE LL CO.	AL	6/28/2001	14: 07	CST	Thunders torm Wind	50 kts. E	0	0	2.0 OK	0.0 OK
COUNTYWI DE	LEE CO.	AL	7/5/2001	16: 25	CST	Thunders torm Wind	55 kts. E	0	0	2.0 OK	0.0 OK
COUNTYWI DE	RUSSE LL CO.	AL	1/19/2002	14: 20	CST	Thunders torm Wind	50 kts. E	0	0	5.0 OK	0.0 OK
COUNTYWI DE	RUSSE LL CO.	AL	5/11/2002	18: 47	CST	Thunders torm Wind	50 kts. E	0	0	20. 00K	0.0 OK
OPELIKA	LEE CO.	AL	1/22/2003	5:4 5	CST	Thunders torm Wind	65 kts. E	0	0	35. 00K	0.0 OK
SEALE	RUSSE LL CO.	AL	5/2/2003	20: 30	CST	Thunders torm	50 kts.	0	0	5.0 OK	0.0 OK

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						Wind	EG				
OPELIKA	LEE CO.	AL	5/18/2003	11:23	CST	Thunders torm Wind	50 kts. EG	0	0	8.0 OK	0.0 OK
LOACHAPO KA	LEE CO.	AL	6/13/2003	13:00	CST	Thunders torm Wind	50 kts. EG	0	0	4.0 OK	0.0 OK
SEALE	RUSSE LL CO.	AL	4/12/2004	20:43	CST	Thunders torm Wind	50 kts. EG	0	0	2.0 OK	0.0 OK
AUBURN	LEE CO.	AL	5/31/2004	6:00	CST	Thunders torm Wind	50 kts. EG	0	0	16. 00K	0.0 OK
LADONIA	RUSSE LL CO.	AL	5/31/2004	6:30	CST	Thunders torm Wind	55 kts. EG	0	0	26. 00K	0.0 OK
OPELIKA	LEE CO.	AL	10/19/2004	12:17	CST	Thunders torm Wind	50 kts. ES	0	0	8.0 OK	0.0 OK
LOACHAPO KA	LEE CO.	AL	10/19/2004	12:27	CST	Thunders torm Wind	50 kts. EG	0	0	17. 00K	0.0 OK
SALEM	LEE CO.	AL	10/19/2004	12:56	CST	Thunders torm Wind	50 kts. EG	0	0	3.0 OK	0.0 OK
COUNTYWI DE	LEE CO.	AL	1/13/2005	14:55	CST	Thunders torm Wind	50 kts. EG	0	0	4.0 OK	0.0 OK
CENTRAL PORTION	LEE CO.	AL	4/22/2005	15:22	CST	Thunders torm Wind	52 kts. EG	0	0	2.0 OK	0.0 OK
COUNTYWI DE	LEE CO.	AL	4/30/2005	5:57	CST	Thunders torm Wind	52 kts. EG	0	0	4.0 OK	0.0 OK
HURTSBOR O	RUSSE LL CO.	AL	4/30/2005	7:16	CST	Thunders torm Wind	52 kts. EG	0	0	2.0 OK	0.0 OK
AUBURN	LEE CO.	AL	4/30/2005	7:23	CST	Thunders torm Wind	52 kts. EG	0	0	2.0 OK	0.0 OK
PITTSVIEW	RUSSE LL CO.	AL	4/30/2005	7:31	CST	Thunders torm Wind	52 kts. EG	0	0	8.0 OK	0.0 OK
SMITHS	LEE CO.	AL	5/20/2005	14:18	CST	Thunders torm Wind	52 kts. EG	0	0	7.0 OK	0.0 OK

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PHENIX CITY	RUSSELL CO.	AL	5/20/2005	14:45	CST	Thunders torm Wind	52 kts. EG	0	0	0.0 OK	0.0 OK
AUBURN	LEE CO.	AL	3/20/2006	19:05	CST	Thunders torm Wind	50 kts. EG	0	0	5.0 OK	0.0 OK
OPELIKA	LEE CO.	AL	3/20/2006	19:30	CST	Thunders torm Wind	50 kts. EG	0	0	5.0 OK	0.0 OK
COUNTYWIDE	RUSSELL CO.	AL	3/20/2006	20:00	CST	Thunders torm Wind	50 kts. EG	0	0	20.00K	0.0 OK
OPELIKA	LEE CO.	AL	5/10/2006	15:08	CST	Thunders torm Wind	50 kts. EG	0	0	2.0 OK	0.0 OK
SMITHS	LEE CO.	AL	5/10/2006	15:09	CST	Thunders torm Wind	50 kts. EG	0	0	2.0 OK	0.0 OK
PHENIX CITY	RUSSELL CO.	AL	5/10/2006	15:40	CST	Thunders torm Wind	50 kts. EG	0	0	10.00K	0.0 OK
SMITHS STATION	LEE CO.	AL	7/28/2006	22:01	CST	Thunders torm Wind	50 kts. EG	0	0	4.0 OK	0.0 OK
PHENIX CITY	RUSSELL CO.	AL	7/28/2006	22:01	CST	Thunders torm Wind	50 kts. EG	0	0	2.0 OK	0.0 OK
PINE GROVE	LEE CO.	AL	10/11/2006	17:40	CST -6	Thunders torm Wind	50 kts. EG	0	0	1.0 OK	0.0 OK
SEALE	RUSSELL CO.	AL	6/11/2007	20:50	CST -6	Thunders torm Wind	50 kts. EG	0	0	5.0 OK	0.0 OK
PEPPERELL	LEE CO.	AL	6/11/2007	21:08	CST -6	Thunders torm Wind	55 kts. EG	0	0	20.00K	0.0 OK
CHEWACLA	LEE CO.	AL	7/20/2007	13:30	CST -6	Thunders torm Wind	50 kts. EG	0	0	2.0 OK	0.0 OK
SMITHS	LEE CO.	AL	7/20/2007	13:50	CST -6	Thunders torm Wind	50 kts. EG	0	0	50.00K	0.0 OK
(AUO)AUBURN OPELIKA	LEE CO.	AL	1/31/2008	21:10	CST -6	Thunders torm Wind	51 kts. MG	0	0	5.0 OK	0.0 OK
UCHEE	RUSSELL CO.	AL	2/6/2008	8:4	CST	Thunders	50	0	0	1.0	0.0

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	LL CO.			3	-6	torm Wind	kts. EG			OK	OK
SEALE	RUSSE LL CO.	AL	2/17/2008	15: 40	CST -6	Thunders torm Wind	50 kts. EG	0	0	3.0 OK	0.0 OK
PINE GROVE	LEE CO.	AL	4/4/2008	18: 30	CST -6	Thunders torm Wind	50 kts. EG	0	0	2.0 OK	0.0 OK
BEULAH	LEE CO.	AL	6/11/2008	14: 35	CST -6	Thunders torm Wind	50 kts. EG	0	0	1.0 OK	0.0 OK
KAOLIN	RUSSE LL CO.	AL	6/21/2008	18: 01	CST -6	Thunders torm Wind	50 kts. EG	0	0	3.0 OK	0.0 OK
LADONIA	RUSSE LL CO.	AL	7/11/2008	16: 00	CST -6	Thunders torm Wind	60 kts. EG	0	0	10. 00K	0.0 OK
SHOTWELL	LEE CO.	AL	7/22/2008	13: 12	CST -6	Thunders torm Wind	50 kts. EG	0	0	1.0 OK	0.0 OK
AUBURN	LEE CO.	AL	8/7/2008	16: 07	CST -6	Thunders torm Wind	45 kts. EG	0	0	10. 00K	0.0 OK
MITCHELL XRD	LEE CO.	AL	8/7/2008	16: 20	CST -6	Thunders torm Wind	45 kts. EG	0	0	0.5 OK	0.0 OK
AUBURN	LEE CO.	AL	8/7/2008	16: 20	CST -6	Thunders torm Wind	45 kts. EG	0	0	0.5 OK	0.0 OK
HURTSBOR O	RUSSE LL CO.	AL	8/7/2008	16: 34	CST -6	Thunders torm Wind	45 kts. EG	0	0	0.5 OK	0.0 OK
MC LENDON	RUSSE LL CO.	AL	8/7/2008	16: 44	CST -6	Thunders torm Wind	45 kts. EG	0	0	0.5 OK	0.0 OK
MOTTS	LEE CO.	AL	8/7/2008	16: 57	CST -6	Thunders torm Wind	50 kts. EG	0	0	2.0 OK	0.0 OK
PERSONS	RUSSE LL CO.	AL	8/7/2008	17: 15	CST -6	Thunders torm Wind	45 kts. EG	0	0	0.5 OK	0.0 OK
KAOLIN	RUSSE LL CO.	AL	8/7/2008	17: 15	CST -6	Thunders torm Wind	50 kts. EG	0	0	20. 00K	0.0 OK
CRAWFOR D	RUSSE LL CO.	AL	4/10/2009	19: 25	CST -6	Thunders torm	50 kts.	0	0	10. 00K	0.0 OK

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						Wind	EG				
PHENIX CITY	RUSSELL CO.	AL	4/10/2009	19:30	CST -6	Thunders torm Wind	50 kts. EG	0	0	20.00K	0.00K
AUBURN	LEE CO.	AL	5/3/2009	15:15	CST -6	Thunders torm Wind	50 kts. EG	0	0	50.00K	0.00K
OPELIKA	LEE CO.	AL	5/3/2009	15:21	CST -6	Thunders torm Wind	53 kts. MG	0	0	0.00K	0.00K
PINE GROVE	LEE CO.	AL	5/10/2009	14:35	CST -6	Thunders torm Wind	50 kts. EG	0	0	2.00K	0.00K
CRAWFORD	RUSSELL CO.	AL	6/2/2009	16:21	CST -6	Thunders torm Wind	40 kts. EG	0	0	0.50K	0.00K
CRAWFORD	RUSSELL CO.	AL	6/2/2009	16:35	CST -6	Thunders torm Wind	50 kts. EG	0	0	15.00K	0.00K
AUBURN	LEE CO.	AL	6/2/2009	17:30	CST -6	Heavy Rain		0	0	0.00K	0.00K
AUBURN	LEE CO.	AL	6/14/2009	12:55	CST -6	Thunders torm Wind	50 kts. EG	0	0	3.00K	0.00K
BEEHIVE	LEE CO.	AL	6/14/2009	12:55	CST -6	Thunders torm Wind	50 kts. EG	0	0	2.00K	0.00K
PHENIX CITY	RUSSELL CO.	AL	6/14/2009	13:48	CST -6	Thunders torm Wind	50 kts. EG	0	0	1.00K	0.00K
BEEHIVE	LEE CO.	AL	6/15/2009	23:36	CST -6	Thunders torm Wind	50 kts. EG	0	0	1.00K	0.00K
OPELIKA	LEE CO.	AL	6/15/2009	23:48	CST -6	Thunders torm Wind	50 kts. EG	0	0	2.00K	0.00K
OPELIKA	LEE CO.	AL	6/28/2009	16:07	CST -6	Thunders torm Wind	50 kts. EG	0	0	2.00K	0.00K
ROXANA	LEE CO.	AL	6/28/2009	16:18	CST -6	Thunders torm Wind	50 kts. EG	0	0	2.00K	0.00K
LADONIA	RUSSELL CO.	AL	6/28/2009	16:40	CST -6	Thunders torm Wind	50 kts. EG	0	0	2.00K	0.00K
MITCHELL	LEE	AL	7/28/2009	14:	CST	Thunders	43	0	0	2.0	0.0

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XRD	CO.			24	-6	torm Wind	kts. EG			OK	OK
SMITHS STATION	LEE CO.	AL	8/5/2009	14: 59	CST -6	Thunders torm Wind	35 kts. EG	0	0	1.0 OK	0.0 OK
PEPPERELL	LEE CO.	AL	5/29/2010	12: 00	CST -6	Thunders torm Wind	45 kts. EG	0	0	25. 00K	0.0 OK
LADONIA	RUSSE LL CO.	AL	6/19/2010	15: 04	CST -6	Thunders torm Wind	50 kts. EG	0	0	2.0 OK	0.0 OK
PHENIX CITY	RUSSE LL CO.	AL	8/2/2010	16: 15	CST -6	Thunders torm Wind	55 kts. EG	0	0	2.5 OK	0.0 OK
SANDFORT	RUSSE LL CO.	AL	2/28/2011	18: 59	CST -6	Thunders torm Wind	50 kts. EG	0	0	2.0 OK	0.0 OK
AUBURN	LEE CO.	AL	4/4/2011	21: 31	CST -6	Thunders torm Wind	50 kts. EG	0	0	50. 00K	0.0 OK
SMITHS STATION	LEE CO.	AL	4/4/2011	21: 55	CST -6	Thunders torm Wind	61 kts. EG	0	0	2.0 OK	0.0 OK
SEALE	RUSSE LL CO.	AL	4/4/2011	22: 08	CST -6	Thunders torm Wind	50 kts. EG	0	0	2.0 OK	0.0 OK
PHENIX CITY	RUSSE LL CO.	AL	4/4/2011	22: 20	CST -6	Thunders torm Wind	50 kts. EG	0	0	7.0 OK	0.0 OK
AUBURN	LEE CO.	AL	4/15/2011	17: 25	CST -6	Thunders torm Wind	50 kts. EG	0	0	15. 00K	0.0 OK
MOTTS	LEE CO.	AL	5/13/2011	16: 30	CST -6	Thunders torm Wind	50 kts. EG	0	0	2.0 OK	0.0 OK
BEEHIVE	LEE CO.	AL	5/26/2011	14: 20	CST -6	Thunders torm Wind	35 kts. EG	0	0	5.0 OK	0.0 OK
PHENIX CITY	RUSSE LL CO.	AL	5/26/2011	14: 50	CST -6	Thunders torm Wind	50 kts. EG	0	0	3.0 OK	0.0 OK
SEALE	RUSSE LL CO.	AL	6/11/2011	15: 40	CST -6	Thunders torm Wind	40 kts. EG	0	0	0.5 OK	0.0 OK
LADONIA	RUSSE LL CO.	AL	6/17/2011	14: 22	CST -6	Thunders torm	50 kts.	0	0	0.7 5K	0.0 OK

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						Wind	EG				
LADONIA	RUSSELL CO.	AL	6/17/2011	14:25	CST -6	Thunders torm Wind	40 kts. EG	0	0	0.5 OK	0.0 OK
OPELIKA	LEE CO.	AL	6/26/2011	17:34	CST -6	Thunders torm Wind	50 kts. EG	0	0	3.0 OK	0.0 OK
RIDGE GROVE	LEE CO.	AL	7/1/2011	14:52	CST -6	Thunders torm Wind	50 kts. EG	0	0	2.0 OK	0.0 OK
MOTTS	LEE CO.	AL	7/1/2011	21:26	CST -6	Thunders torm Wind	50 kts. EG	0	0	2.0 OK	0.0 OK
LADONIA	RUSSELL CO.	AL	7/2/2011	17:46	CST -6	Thunders torm Wind	40 kts. EG	0	0	2.0 OK	0.0 OK
PHENIX CITY	RUSSELL CO.	AL	7/3/2011	15:06	CST -6	Thunders torm Wind	50 kts. EG	0	0	5.0 OK	0.0 OK
LADONIA	RUSSELL CO.	AL	7/14/2011	12:10	CST -6	Thunders torm Wind	50 kts. EG	0	0	2.0 OK	0.0 OK
SALEM	LEE CO.	AL	10/13/2011	11:29	CST -6	Thunders torm Wind	50 kts. EG	0	0	2.0 OK	0.0 OK
MITCHELL XRD	LEE CO.	AL	6/10/2012	14:03	CST -6	Thunders torm Wind	60 kts. EG	0	0	0.0 OK	0.0 OK
WHATLEY XRD	LEE CO.	AL	7/3/2012	13:33	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
BEULAH	LEE CO.	AL	7/3/2012	13:36	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
PRINCE XRD	LEE CO.	AL	7/5/2012	16:22	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
AUBURN	LEE CO.	AL	7/5/2012	16:47	CST -6	Thunders torm Wind	51 kts. MG	0	0	0.0 OK	0.0 OK
AUBURN	LEE CO.	AL	7/5/2012	16:47	CST -6	Thunders torm Wind	51 kts. EG	0	0	0.0 OK	0.0 OK
AUBURN	LEE CO.	AL	7/5/2012	17:03	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK

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BOTTLE	LEE CO.	AL	7/10/2012	16:55	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
SMITHS STATION	LEE CO.	AL	9/3/2012	14:25	CST -6	Heavy Rain		0	0	0.0 OK	0.0 OK
PEPPERELL	LEE CO.	AL	1/30/2013	13:10	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
MOTTS	LEE CO.	AL	3/5/2013	15:50	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
HURTSBORO	RUSSELL CO.	AL	6/27/2013	18:30	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
AUBURN	LEE CO.	AL	6/28/2013	12:53	CST -6	Thunders torm Wind	55 kts. EG	0	0	0.0 OK	0.0 OK
OPELIKA	LEE CO.	AL	7/24/2013	12:45	CST -6	Thunders torm Wind	55 kts. EG	0	0	0.0 OK	0.0 OK
PINE GROVE	LEE CO.	AL	7/24/2013	12:46	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
CRAWFORD	RUSSELL CO.	AL	7/24/2013	13:20	CST -6	Thunders torm Wind	55 kts. EG	0	0	0.0 OK	0.0 OK
HATCHECHUBEE	RUSSELL CO.	AL	4/7/2014	7:46	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
HUGLEY	RUSSELL CO.	AL	4/29/2014	2:33	CST -6	Thunders torm Wind	54 kts. EG	0	0	0.0 OK	0.0 OK
CRAWFORD	RUSSELL CO.	AL	11/23/2014	14:10	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
COLBERT	RUSSELL CO.	AL	4/25/2015	15:32	CST -6	Thunders torm Wind	55 kts. EG	0	0	0.0 OK	0.0 OK
OSANIPPA	LEE CO.	AL	5/14/2015	18:04	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
CRAWFORD	RUSSELL CO.	AL	5/31/2015	15:48	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
HALAWAKA	LEE CO.	AL	6/24/2015	17:45	CST -6	Thunders torm	50 kts.	0	0	0.0 OK	0.0 OK

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						Wind	EG				
SMITHS	LEE CO.	AL	6/24/2015	17:48	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
SMITHS STATION	LEE CO.	AL	6/24/2015	17:50	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
PHENIX CITY	RUSSELL CO.	AL	7/3/2015	20:32	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
FLOURNOYS	RUSSELL CO.	AL	7/15/2015	15:30	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
FT MITCHELL	RUSSELL CO.	AL	8/6/2015	19:51	CST -6	Thunders torm Wind	78 kts. EG	0	0	0.0 OK	0.0 OK
OPELIKA	LEE CO.	AL	12/24/2015	10:27	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
UNLAND	RUSSELL CO.	AL	2/15/2016	19:00	CST -6	Thunders torm Wind	60 kts. EG	0	0	0.0 OK	0.0 OK
HUGLEY	RUSSELL CO.	AL	2/15/2016	19:03	CST -6	Thunders torm Wind	70 kts. EG	0	0	0.0 OK	0.0 OK
HUGLEY	RUSSELL CO.	AL	2/15/2016	19:05	CST -6	Thunders torm Wind	70 kts. EG	0	0	0.0 OK	0.0 OK
LOACHAPOKA	LEE CO.	AL	6/17/2016	16:25	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
MC LENDON	RUSSELL CO.	AL	6/26/2016	14:48	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
MITCHELL XRD	LEE CO.	AL	7/9/2016	12:20	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
MITCHELL XRD	LEE CO.	AL	2/7/2017	14:43	CST -6	Thunders torm Wind	52 kts. EG	0	0	0.0 OK	0.0 OK
PEPPERELL	LEE CO.	AL	2/7/2017	14:53	CST -6	Thunders torm Wind	55 kts. EG	0	1	0.0 OK	0.0 OK
GIRARD	RUSSELL CO.	AL	4/3/2017	9:30	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK

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PHENIX CITY	RUSSELL CO.	AL	4/3/2017	9:31	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
SMITHS STATION	LEE CO.	AL	4/5/2017	21:03	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
AUBURN	LEE CO.	AL	6/15/2017	16:50	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
SMITHS STATION	LEE CO.	AL	6/15/2017	17:20	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
CRAWFORD	RUSSELL CO.	AL	9/22/2017	15:13	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
OSWICHEE	RUSSELL CO.	AL	7/3/2018	19:42	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
CRAWFORD	RUSSELL CO.	AL	7/21/2018	17:14	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
CRAWFORD	RUSSELL CO.	AL	7/21/2018	17:52	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
J C MEADOWS XRDS	LEE CO.	AL	1/19/2019	16:54	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
UNLAND	RUSSELL CO.	AL	2/12/2019	12:04	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
MITCHELL XRD	LEE CO.	AL	2/12/2019	12:11	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
LADONIA	RUSSELL CO.	AL	2/12/2019	12:16	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
MITCHELL XRD	LEE CO.	AL	6/7/2019	12:55	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
GRIFFEN MILL	LEE CO.	AL	6/7/2019	13:07	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
BEULAH	LEE CO.	AL	6/7/2019	13:18	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
SMITHS	LEE	AL	6/7/2019	13:	CST	Thunders	50	0	0	0.0	0.0

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STATION	CO.			21	-6	torm Wind	kts. EG			OK	OK
SMITHS	LEE CO.	AL	8/5/2019	16: 49	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
STONEWAL L	LEE CO.	AL	8/14/2019	19: 30	CST -6	Thunders torm Wind	50 kts. EG	0	0	0.0 OK	0.0 OK
Totals:								2	4	1.2 32 M	22. 00K

Lee-Russell Tornado Events

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
RUSSELL CO.	RUSSELL CO.	AL	3/29/1991	Tornado	F2	0	16	2.500M	0.00K
Opelika	LEE CO.	AL	8/2/1994	Tornado	F0	0	0	50.00K	0.00K
OPELIKA	LEE CO.	AL	7/22/1997	Tornado	F0	0	0	12.00K	0.00K
J C MEADOWS XRDS	LEE CO.	AL	9/28/1998	Tornado	F0	0	0	0.00K	0.00K
PHENIX CITY	RUSSELL CO.	AL	9/28/1998	Tornado	F0	0	0	0.00K	2.00K
OPELIKA	LEE CO.	AL	11/24/2004	Tornado	F0	0	0	28.00K	0.00K
OPELIKA	LEE CO.	AL	7/6/2005	Tornado	F0	0	0	34.00K	0.00K
PHENIX CITY	RUSSELL CO.	AL	8/29/2005	Tornado	F0	0	0	1.00K	0.00K
SMITHS	LEE CO.	AL	3/1/2007	Tornado	EF1	0	0	100.00K	0.00K
LADONIA	RUSSELL CO.	AL	3/1/2007	Tornado	EF0	0	0	3.00K	0.00K
UCHEE	RUSSELL CO.	AL	4/11/2007	Tornado	EF1	0	0	5.00K	0.00K
GLENVILLE	RUSSELL CO.	AL	2/17/2008	Tornado	EF2	0	4	120.00K	0.00K

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RIDGE GROVE	LEE CO.	AL	2/28/2009	Tornado	EF1	0	0	65.00K	0.00K
SALEM	LEE CO.	AL	2/28/2009	Tornado	EF2	0	3	1.100M	0.00K
ROXANA	LEE CO.	AL	4/10/2009	Tornado	EF0	0	0	2.00K	0.00K
LOACHAPOKA	LEE CO.	AL	4/10/2009	Tornado	EF1	0	0	150.00K	0.00K
MITCHELL XRD	LEE CO.	AL	4/10/2009	Tornado	EF1	0	0	30.00K	0.00K
BUPREE	LEE CO.	AL	4/10/2009	Tornado	EF1	0	0	5.00K	0.00K
UNLAND	RUSSELL CO.	AL	4/10/2009	Tornado	EF1	0	0	10.00K	0.00K
LADONIA	RUSSELL CO.	AL	4/10/2009	Tornado	EF1	0	2	120.00K	0.00K
NUCKOLS	RUSSELL CO.	AL	4/10/2009	Tornado	EF1	0	1	50.00K	0.00K
GIRARD	RUSSELL CO.	AL	4/19/2009	Tornado	EF2	0	0	500.00K	0.00K
CAWATCHEE	LEE CO.	AL	5/23/2009	Tornado	EF0	0	0	100.00K	0.00K
LOACHAPOKA	LEE CO.	AL	11/16/2011	Tornado	EF1	0	2	4.000M	0.00K
ROXANA	LEE CO.	AL	5/13/2012	Tornado	EF0	0	0	0.00K	0.00K
ROXANA	LEE CO.	AL	4/11/2013	Tornado	EF0	0	0	0.00K	0.00K
PRINCE XRD	LEE CO.	AL	4/29/2014	Tornado	EF3	0	13	0.00K	0.00K
HUGLEY	RUSSELL CO.	AL	4/29/2014	Tornado	EF1	0	0	0.00K	0.00K
LOFLIN	RUSSELL CO.	AL	11/17/2014	Tornado	EF1	0	0	0.00K	0.00K
HOOKS	RUSSELL CO.	AL	4/19/2015	Tornado	EF1	0	0	0.00K	0.00K
OSWICHEE	RUSSELL CO.	AL	4/19/2015	Tornado	EF1	0	0	0.00K	0.00K

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NUCKOLS	RUSSELL CO.	AL	8/6/2015	Tornado	EF0	0	0	0.00K	0.00K
J C MEADOWS XRDS	LEE CO.	AL	2/15/2016	Tornado	EF0	0	0	0.00K	0.00K
UCHEE	RUSSELL CO.	AL	2/15/2016	Tornado	EF1	0	0	0.00K	0.00K
UNLAND	RUSSELL CO.	AL	2/15/2016	Tornado	EF0	0	0	0.00K	0.00K
ROANOKE JCT	LEE CO.	AL	3/1/2016	Tornado	EF0	0	0	0.00K	0.00K
MITCHELL XRD	LEE CO.	AL	3/31/2016	Tornado	EF0	0	0	0.00K	0.00K
BEEHIVE	LEE CO.	AL	4/6/2016	Tornado	EF0	0	0	0.00K	0.00K
MITCHELL XRD	LEE CO.	AL	4/6/2016	Tornado	EF0	0	0	0.00K	0.00K
HUGLEY	RUSSELL CO.	AL	4/6/2016	Tornado	EF1	0	0	0.00K	0.00K
GLENVILLE	RUSSELL CO.	AL	4/6/2016	Tornado	EF0	0	0	0.00K	0.00K
MIDDLE BROOKS XRDS	LEE CO.	AL	11/30/2016	Tornado	EF1	0	0	0.00K	0.00K
BEEHIVE	LEE CO.	AL	1/21/2017	Tornado	EF0	0	0	0.00K	0.00K
MITCHELL XRD	LEE CO.	AL	1/21/2017	Tornado	EF1	0	0	0.00K	0.00K
MITCHELL XRD	LEE CO.	AL	1/21/2017	Tornado	EF0	0	0	0.00K	0.00K
PEPPERELL	LEE CO.	AL	1/21/2017	Tornado	EF0	0	0	0.00K	0.00K
PRINCE XRD	LEE CO.	AL	1/21/2017	Tornado	EF0	0	0	0.00K	0.00K
SMITHS STATION	LEE CO.	AL	1/21/2017	Tornado	EF1	0	0	0.00K	0.00K
BEEHIVE	LEE CO.	AL	1/22/2017	Tornado	EF0	0	0	0.00K	0.00K
(AUO)AUBURN OPELIKA	LEE CO.	AL	1/22/2017	Tornado	EF1	0	0	0.00K	0.00K
OPELIKA	LEE CO.	AL	7/21/2018	Tornado	EF0	0	0	0.00K	0.00K

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PINE GROVE	LEE CO.	AL	11/1/2018	Tornado	EF0	0	0	0.00K	0.00K
BUPREE	LEE CO.	AL	3/3/2019	Tornado	EF4	23	90	0.00K	0.00K
MARVYN	LEE CO.	AL	3/3/2019	Tornado	EF1	0	1	0.00K	0.00K
KAOLIN	RUSSELL CO.	AL	4/14/2019	Tornado	EF0	0	0	0.00K	0.00K

Lee-Russell Tropical Storm, Tropical Depression, and Hurricanes

Location	County/Zone	St.	Date	Type	Dth	Inj	PrD	CrD
LEE (ZONE)	LEE (ZONE)	AL	7/10/2005	Tropical Storm	0	0	35.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	7/10/2005	Tropical Storm	0	0	48.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	8/29/2005	Tropical Storm	0	0	20.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	8/29/2005	Tropical Storm	0	0	15.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	8/23/2008	Tropical Depression	0	0	5.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	8/23/2008	Tropical Depression	0	0	15.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	11/9/2009	Tropical Depression	0	0	2.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	11/9/2009	Tropical Depression	0	0	2.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	9/11/2017	Tropical Storm	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	9/11/2017	Tropical Storm	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	10/10/2018	Tropical Storm	0	0	0.00K	0.00K

Lee-Russell Winter Weather Events

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Location	County/Zone	St.	Date	Type	Dth	Inj	PrD	CrD
LEE (ZONE)	LEE (ZONE)	AL	12/18/1996	Winter Storm	0	0	15.00K	20.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	12/18/1996	Winter Storm	0	0	15.00K	20.00K
LEE (ZONE)	LEE (ZONE)	AL	12/29/1997	Winter Storm	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	1/2/2002	Heavy Snow	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	1/2/2002	Heavy Snow	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	1/3/2002	Heavy Snow	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	1/3/2002	Heavy Snow	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	1/29/2005	Ice Storm	0	0	25.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	1/19/2008	Winter Weather	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	3/1/2009	Heavy Snow	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	3/1/2009	Heavy Snow	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	2/12/2010	Heavy Snow	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	2/12/2010	Winter Weather	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	12/15/2010	Winter Weather	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	12/15/2010	Winter Weather	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	1/9/2011	Ice Storm	0	0	0.00K	0.00K

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RUSSELL (ZONE)	RUSSELL (ZONE)	AL	1/9/2011	Ice Storm	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	1/28/2014	Winter Storm	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	1/28/2014	Winter Storm	0	0	0.00K	0.00K
LEE (ZONE)	LEE (ZONE)	AL	1/16/2018	Winter Storm	0	0	0.00K	0.00K
RUSSELL (ZONE)	RUSSELL (ZONE)	AL	1/16/2018	Winter Storm	0	0	0.00K	0.00K