2021 Final

Aiken County Hazardous Mitigation Plan 2021

Prepared on behalf of

Aiken County

by Lower Savannah Council of Governments

Part One:
Introduction and Process

1.1 Introduction: Natural Hazard Mitigation Plan

After review by the Task Force Committee, this section of the plan has remained the same for the update process.

The Natural Hazard Mitigation Plan is required by the Federal Emergency Management Agency (FEMA) for all counties in the State of South Carolina. The initiation of hazard planning by local governments came into effect after the signing of the Disaster Mitigation Act of 2000 (DMA 2000). This document is the Natural Hazard Mitigation Plan for Aiken County and its incorporated municipalities.

Following the passage of the DMA 200, states and local governments are now required to develop and adopt a hazard mitigation plan in order to remain eligible for FEMA mitigation grant funding. Communities with an adopted plan will become "pre-positioned" and potentially more apt to receive available mitigation funds.

Natural hazards, including floods, hurricanes, earthquakes and severe winter storms, are a part of the world around us. Their occurrence is natural and inevitable, and there is little we can do to control their force and intensity. Aiken County faces a variety of these hazards, each of which is discussed in Part Two: Risk Assessment.

Through the adoption of hazard mitigation planning practices, we can minimize the impact of hazards on people and the built environment. The Aiken County Natural Hazard Mitigation Plan is designed to be a logical, information-driven plan that systematically identifies and guides the implementation of mitigation actions, including policies or site-specific projects designed to make Aiken County and its incorporated municipalities safer from the threat of natural hazards.

Hazard mitigation involves the use of specific measures to reduce the impact of hazards on people and the built environment. Measures may include both structural and non-structural techniques, such as protecting buildings and infrastructure from the forces of nature or wise floodplain management practices. Actions may be taken to protect both existing and/or future development. It is widely accepted that the most effective mitigation measures are implemented before an event at the local government level, where decisions on the regulation and control of development are ultimately made.

Hazard mitigation planning is the first of the four "phases of emergency management," followed by preparedness, response, and recovery. This prevention-related concept of emergency management often gets the least attention, yet it is one of the most important steps in creating a disaster-resistant community.

Figure 1: Phases of Emergency Management

1.2 Area Background

After review by the Task Force Committee, this section has been revised as part of the update process to include updated population and median household incomes for the County and it's incorporated municipalities, per the US Census information. Additionally, an update to the annual average temperature, rainfall and snowfall rate was included, as well updated maps.

Aiken County is located midway between the mountains and the coast and is bordered by the Savannah River on the west, Edgefield and Saluda Counties on the north, Barnwell and Orangeburg Counties on the southeast and by Lexington County on the east. Aiken County consists of 704,000 acres, of which 73,000 acres are part of the U. S. Department of Energy's Savannah River Site. The 2010 Census counted 160,099 persons living in the County. As of 2019, the population estimate, per the U.S. Census Vintage 2019 Population Estimates has risen to 170,872. Aiken is the fourth largest South Carolina County by land area, with a size of 1,073 square miles. Aiken County experiences a mild climate with an average winter temperature of 48°F, and an average summer temperature of 79°F with an average relative humidity of 50%. The annual precipitation averages 48 inches with the majority falling between April and September. Average seasonal snowfall is 2 inches. *(South Carolina State Climatology Office).*

Aiken County contains 10 incorporated municipalities: Aiken, Burnettown, Jackson, Monetta, New Ellenton, North Augusta, Perry, Salley, Wagener, and Windsor. The City of Aiken (County Seat) and North Augusta are the two largest municipalities in the County. The remaining eight municipalities are primarily small, rural communities.

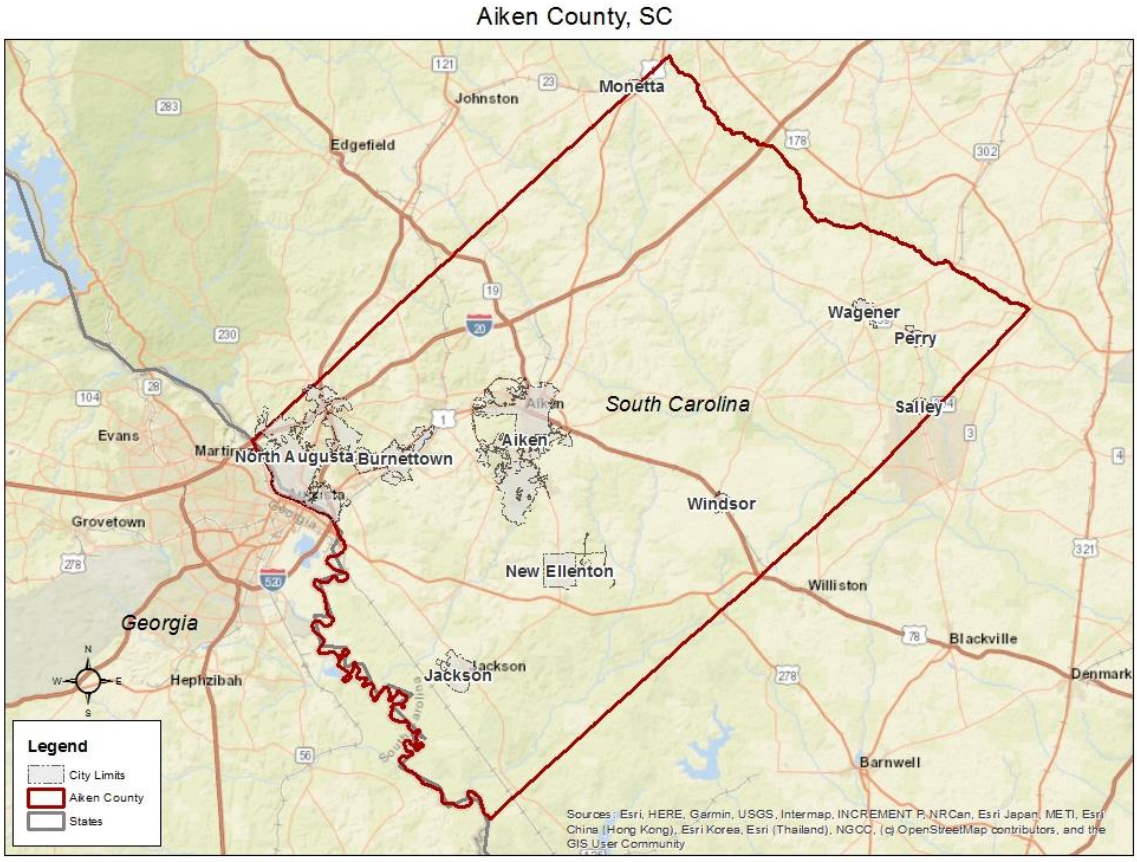
Figure 2. Area Demographic Background

	V 2019 Population Projection	2019 Median Household Income Projection
Aiken County	170,872	$50,036
City of Aiken	30,869	$54,050
Town of Burnettown	2,747	$52,269
Town of Jackson	1,803	$50,000
Town of Monetta	240	$28.929
Town of New Ellenton	2,151	$39,563
City of North Augusta	23,811	$56,811
Town of Perry	248	$14,911
Town of Salley	415	$24,167
Town of Wagener	837	$36,458
Town of Windsor	145	$51,250

Source: US Census Bureau Vintage 2019 Populations Estimates / 2014-2018 ACS 5 Yr. Estimates

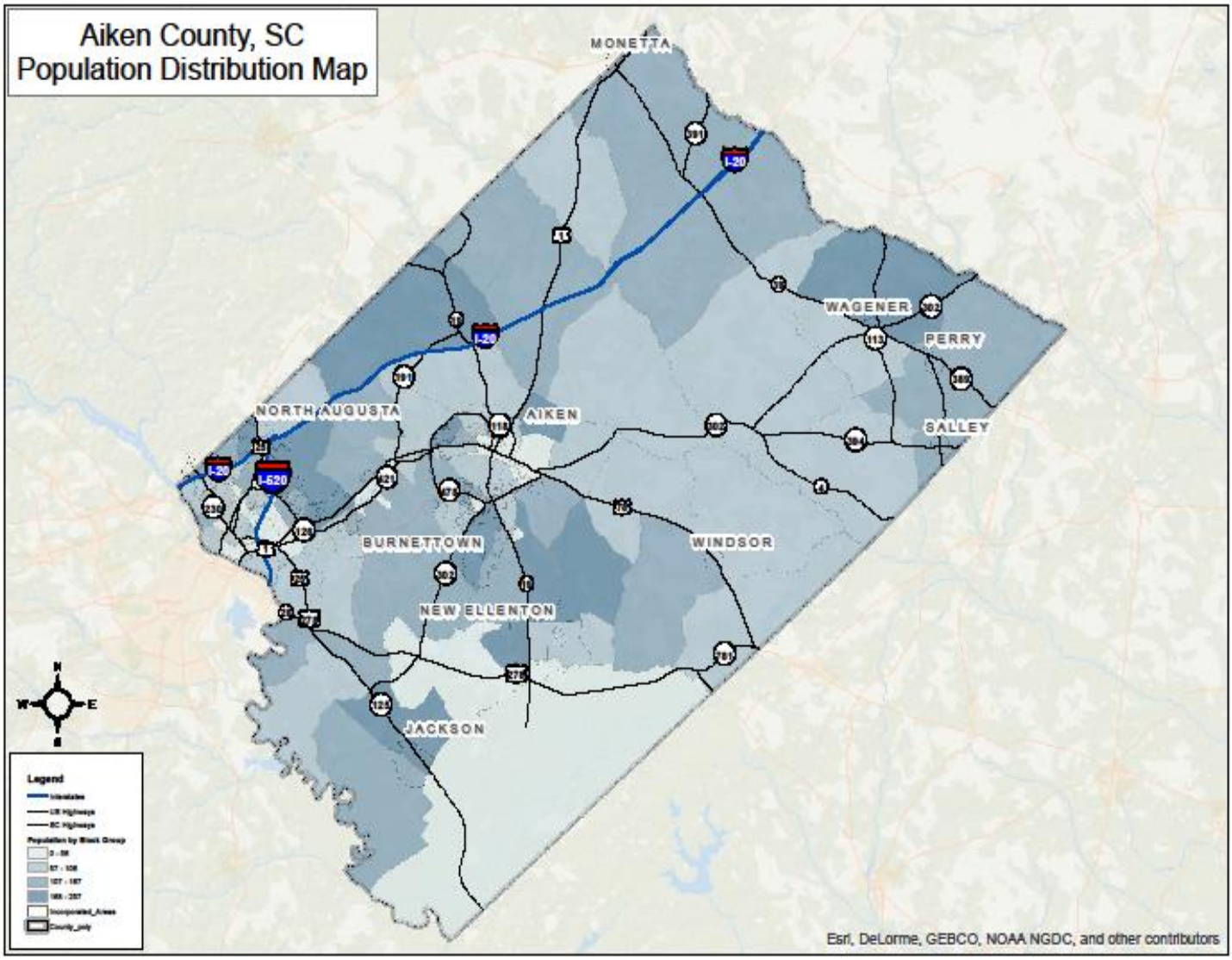
The following map reveals the area of Aiken County, which is the focus of this plan.

Map 1: Location Map



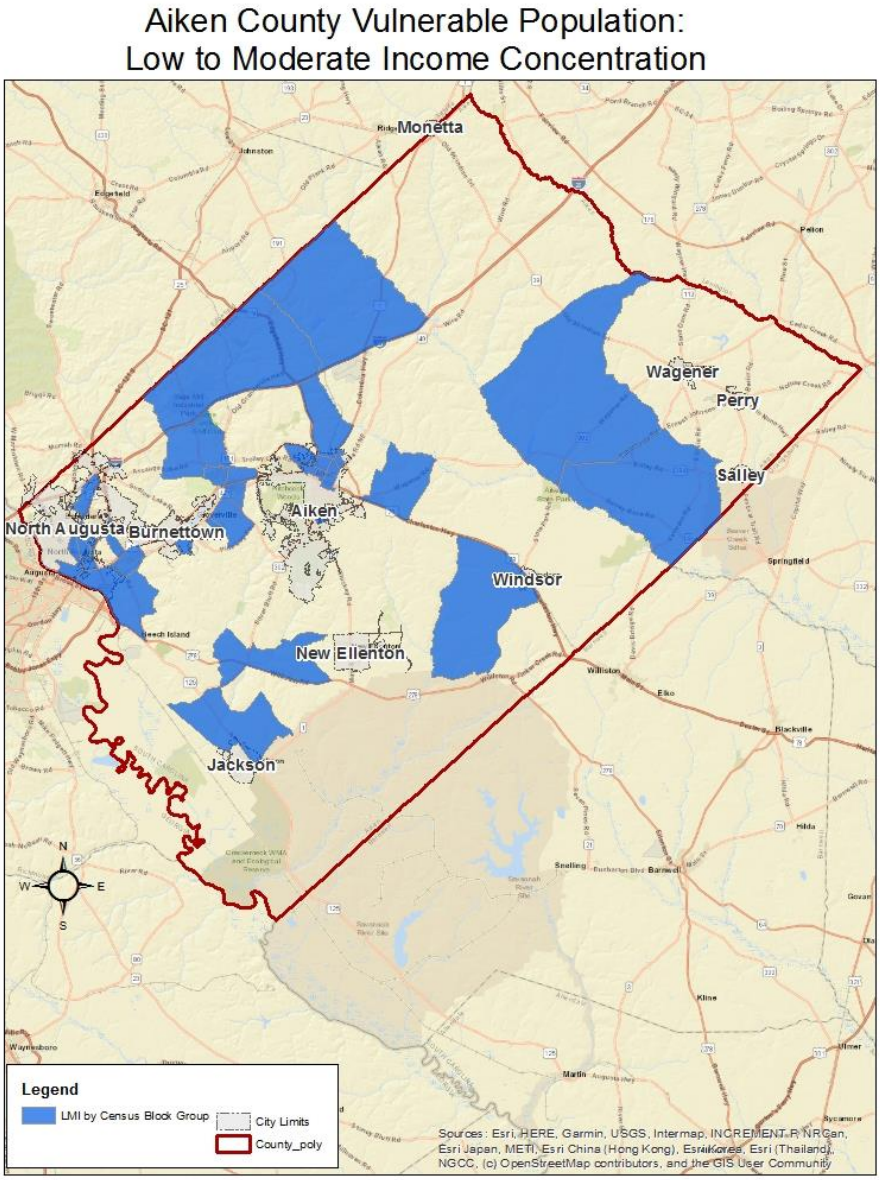
The following map includes the population densities by block group within Aiken County.

Map 2: Population Distribution Map



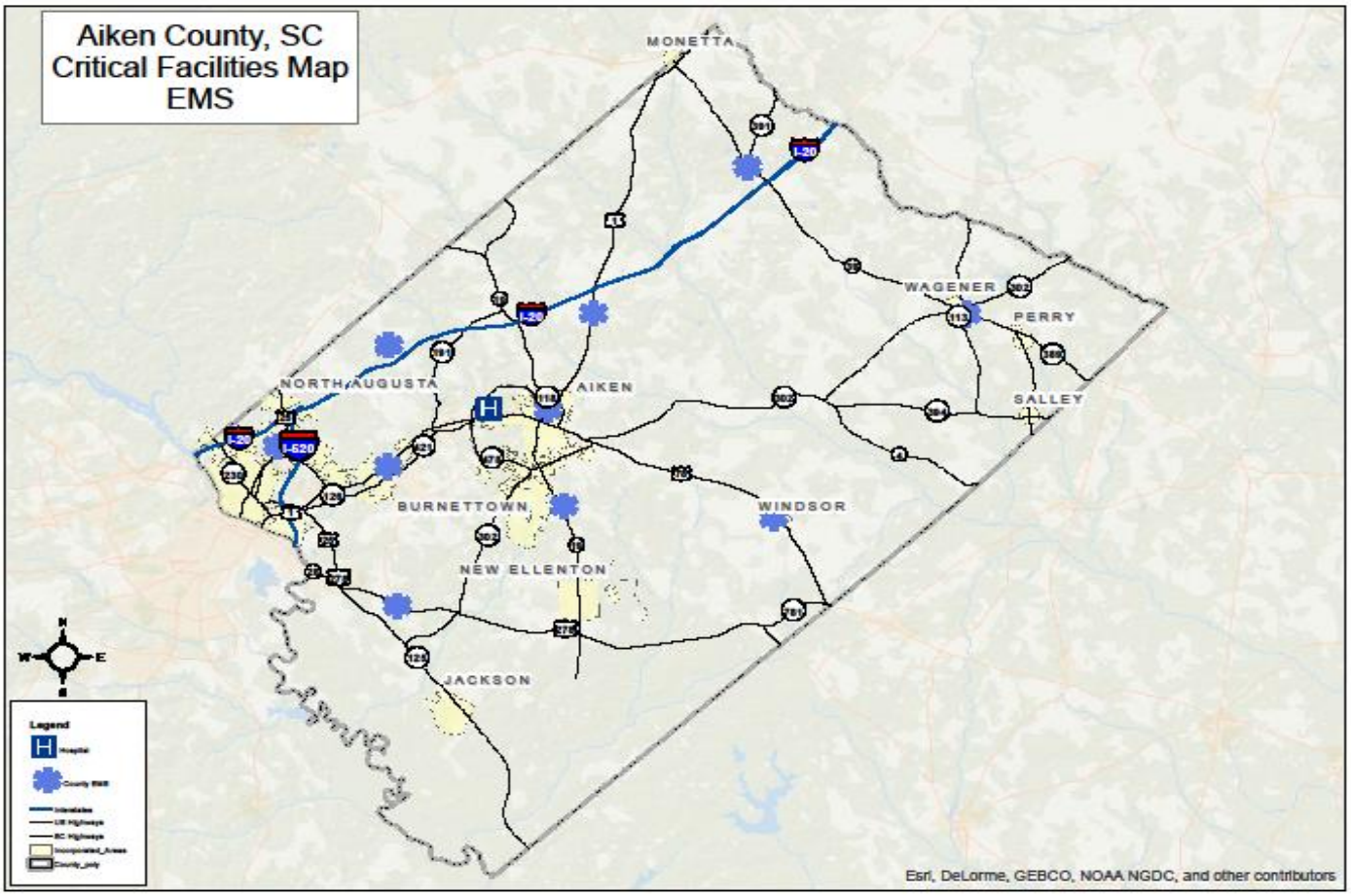
The Following map includes the Low to Moderate Income (LMI) populations by Census Tract within Aiken County.

Map 3: Low to Moderate Income Population Map

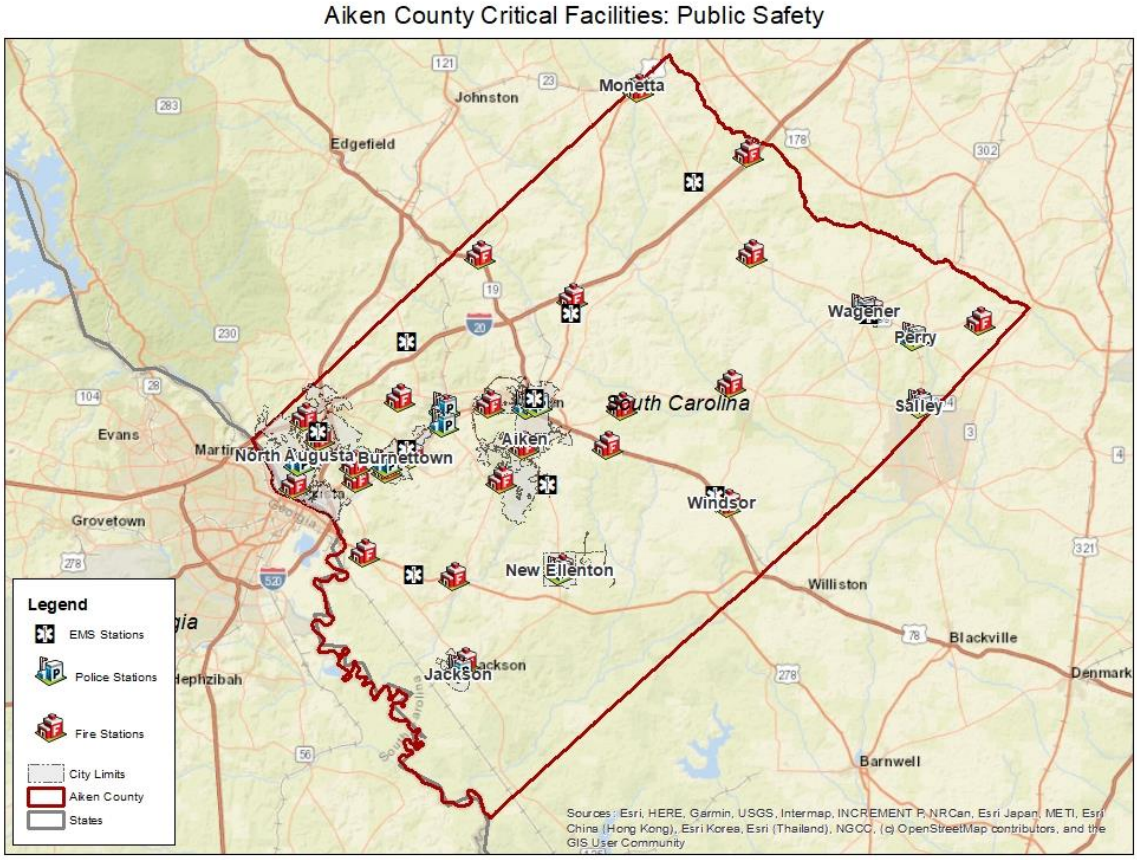


The following maps include critical facilities within Aiken County. Critical facilities include schools, fire stations, EMS/Police, and Governmental Buildings. Full page maps can be found in the Appendix.

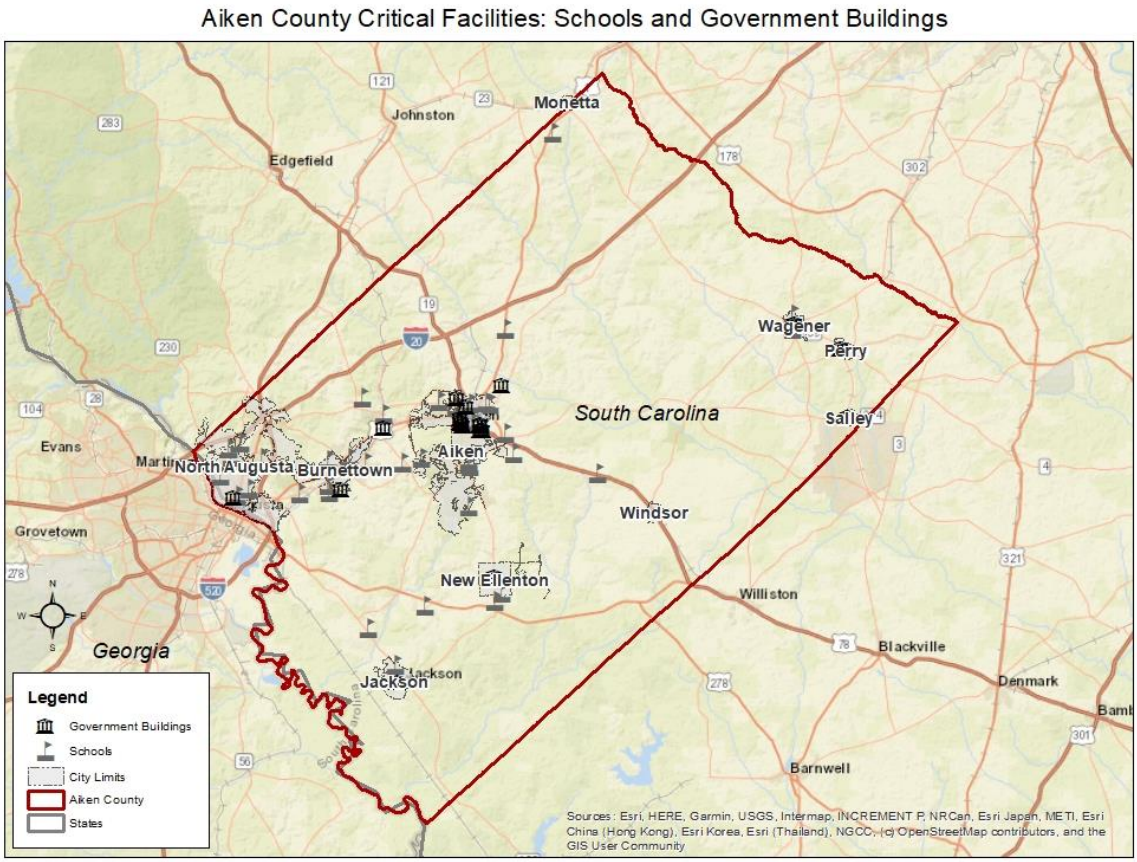
Map 4: Critical Facilities Map: EMS



Map 5: Critical Facilities Map: Police and Fire Stations



Map 6: Critical Facilities Map: Schools and Government Buildings



1.3 Purpose

Review by the Task Force Committee, this section of the plan is unchanged and reflects the consistency with the State 2018 HMP to include the seven (7) principles of the South Carolina mission for mitigation, as well as an overview of goals. (Found on page 13 of the SC State 2018 HMP)

This plan is designed to be both strategic as well as comprehensive in nature, providing a long-term vision of how the county will address hazards over time. The concept of multi-objective planning is emphasized throughout this document, identifying ways to link hazard mitigation policies and programs with complimentary goals of the county related to housing, economic development, recreational opportunities, transportation improvements, environmental quality, and public health and safety.

Mitigation planning offers many benefits, including:

- Saving lives and property;
- Saving money;
- Speeding recovery following disasters;
- Reducing future vulnerability through wise development and post-disaster recovery and reconstruction;
- Expediting the receipt of pre-disaster and post-disaster grant funding; and
- Demonstrating a firm commitment to improving community health and safety.

More importantly, mitigation planning has the potential to produce long-term benefits by breaking the repetitive cycle of disaster damages, injuries and loss of life. A core assumption of hazard mitigation is that a pre-disaster investment can significantly reduce the demand for post-disaster assistance. Further, the adoption of mitigation actions enables local residents, businesses and industries to more quickly recover from a disaster, getting the economy back on track sooner and with less interruption.

The benefits of mitigation planning go beyond reducing hazard vulnerability. Measures such as the acquisition or regulation of land in known hazard areas can help achieve multiple community goals, such as preserving open space, maintaining environmental health and enhancing recreational opportunities.

The purpose of this Plan is to:

1. To protect life, safety and property by reducing the potential for future damages and economic losses that result from natural hazards;
2. Meet the requirements of the DMA 2000, and therefore qualify for additional grant funding in the following programs: Hazard Mitigation Grant Program, and Pre-Disaster Mitigation Program;
3. To speed recovery and redevelopment following future disaster events;

4. To demonstrate a firm local commitment to hazard mitigation principles; and enhance the capability of all counties and municipalities to address identified hazards by providing technical support and training;
5. To comply with both state and federal legislative requirements for local hazard mitigation plans.

   Establish an effective forum for state agencies and statewide organizations to discuss and coordinate existing and future plans, programs and data, rules and regulations and expertise addressing hazard-related issue;

6. Increase the effectiveness and efficiency of hazard mitigation programs and projects sponsored, finances or managed by state agencies or statewide organizations; and
7. To demonstrate a firm local commitment to hazard mitigation planning principles.

Once adopted, the mitigation plan will help the communities of Aiken County to take greater advantage of State and Federal funding opportunities for eligible hazard mitigation projects. For instance, to qualify for Federal aid for technical assistance and post-disaster funding, local jurisdiction must comply with the Disaster Mitigation Act of 2000 (DMA 2000) and its implementing regulations based on the *Local Multi-Hazard Mitigation Planning Guidance*, published by FEMA in July, 2013. The Aiken County Natural Hazard Mitigation Plan has been prepared to address these hazard mitigation planning requirements. The FEMA Review Criteria in the preface of the document describes each of the major planning requirements and identifies where in the plan document they are addressed.

Another key purpose of the planning process is to ensure that proposals for mitigation actions are reviewed and coordinated among the participating jurisdictions within the County, and supported by technical assistance from appropriated regional, State and Federal agencies. In this way there is a high level of confidence that mitigation actions proposed by one jurisdiction, when implemented, will be compatible with the interests of adjacent jurisdictions and unlikely to duplicate or interfere with mitigation initiatives proposed by others. The last but not the least purpose of the Aiken County Plan is to provide each participating local jurisdiction with a plan of action that can be adopted and implemented pursuant to its own authorities and responsibilities.

1.4 The Planning Process

After review by the Task Force Committee, the following changes were made to this section as part of the update process: changes necessary as part of the 2020 update include the dates listed in Figure 3 to reflect more current documents and plans.

FEDERAL REQUIREMENTS FOR LOCAL HAZARD MITIGATION PLANS

Requirement 201.6(b): In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process **shall** include:

(1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;

(2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and

(3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information

Requirement 201.6(c)(1): The plan **shall** document 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.

This plan is designed to provide a blueprint for hazard mitigation activities in the general sense of the program and is structured to serve as a basis for specific hazard mitigation efforts for any disaster. It is recognized, however, that updates may be required to address specific issues arising from a given disaster.

This plan is currently being updated to comply with State and Federal mandates. As a result of the update, new elements will be included as necessary to meet FEMA regulations.

This plan identifies hazards and considers ways to reduce vulnerability to natural hazards in Aiken County. It encompasses a range of life- and property-saving hazard mitigation initiatives in the categories of mitigation coordination, acquisition/relocation/retrofitting, floodplain management, public safety, emergency preparedness, earthquake, tornado, drought, etc. Both short-term and long-term hazard mitigation measures are identified in order to help all state and local agencies allocate resources in a responsible manner in order to provide for the public safety, public health, and general welfare of all the people in Aiken County.

This plan has taken into account the mitigation experience, and a variety of mitigation projects, from other counties near or surrounding Aiken County and the State of South Carolina. It has taken advantage of the collective mitigation knowledge of many State, Federal, and Local officials, as well as representatives from both the public and private sectors, and is designed as one component to help

safeguard the citizens of Aiken County. As such, it should significantly contribute to the mitigation of future disasters.

Aiken County utilized federal and state guidance documents, existing local plans and studies, and data to develop this plan. More specifically, the Aiken County Comprehensive Plan provided demographical statistics that were incorporated into this plan; the Aiken County Land Development Regulations provided specific no-build scenarios in the floodplains and building codes enforcement; and the SC HMP 2018 provided a framework and was used as a guide to updating this plan. Other specific examples include:

Figure 3. Existing Plans/Studies/Guides

Plans/Studies/Guides	Author
Aiken County Multi-Jurisdictional HMP	Aiken County/LSCOG
Hazard Mitigation Assistance FY 2013 Unified Guidance	FEMA
FY 2013 PDM Program Guidance	FEMA
SC Floodplain Management Quick Guide 2008	SCDNR
Hazard Mitigation Planning	FEMA
Aiken County Comprehensive Plan	Aiken County
Aiken County Zoning Ordinance	Aiken County
Aiken County Land Development Regulations	Aiken County
Aiken County Emergency Operations Plan	Aiken County
National Flood Insurance Program	FEMA
SC HMP 2018	SCEMD
SC Emergency Operations Plan	SCEMD

This plan utilized the process required by the Federal Emergency Management Agency to develop the plan. A Hazard Mitigation Planning Crosswalk is found in Appendix D and provides a summary of plan requirements, including where they are located. The hazard mitigation planning process included the following steps, listed in the order in which they were undertaken and will be described in greater detail throughout the plan:

- Step 1: Establish a Core Planning Team (Task Force)
- Step 2: Data collection, Risk Assessment
- Step 3: Hazard Identification
- Step 4: Create Hazard Mitigation Plan
- Step 5: Develop Goals and Mitigation Strategies
- Step 6: Adopt and Implement Plan

The planning process followed in Aiken County was intended to enhance public awareness and understanding about how the community could become safer from the impacts of future disasters. The plan provides a decision tool for management by department staff in local governments, local

elected and appointed officials, business and industry, community associations and other key institutions and organizations to take actions to address vulnerabilities to future disasters. It provides proposals for specific projects and programs that are needed to eliminate or minimize the vulnerability of the County. One component of the hazard mitigation planning process was a capability assessment of existing policies, programs and regulations for managing growth and development within the County. The study contractors reviewed relevant County and local government comprehensive plans, zoning ordinances, floodplain regulations, and building codes to gain an understanding as to how current development regulations and practices either hinder or support hazard mitigation initiatives.

This process also involved reviewing current mitigation-related policies of local and county government and comparing them to the hazards that threaten the jurisdiction and the relative risks they pose to the community. This comparison supports and justifies efforts to propose enhancement to policies, programs, and regulations that should be implemented to create a more disaster-resistant future for Aiken County. This process was led by the Aiken County Hazard Mitigation Task Force members and supported by the Lower Savannah Council of Governments staff.

1.5 Planning Process Documentation

As part of the update process, the Task Force Committee reviewed this section and made the necessary member additions and changes to the committee, participating municipality additions, and meeting dates and times. It should be noted that COVID 19 Pandemic impacted the nation, state and county during this update process. This inhibited much of the in-person meetings that were scheduled. From March of 2020 – through to present, review by the Task Force had to be done largely through conference calls and emails. Only few in-person meetings were conducted. Communication with the municipalities had many challenges.

The following is documentation of the various steps of the planning process. The preparation of the plan required a series of meetings and workshops for facilitating discussion and initiating data collection efforts. More importantly, the meetings and workshops prompted continuous input and feedback throughout the planning and update process. Sign-in sheets, letters, agendas, surveys, and news releases are included in the appendix of this document.

Aiken County Natural Hazard Mitigation Plan Task Force Committee

The plan was developed through a Task Force Committee comprised of LSCOG staff, the heads of the county emergency service offices, representatives from the incorporated municipalities, and private entities. The committee helped to guide the creation and development of the plan, and participated in the five-year update process of the plan. These committee members were chosen as a result of their expertise in hazard preparation and planning within their respective county and municipalities.

The Task Force Committee includes:

Paul Matthews	Aiken County Emergency Management- Director
Teresa Crain	Aiken County Engineering - Engineer
Aaron Dobbs	Aiken Department of Public Safety - Captain
Stuart Bedenbaugh	City of Aiken Manager – City Manager
Mike Przybylowicz	City of Aiken Engineering and Utilities - Engineer
Jonathan Dicks	Town of Burnettown - Mayor
Todd Etheredge	Town of Jackson - Mayor
Bonnie Stikeleather	Town of Jackson – Town Clerk
Charles McCormick	Town of Monetta - Mayor
Vernon Dunbar	Town of New Ellenton- Mayor
Alesia Parks	Town of New Ellenton – Police Chief
Rachelle Moody	City of North Augusta - Assistant City Manager
Jim Clifford	City of North Augusta- City Manager
Thomas Williams	Town of Perry - Mayor
LaDonna Hall	Town of Salley - Mayor
Mike Miller	Town of Wagener - Mayor
Michael Dunbar Sr.	Town of Windsor - Mayor

Lower Savannah Council of Governments

Emory Langston, Planning Manager	Lower Savannah Council of Governments
Matthew Abney, Planning Intern	Lower Savannah Council of Governments
Leslie Crawford, GIS Planner	Lower Savannah Council of Governments

Participating Municipalities:

City of Aiken
City of North Augusta
City of New Ellenton
Town of Burnettown
Town of Jackson
Town of Monetta
Town of Perry
Town of Salley
Town of Wagener
Town of Windsor

Meetings, Workshops, Training, Correspondence:

Meetings, Workshops, Trainings, Correspondence:

Memorandum of Agreement from County: November 16, 2018
A MOA was received from the County indicating their approval of the 25% match requirement totaling $5,208.34.

SCEMD Meeting – August 5, 2019, 10:00 a.m.
LSCOG staff met with SCEMD staff to discuss the needs of the Hazardous Mitigation Plan updates for five counties in the LSCOG region.

HMP Update Kick-off Meeting County Emergency Management Directors and SCEMD Staff September 3, 2019, 10:00 – Had to be postponed due to activation of SCEMD for Dorian.

HMP Update Kick-off Meeting for County Emergency Management Directors and SCEMD Staff
October 7, 2019, 10:00 am
Kick-off meeting to discuss upcoming update process, requirements, timelines, needs from the County Directors.

Aiken County HMP Task Force Committee Meeting:
November 14th, 2019, 10:00 a.m.
Met with the Aiken County Task Force at the Aiken County Government Center to discuss the 5-year update process.

Email Correspondence February 11, 2020 with Paul Matthews to schedule upcoming meeting for March 2020.

Email Correspondence regarding postponement of March meeting due to COVID 19.

IT SHOULD BE NOTED AT THIS POINT IN THE TIMELINE, DUE TO COVID 19, MOST ALL CORRESPONDANCE WITH THE TASKFORCE HAS BEEN DONE BY TELEPHONE OR EMAIL. THIS HAS MADE THE PROCESS VERY CHALLENGING.

Additional Email Correspondences and phone calls in the spring and summer of 2020.

Email Correspondences regarding fall in-person and difficult in reaching municipalities.

Aiken County HMP Task Force Committee Meeting:
October 19th, 2020, 10:00 a.m.
Met with the Aiken County Task Force at the Aiken County Government Center to review and discuss and HMP document.

December Email Correspondences with Aiken County EMD staff regarding draft and posting document for public comment.

HMP posted for public comment December 14 – 18. No comments were received.

Emails attached in Appendix C

1.6 Participants Involved in the Planning Process

After review by the Task Force Committee, changes were made to this section specific to the municipality.

The plan is intended to serve as a coordinative tool through which local agencies and organizations identify complimentary objectives that systematically reduce the impact of hazards in Aiken County. The plan also serves to coordinate and integrate the responsibilities, authorities and programs of the "participating" and "cooperating" agencies and organizations.

County and Municipality Participation

County, city, and town participation must be defined in order to create a standard for participation in order for the entities to be considered as participants in the Natural Hazard Mitigation Plan process. Invitations (by phone and letter) were extended to mayors, administrators, and managers to attend the County Hazard Mitigation Meetings. Officials were informed through the letters that LSCOG needed their input and comments in order to be considered active participants in the plan.

In order for the county to approve the plan and be an official participant of this planning process, they must satisfy the following consideration:

- The county Emergency Management Director must be a member of the Natural Hazard Plan Task Force Committee and provide input and comments to the plan.

In order for cities and towns to be official participants of the planning process, they must satisfy one of the following considerations:

- The mayor, administrator, or manager attends a county or public meeting and provides input and comments concerning the Natural Hazard Mitigation Plan.
- The mayor, administrator, or manager appoints a city or town employee to attend a county or public meeting and provides input and comments concerning the Natural Hazard Mitigation Plan.
- A LSCOG Planning staff member personally discusses the Natural Hazard Mitigation Plan with a mayor, administrator, manager, or appointed municipal representative and receives input and comments from that individual.

Aiken County Local Government Participation

City of Aiken

Town of Burnettown

Town of Jackson

Town of Monetta

Town of New Ellenton

City of North Augusta

Town of Perry

Town of Salley

Town of Wagener

Town of Windsor

Non-Participating Municipalities

During this process, ample outreach was done via email and phone calls to all the municipalities in Aiken County for the planning and update process of the Natural Hazard Mitigation Plan.

Other Participants

Aiken County will also partner with eligible non-profit agencies to apply for FEMA grants on their behalf. Additionally, the electric cooperatives and school district are eligible to apply for FEMA grants independently as active participants of the update process.

1.7 Public Participation

Due to Covid-19 adjustments had to be made in regards to Public Participation.

The outbreak of COVID-19 has made the public participation process more challenging. In the past, through the planning and update process, there have been opportunities for public in-person input. The process provided neighboring communities, other agencies, the private sector, and academia an opportunity to participate in the planning process. Information was share via social media and websites. It should be noted that in-person public meetings were very difficult to host due to COVID 19. A neighboring county EMD, in Allendale SC was asked (via email and phone) to review the HMP draft for Aiken County; however, the request was unresponsive.

LSCOG staff encouraged taskforce members to share the draft documents and get feedback from a variety of people and partners. The draft plan was placed LSCOG websites, an email address and the telephone number of Lower Savannah COG were provided with the draft plan to provide a mechanism for the public to provide comments back to plan development facilitators.

1. Public Meeting during the Drafting Stage of the Plan

The public was invited to review the Aiken County HMP 5-year update on the LSCOG website December 14- 18, 2020 and to comment on the drafting stage of the Hazard Mitigation Plan. The invitation was extended through website and social platforms. In addition to the draft stage of the plan, the public will be invited to make comments on the final draft plan prior to potential adoption by Aiken County Council once approved by FEMA. In-person meeting will be dependent of COVID-19 precautious.

2. Public Notice of Adoption of Plan

In addition, the public will be invited to provide input prior to Plan adoption. This will include plan adoption hearings of the governing bodies of the participating jurisdictions. Depending on how public meetings will be conducted in the future, due to COVID, announcements will be made through websites and social media. The public notice prior to plan adoption will take place once FEMA has formally approved the plan pending adoption. Adjustments will continue to be made, as necessary for health and safety, with regards to in-person


Part Two:
Risk Assessment

2.1 Types of Risks

As part of the plan update process, the Task Force Committee reviewed and analyzed this section. Each hazard description was reassessed and updated to include most current data as well as updated visuals . This section also included the requirements below:

FEDERAL REQUIREMENTS FOR LOCAL HAZARD MITIGATION PLANS

Requirement 201.6(c)(2): The plan **shall** include a risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identifies hazards.

Requirement 201.6(c)(2)(i): The risk assessment **shall** include a description of the type of all natural hazards that can affect the jurisdiction.

Risk Assessment

The Risk assessment is the process of measuring the potential loss of life, personal injury, economic injury, and property damage resulting from natural or man-made hazards. The results of this risk assessment assist Aiken County and its incorporated municipalities and unincorporated areas in identifying and understanding their risks from natural hazards. This information also serves as the foundation for the development of the mitigation plan and strategies to help reduce risks from future hazard events. The Risk Assessment section answers the fundamental question that fuels the hazard mitigation planning process: *What would happen if a hazardous event occurred in Aiken County or its incorporated municipalities*?

Risk Assessment Approach

- Determine which hazards pose a serious risk to Aiken County.
- Describe what these hazards can do to physical, social, and economic assets of Aiken County.
- Identify which areas of the County are most vulnerable to damage from these hazards.
- Determine damages that may result from the identified hazards.
- Use the Risk Assessment section to identify mitigation actions and set priorities for implementation.

FEMA Requirements Addressed

The Task Force Committee used a risk assessment process consistent with the procedures and steps presented in the FEMA How-To-Guide "Understanding Your Risks: Identifying Hazards and Estimating Losses." The committee used the four-step risk assessment process shown in Figure 4 on the following page.

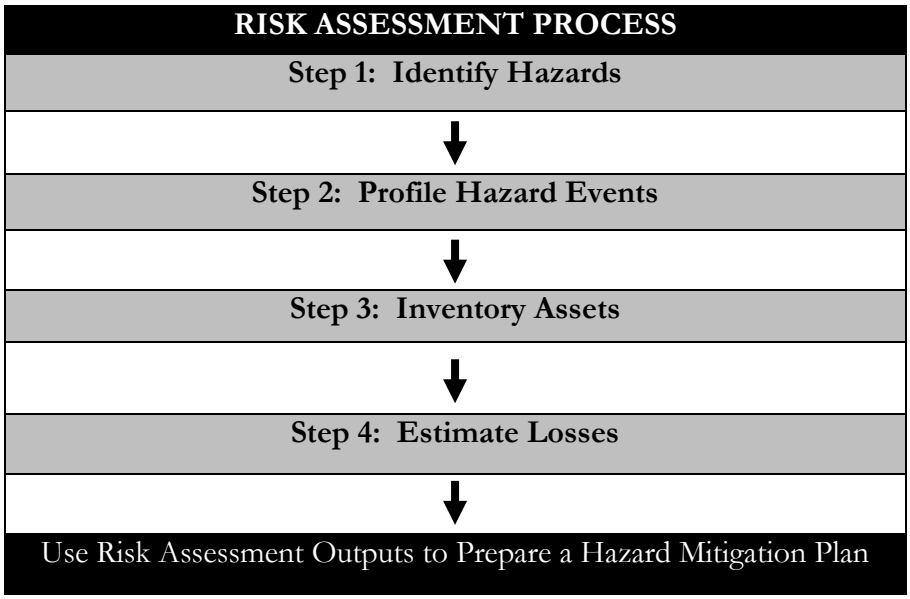


Figure 4: Risk Assessment Process

Hazard Identification

The first step in the risk assessment process was to identify each of the hazards that can occur within Aiken County and its incorporated municipalities. This hazard identification process began with a review of previous hazard events based on historical data. Also, information was collected through general discussion at Task Force Meetings concerning hazard identification and prioritization of these risks. The findings from these sources were utilized to determine the priority hazards for Aiken County and its incorporated municipalities and unincorporated areas, which will become the focus of the mitigation strategies developed in the remainder of this plan.

The following will provide a factual basis for mitigation project proposals described later in this plan. The following points will be addressed for each natural hazard in this section:

Type

A brief description is provided for each hazard addressed in this section.

Location

The location of past events is mapped or listed in this section.

Extent

The effect and impact of past events is examined in this section for each hazard type.

Probability

To determine the probability of a natural hazard event, the number of events, total number of years those events have been recorded, and the frequency of events must be determined. The recurrence

interval is also helpful in portraying how common a certain type of hazard is. Dividing the number of years by the number of events produces the recurrence interval, or how often the event will occur per year. The percentage frequency of events is determined by dividing the number of events by the total number of years and multiplying by 100. This gives a reliable sense of the chance a hazard will occur per year.

Vulnerability

The overall vulnerability of each individual hazard is discussed and analyzed for Aiken County and its municipalities. A rating of high, mid-level, and low vulnerability is given to each hazard. Vulnerability is determined by assessing the probability and extent of the hazards that affect the specific area.

Of the many types of hazards that threaten the United States, there are some that have never occurred in South Carolina. Those hazards that have threatened the Lower Savannah Region of South Carolina will be addressed. The hazards that have been examined in this plan were decided on by LSCOG staff and the Task Force Committee.

The following are the specific hazards that will be examined in this section of the Natural Hazard Mitigation Plan, in no particular order.

Figure 5. Jurisdictions Affected by Hazard Type

Hazard	Jurisdictions Affected
Tornadoes/Severe Windstorms	Specific Jurisdictions
Hurricanes	Countywide
Hail	Specific Jurisdictions
Drought	Countywide
Earthquakes	Specific Jurisdictions
Wildfires	Countywide
Flood	Countywide
Winter Storms	Countywide

Profiling Hazards

FEDERAL REQUIREMENTS FOR LOCAL HAZARD MITIGATION PLANS

Requirement 201.6(c)(2)(i): The risk assessment **shall** include a description of the location and extent of all natural hazards that can affect the jurisdiction. The plan **shall** include information on previous occurrences of hazard events and on the probability of future hazard events.

It is important to understand the types of hazards that affect Aiken County and its municipalities. Projects and actions will be discussed in further detail to address these natural hazards which threaten this region. The extent of the hazard and its future probability are important considerations to take when preparing for an event.

Tornado/Severe Windstorm Analysis

Source: WAGT NBC 26

Hazard Description:

A tornado is a violent storm with winds up to 300 miles per hour. It appears as a rotating funnel-shaped cloud, gray to black in color, extending toward the ground from the base of a thundercloud. The average tornado moves southwest to northeast at a forward speed of 30 miles per hour, but tornadoes can move in any direction and may vary from stationary to 70 miles per hour. Tornadoes are most frequent east of the Rocky Mountains during spring and summer months between the hours of 3 PM and 9 PM. In the South, tornadoes touch down most frequently from the month of March through June. Tornadoes may also accompany hurricanes. Tornadoes are especially dangerous because they appear transparent until they begin to pick up debris and dust. These short-lived storms are most violent of all atmospheric phenomena, and over a small area, are the most destructive. Approximately 1,253 tornadoes occur across the nation each year (1991-2010), resulting in nearly 563 deaths. Damage paths can exceed one mile wide and 50 miles long. Based on NOAA's *Average Annual Number of Tornadoes per State Map* (1991-2010), South Carolina has an average of 27 tornadoes per year.
Source: NOAA

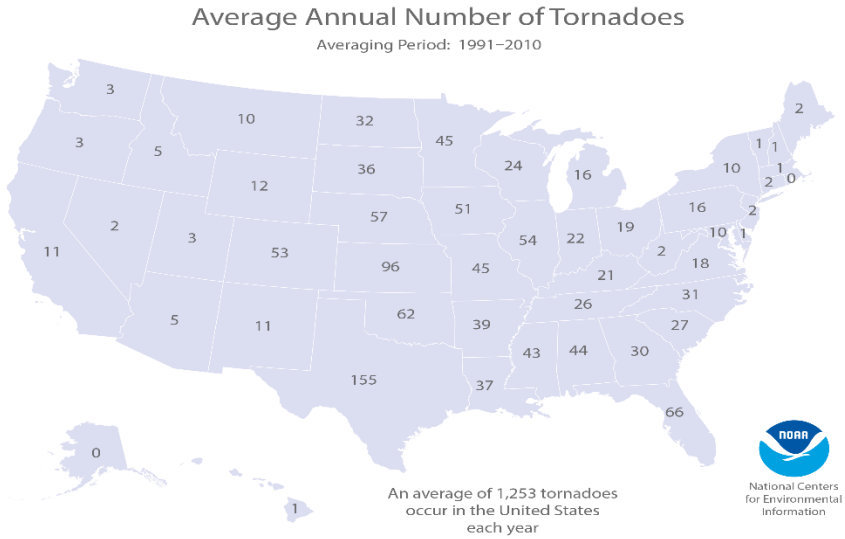


Figure 6: Average Number of Tornadoes per State Map (1991-2010)

Tornadoes are most often generated by thunderstorm activity or any situation of severe weather with high winds. High winds can cause downed trees and power lines, flying debris, and building collapses, all of which may lead to power outages, transportation disruptions, damage to buildings and vehicles, and injury or death. Flying debris is the primary cause of damage during a windstorm.

Severity

Damage from tornadoes is from extreme winds and flying debris. It is rare to be able to measure pressure changes and wind speeds of a passing tornado, but it is possible to classify its damage. Typically, tornadoes cause the greatest damages to structures of light construction such as residential homes, particularly manufactured homes, and their impacts tend to remain localized. The Enhanced Fujita Scale for Tornadoes is the standard measurement for rating the strength and associated damages of a tornado. Figures 7 and 8 detail the EF-Scale below.

Figure 7: Enhanced Fujita Scale for Tornadoes

F-SCALE NUMBER	WIND SPEED (mph)	TYPE OF DAMAGE DONE
EF0	65 - 85	Minor damage. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees push over.
EF1	86 – 110	Moderate damage. Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	111 – 135	Considerable damage. Roofs torn off well-constructed houses; foundations of frame houses shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF3	136 – 165	Severe damage. Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
EF4	166 – 200	Devastating damage. Well-constructed houses and whole frame houses completely leveled; cars thrown and small missiles generated.
EF5	>200	Extreme damage. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 m; steel reinforced concrete structure badly damaged; high-rise buildings have significant structural deformation.

Source: SC SHMP 2018/NOAA

The Fujita Scale (F-Scale) is the standard measurement for rating the strength of a tornado. The National Weather Service (NWS) bases this scale on an analysis of damage after a tornado to infer wind speeds. On February 1, 2007, the NWS transitioned from the F-Scale to the Enhanced Fujita Scale (EF-Scale). The EF-Scale is considerably more complex and enables surveyors to assess tornado severity with greater precision. Figure 8 details both scales below.

F-Scale and EF-Scale				
F-Scale	**3-sec. gust speed (mph)**	**EF-Scale**	**3-sec. gust speed (mph)**	**TYPICAL DAMAGE**
F0	45-78	**EF0**	65-85	Light damage. Some damage to chimneys. Branches broken off trees. Shallow-rooted trees pushed over; signboards damaged.
F1	79-117	**EF1**	86-109	Moderate damage. Peels surface off roofs. Mobile homes pushed off foundations or overturned. Moving autos blow off roads.
F2	118-161	**EF2**	110-137	Considerable damage. Roofs torn off frame houses. Mobile homes demolished. Boxcars overturned. Large trees snapped or uprooted. Light-object missiles generated. Cars lifted off ground.
F3	162-209	**EF3**	138-167	Severe damage. Roofs and some walls torn off well-constructed houses. Trains overturned. Most trees in forest uprooted. Heavy cars lifted off the ground and thrown.
F4	210-261	**EF4**	168-199	Devastating damage. Well-constructed houses leveled. Structures with weak foundations blown away some distance. Cars thrown and large missiles generated.
F5	262-327	**EF5**	200-234	Incredible damage. Strong frame houses leveled off foundations and swept away. Automobile-sized missiles fly through the air in excess of 100 meters. Trees debarked. Incredible phenomena will occur.

Figure 8: F-Scale and EF-Scale

The Beaufort Wind Scale is a simplified scale to aid in the estimation of wind speed and corresponding typical effects. Figure 9 below illustrates the wind scale.

Beaufort Wind Scale		
Wind Speed (mph)	**Name**	**Damage**
25-31	Strong Breeze	Large branches in motion; whistling in telephone wires; umbrellas used with difficulty
32-38	Near Gale	Whole trees in motion; resistance felt while walking against the wind
39-46	Gale	Twigs break off of trees; wind impedes walking
47-54	Strong Gale	Slight structural damage to chimneys and slate roofs
55-63	Storm	Seldom felt inland; trees uprooted; considerable structural damage
64-72	Violent Storm	Very rarely experienced; widespread structural damage; roofing peels off buildings; windows broken; mobile homes overturned
73+	Hurricane	Widespread structural damage; roofs torn off homes; weak buildings and mobile homes destroyed; large trees uprooted

Figure 9: Beaufort Wind Scale

Location

There have been 38 recorded touchdowns in Aiken County over the last 58 years (1961-October 2019). The risk assessment is based on reported tornado events. Therefore, the occurrence of events seems to be highest in areas with higher population densities. Tornado touchdowns in rural areas frequently occur without report.

In the City of Aiken, 13 tornado touchdowns have been recorded, once in 1965, 1978, 1998, 2000, three times in 2004, once in 2007, twice in 2008, once in 2009, once in 2015, and in 2017. The Town of Jackson has documented three incidents of tornado touchdowns, one reported in the year 1961, once in 1983, and once in 2011. The 1961 event touched down in the southeastern area of the town and the 1983 event was reported in the northwestern section of town. In 2000 the City of North Augusta reported one tornado touchdown, which occurred in the northwestern area of the city. The Town of Perry has had no recording of such an event. The Town of Salley has documented one tornado event in 1992 as occurring on the eastern side of the town. The Town of Wagener has four reports of tornado events. The unincorporated areas of Aiken County have experienced 11 tornado events, with the first being reported in 1965 and the most recent in 2012. Six of these events were documented as occurring around the Savannah River Site. Two events occurred right outside the City of Aiken, and one occurred at the boundary between Aiken County and Lexington County.

Extent

Aiken County and its participating jurisdictions have experienced 38 noted tornadoes in the past 58 years (1961-2019).

These tornadoes have caused a total of 22 injuries. There have been no fatalities due to tornadoes in the county. The tornadoes that have touched down in Aiken County have ranged from F0 to F3. According to the preceding data, the wind speeds of these tornadoes have ranged from 72 miles per hour to 206 miles per hour, and had the potential to cause severe damage. According to the Tornado force classification chart, tornadoes that have touched down in Aiken County had the ability to cause severe damage, with roofs and some walls torn off well-constructed houses, trains overturned, most trees in forest uprooted, heavy cars lifted off ground and thrown peel surfaces off roofs, mobile homes pushed off of their foundations, mobile homes overturned, moving automobiles blown off of the roads, roofs torn off of the frames of houses, mobile homes demolished , large trees snapped or uprooted, and cars lifted off of the ground.

Figure 10 below illustrates the historic occurrences and locations of tornadoes that have affected Aiken County and its incorporated municipalities.

Figure 10: Historic Occurrences of Tornadoes in Aiken County

Date	Location	Description
2/24/1961	Jackson	F1 Magnitude Property damage recorded at $25K 5 reported injuries
2/24/1961	New Ellenton	F1 Magnitude Property damage recorded at $3K 2 reported injuries
8/25/1965	Aiken	F0 Magnitude
9/17/1975	County	F2 Magnitude Property damage recorded at $250K
5/28/1976	County	F1 Magnitude Property damage recorded at $25K
5/28/1976	County	F1 Magnitude Property damage recorded at $2.5K
2/24/1977	County	F1 Magnitude Caused small damage to trees and a mobile home recorded at $2.5K
5/8/1978	North Augusta Aiken Wagener	F1 Magnitude Property damage recorded at $250K
4/23/1983	Jackson	F1 Magnitude Property damage recorded at $250K

3/1/1991	County	F2 Magnitude
3/3/1991	County	F2 Magnitude 5 mile length, caused limited damage Spawned from same thundercloud as below
3/3/1991	County	F2 magnitude 6 mile length, caused minor damage to trees Spawned from same thundercloud as above
3/29/1991	County	F2 Magnitude
2/25/1992	Salley	F0 Magnitude Property damage recorded at $25K
11/7/1995	Monetta	F2 Magnitude Property damage recorded at $460K Tornado completely destroyed four large poultry houses and a peach processing building. Large farm equipment also destroyed. 1 reported injury
11/7/1995	Salley	F0 Magnitude Trees destroyed and two homes destroyed, no property damage listed
5/7/1996	Monetta	F0 Magnitude A small F0 touched down in a grove of trees along Secondary Highway 1223
5/7/1998	Aiken	F0 Magnitude An F0 touched down near I-20 and SC 19, taking down trees
2/14/2000	Aiken	F0 Magnitude Damage to trees
9/25/2000	North Augusta	F0 Magnitude Tops of pine trees taken off along SC 421
5/6/2003	Monetta	F1 Magnitude Property damage recorded at $5K An F1 tornado touched down on I-20 and moved northeast to SC 289 Numerous trees were taken down and moderate damage was done to two sheds
9/7/2004	County	F0 Magnitude Tress reported down along SC 39 and SC 391
9/16/2004	Aiken	F0 Magnitude

		Trees reported down from I-20, just south of US 1 to SC 511 (Pitts Branch Rd)
9/27/2004	Aiken	F0 Magnitude Moderate damage to a barn, camper, and roof of a home
11/24/2004	Aiken	F0 Magnitude Uprooted trees reported on Cooke Bridge Rd
3/2/2007	Aiken	F0 Magnitude Trees down and minor damage to a couple of homes along Talatha Rd
3/4/2008	Wagener Aiken New Ellenton	F0 Magnitude Trees down along a path from New Ellenton to just southwest of Wagener. A few power lines were also down
3/15/2008	County	F0 Magnitude Trees down along SC 39 and Mt Ebal Rd
3/15/2008	Clearwater Aiken Windsor	F2 Magnitude Numerous trees and power lines down in Clearwater area Severe damage to many homes, roofs, and structures Some roofs gone Water tower had its top taken off and landed several hundred yards away Damage path was a mile wide at certain points
5/11/2008	County	F0 Magnitude Trees reported down on Mt Calvary Rd, Westin Way Rd, and other secondary roads
5/11/2008	Monetta	F0 Magnitude Trees reported down on Old Shoals Rd, Abney Rd, and other secondary roads
5/11/2008	Wagener	F0 Magnitude Trees reported down along JB Swartze Rd, Counter Rd, and other secondary roads
4/10/2009	Aiken Windsor	F3 Magnitude 14 reported injuries Property damage reported at $5M Many homes and businesses were severely damaged Numerous trees and power lines down Tornado tracked along US 278

		One indirect death of a motorist occurred, due to crashing to avoid trees
11/16/2011	Jackson	F0 Magnitude No reported injuries Property damage reported at $20K
2/24/2012	Wagener	F2 Magnitude No reported injuries Property damage reported at $300K
4/19/2015	Aiken	F2 Magnitude Caused significant damage to trees, buildings, businesses, and damaging several homes in the southwestern area of the city
4/3/2017	Aiken	F0 Magnitude Several trees downed in multiple directions along Longwood Dr indicates that a brief tornado occurred in the Aiken Estates subdivision.
4/3/2017	Monetta	F1 Magnitude Touched down near Old Shoals Road just south of Abney Rd snapping numerous pine trees. Then weakened as it moved eastward, snapping additional pine trees as it crossed Shealy Pond Rd and then Alberta Peach Rd before dissipating.
Source: NCDC		

These tornadoes have caused a total of 22 injuries and one indirect fatality. The tornadoes that have touched down in Aiken County have ranged from F0 to F3 magnitudes. Of the tornadoes, 19 were F0, seven (9) were F1, nine (9) were F2, and one (1) was a F3. According to Figure 8, the wind speeds of these tornadoes have ranged from 45 miles per hour to 209 miles per hour, and had the potential to cause severe damage. Total property damage has been estimated at $6.615M.

Probability

Figure 11: Tornado Probability for Aiken County, SC

Municipality	Number of events	Years in Record	Recurrence Interval (in years)	Hazard Frequency % (chance/year)
Aiken	13	58	4.5	22.4%
Burnettown	0	58	*	*
Clearwater	1	58	55.0	1.8%
Jackson	3	58	19.3	5.2%
Monetta	5	58	11.6	8.6%
New Ellenton	2	58	29	3.4%

New Holland	0	58	*	*
North Augusta	2	58	29	3.4%
Perry	0	58	*	*
Salley	2	58	29	3.4%
Wagener	4	58	14.5	6.9%
Unincorporated	11	58	5.3	18.9%
Windsor	3	58	19.3	5.2%
County	*38*	*58*	*1.5*	***65.5%***

Source: NCDC

Tornadoes can be considered a fairly frequent occurrence in Aiken County. Over the past 58 years, 38 tornadoes have touched down within the County affecting its municipality's in 45 locations. Tornadoes can touch down in one city, cause damage in a different area, and dissipate in a different municipality traveling around 6 miles on average. The damage tornados cause can impact multiple areas as they can travel across the ground causing destruction along their path. A tornado could touch down in the county once every one (1) to two (2) years. The frequency of which a tornado could hit each year in the County is approximately 65.5%. As far as the incorporated jurisdictions, the City of Aiken has the highest hazard frequency (chance/year) of a tornado event occurring (22.4%), followed by the unincorporated areas of the County (18.9%).

Vulnerability

High wind events can pose a serious threat to people and infrastructure. Aiken County, in particular its incorporated municipalities (urban core), provides an environment where numerous objects can become flying debris and severely injure people and damage structures.

Structural vulnerability to wind is related to the building's construction type. Wood structures and manufactured homes are more susceptible to wind damage, while steel and concrete buildings are most resistant.

Based on the results from Figure 10 and Figure 11, Aiken County has a moderate vulnerability to tornadoes. The percent chance a tornado will touch down in the unincorporated area of the county is 16.4% in a year time frame. However, the historical record of events shows a total of $6.615 in property damage. The majority of property damage ($5M) occurred in the rural area of the County, known as Beech Island. There were also 22 injuries and one indirect death associated with the tornado events.

Additionally, the breakdown for the Tax Year 2020 shows an assessed market value of $289,253,240 for owner occupied land and buildings; $267,126,410 for non-owner occupied buildings; $7,921,160 for agricultural land and building; and $219,470 for agricultural corporate ownership. The total number of Parcels in Aiken County is 104,448.

The impact of tornado events on each participating jurisdiction varies, and from the tornado extent section one can see that the impact of past tornadoes on the county as a whole has been moderate.

Hurricane/Tropical Storm Analysis

Hazard Description

Hurricanes, including coastal storms and tropical storms can have effects on inland areas and not just coastal areas. Aiken County has been affected by tropical storms in the past.

Tropical Storms and Hurricanes

A hurricane is a type of tropical cyclone, which is a generic term for a low-pressure system that generally forms in the tropics. Thunderstorms and, in the Northern Hemisphere, a counterclockwise circulation of winds near the earth's surface accompany the cyclone. Tropical cyclones are classified as follows:

- A tropical depression is an organized system of clouds and thunderstorms, with a defined surface circulation, and maximum sustained winds of 38 miles per hour or less.
- A tropical storm is an organized system of strong thunderstorms, with a defined surface circulation, and maximum sustained winds of 39 to 73 miles per hour.
- A hurricane is an intense tropical weather system of strong thunderstorms, with a well-defined surface circulation, and maximum sustained winds of 74 miles per hour or higher.

Atlantic hurricane season lasts from June to November, averaging eleven (11) tropical storms each year, six (6) of which turn into hurricanes. According to the National Hurricane Center, the Atlantic hurricane season is currently in a period of heightened activity that began around 1995, and could last at least another decade.

Heavy rain, coastal flooding, and powerful winds are commonly associated with hurricanes. Storm surge is often the greatest hurricane-related hazard. Storm surge is water that is pushed toward the shore by the force of the winds swirling around the storm. This advancing surge combines with the normal tides to create the hurricane storm tide, which can increase the mean water level fifteen (15) feet or more. In addition, wind driven waves are superimposed on the storm tide. This rise in water level can cause severe inundation in coastal areas, particularly when the storm tide coincides with the normal high tides.

Severity

The NWS uses the Saffir-Simpson Scale to classify hurricane severity. The scale categorizes a

hurricane's present intensity on a one (1) to five (5) rating and provides an estimate of property damage and coastal flooding upon landfall. Wind speed determines a hurricane's Saffir-Simpson Scale rating since storm surge is greatly dependent on the coastline shape and slope of the continental shelf. Figure 12 below illustrates the Saffir-Simpson Hurricane Scale.

Hurricane winds can cause widespread destruction; even tropical storm-force winds can be very dangerous. Such high winds can pick up debris and turn them into dangerous airborne objects, knock down trees and buildings, and destroy manufactured homes. The Saffir-Simpson Scale categorizes hurricane intensity based on sustained wind speeds and correlated potential property damage.

Hurricanes are capable of generating great amounts of rainfall. Rainfall rates are related to the size and strength of the hurricane; slower moving and large storms tend to generate more rain.

Hurricanes and tropical storms may spawn tornadoes that are typically further out from the center of the system; generally embedded in the rain bands. Hurricane-spawned tornadoes also generally have a shorter lifespan but can still cause damage.

Saffir-Simpson Hurricane Scale				
Category	**Storm Surge (ft)**	**Winds (mph)**	**Damage**	**Damage Description**
1	6.1 – 10.5	74 – 95	Moderate	• Damage primarily to trees and unanchored homes • Some damage to poorly constructed signs • Coastal road flooding
2	13.0 – 10.5	96 – 110	Moderate-Severe	• Some roofing material, door, and window damage to buildings • Considerable damage to shrubbery and trees • Flooding of low-lying areas
3	14.8 – 25	111 – 130	Extensive	• Some structural damage to residences and utility buildings • Foliage blown off trees and large trees blown down • Structures close to the coast will have structural damage by floating debris
4	24.6 – 31.3	131 – 155	Extreme	• Curtainwall failures with utilities and roof structures on residential buildings • Shrubs, trees, and signs all blown down • Extensive damage to doors and windows • Major damage to lower floors of structures near the shore

5	Not predicted	>155	Catastrophic	• Complete roof failure on many residences and industrial buildings • Some complete building and utility failures • Severe, extensive window and door damage • Major damage to lower floors of all structures close to shore

Figure 12: Saffir-Simpson Hurricane Scale

Location

Although hurricanes make landfall in the coastal areas, all counties in South Carolina have experienced damage from hurricanes. Some of the most destructive hurricanes and tropical storms have originated in the Gulf of Mexico or traveled around the tip of Florida. Identification of hurricane tracks/tropical storms was based on the most recent data available from NOAA Coastal Services Center. The map below shows hurricane and tropical storm tracks in Aiken County and its incorporated municipalities.

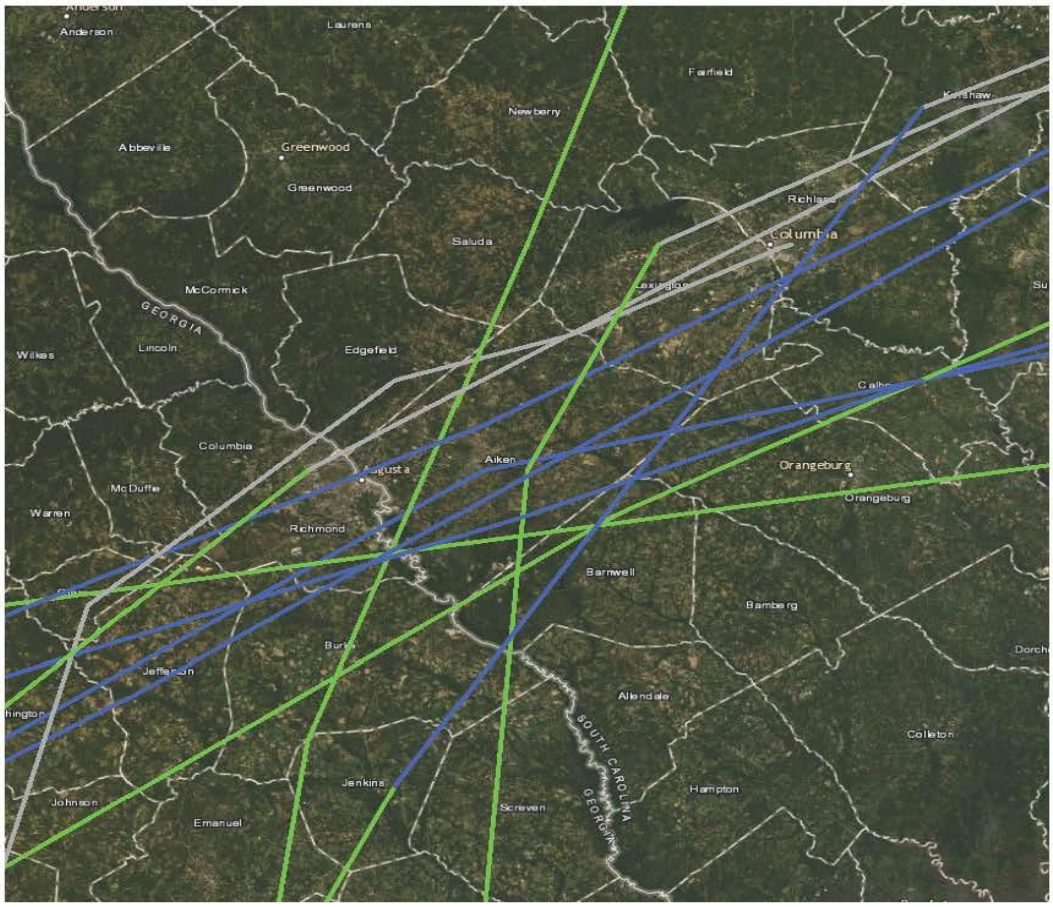
Map 8: Hurricane Event Map

Historical Hurricane Tracks

National Oceanic and Atmospheric Administration

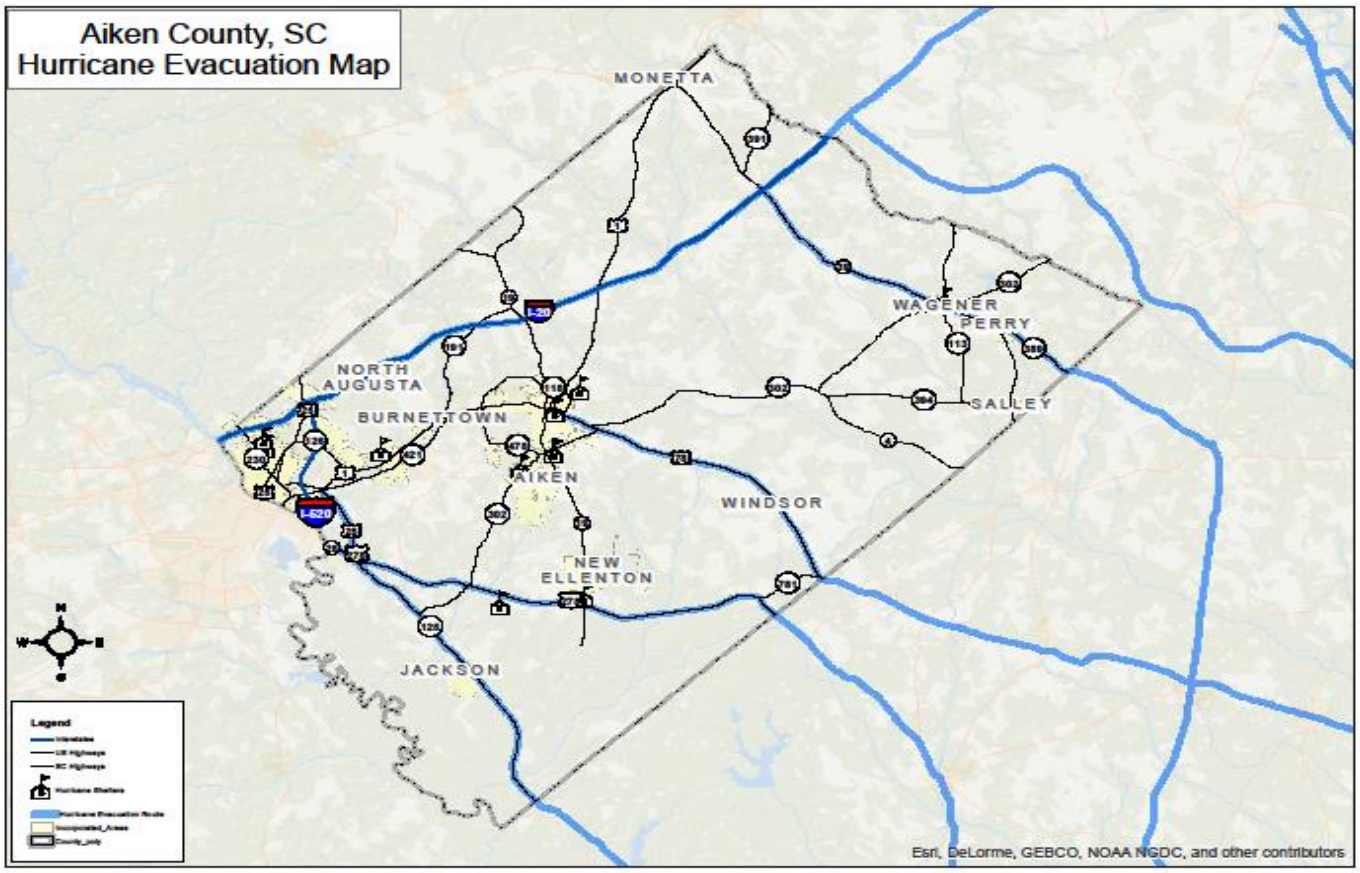
Summary of Search

Location: 33.5835,-81.5998
Buffer: 74080 Meters (40 Nautical Miles)
Search was not refined



States decide on hurricane evacuation routes in order to ensure the safety of coastal residents. The map below highlights the coastal evacuation routes as they run through Aiken County.

Map 10: Hurricane Evacuation Map



Extent

The hurricane map on page 39 illustrates the travel patterns of the recorded hurricane tracks and tropical storms. Actual hurricane landings have not posed a true threat to Aiken County, however, the storms aftermath have been identified as an event risk. The hurricane track map has identified 11 named and unnamed tropical depression and storm events that have been tracked through the county in the past 166 years (1851 through 2019). These tropical depressions ranges in wind speeds of 35 mph to 60 mph, and the aftermath effects of these tropical storms produces unusually heavy rains and some flash flooding in the area. Severe winds pose a serious threat for everyone in the affected area, but people living in mobile homes are at a heightened risk for injury and death.

This equated to moderate to extreme damage, including damage to trees and shrubbery, damage to buildings, and flooding. However, no damage has been reported, possibly because damage was minimal. One tropical storm has been recorded since the last Plan update, and no damage has resulted. While no hurricanes have been tracked through Aiken County, hurricanes that travel through nearby coastal regions can result in heightened storm conditions in Aiken County.

Probability

The following figures show hurricane/tropical storm probability in Aiken County using unusual occurrences of high winds, flooding, and heavy rainfall as hurricanes never actually make landfall in the county.

Figure 13. Hurricane Probability for Aiken County

	# of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (% Chance per Year)
Countywide	0	166	*	*

Source: NOAA

Figure 14. Tropical Depression and Storm Probability for Aiken County

	# of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (% Chance per Year)
Countywide	14	166	11.9	8.4%

Source: NOAA

According to the most reliable hurricane/tropical storm data, it is very unlikely that a hurricane will impact the Aiken County area during any given hurricane season, and a 8.8% chance a tropical storm will impact the county. During the recorded 166 year period, a recurrence interval of approximately every 11.9 years was calculated that a tropical storm event could occur

Vulnerability

Based on the results from figure 13, Aiken County has a low vulnerability to hurricanes. Minor occurrences of unusually heavy rainfall, flooding, and excessive winds have affected the area due to the impact of a coastal hurricane. However, a hurricane landing pattern is unpredictable until the formation of the storm and until it is within a short time frame from landing. Therefore, it is not reasonable to assume that hurricane occurrences are not a foreseen threat in the future based solely on past events.

As far as tropical storm occurrences, it can be concluded that Aiken County has a low vulnerability based on the results from figure 14 (8.4% hazard frequency per year).

Additionally, the breakdown for the Tax Year 2020 shows an assessed market value of $289,253,240 for owner occupied land and buildings; $267,126,410 for non-owner occupied buildings; $7,921,160 for agricultural land and building; and $219,470 for agricultural corporate ownership. The total number of Parcels in Aiken County is 104,448.

Hail Storm Analysis

Hazard Description

Hailstorms are a result of severe thunderstorms. Early in the developmental stages of a hailstorm, ice crystals form within a low-pressure front due to the rapid rising of warm air into the upper atmosphere and the subsequent cooling of the air mass. Frozen droplets gradually accumulate on the ice crystals until, having developed sufficient weight, fall as precipitation, as balls or irregularly shaped masses of ice greater than 0.75 inches in diameter. The size of hailstones is a direct function of the size and severity of the storm. High velocity updraft winds are required to keep hail in suspension in thunderclouds. The strength of the updraft is a function of the intensity of heating at the Earth's surface. Higher temperature gradients relative to elevation above the surface result in increased suspension time and hailstone size. *(Source: SC State HMP).*

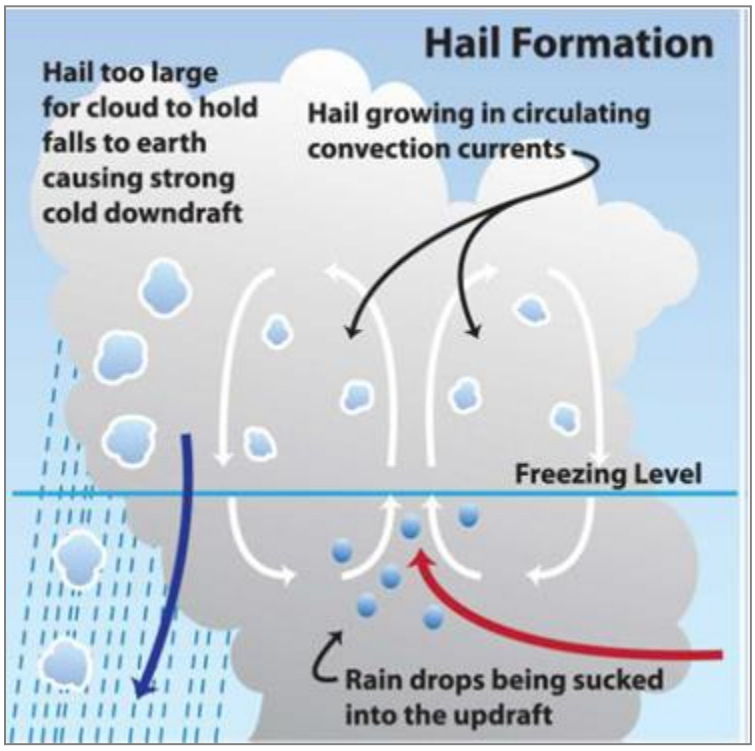


Figure 15: Hail Formation

Severity

Aiken County has experienced a total of 179 hailstorm events that have been documented in the past 69 years (1950 -2019). The City of Aiken has experienced thirty-eight (38) hail events, the Town of Jackson has had thirteen (13) events, the Town of Monetta has had ten (10) recorded events, the Town of New Ellenton has had ten (10) recorded events, the City of North Augusta has had sixteen (16) recorded events, the Town of Salley has recorded five (5) events, the Town of Wagener has experienced twelve (12) hail events, the Town of Windsor has had five (5) events, the Town of Perry has had three (3), and the unincorporated area sixty-seven (67) hail storm events. There have been no hail reports in the Town of Burnettown.

Hail can cause serious damage, notably to automobiles, aircraft, skylights, glass-roofed structures, livestock, and most commonly, agricultural crops. Rarely, massive hailstones have been known to cause concussions or fatal head trauma.

According to the National Climatic Data Center, the State of South Carolina has experienced 5,917 hail events from 1950 to 2019. During this time span, all the counties in the state experienced hailstorms of varying sizes, up to four inches in diameter. These events total an estimated $84,317,100 in property damage, $4,299,000 in crop damage, caused 46 reported injuries, and no reported fatalities.

Hailstone size is often reported as compared to known objects rather than reporting the actual diameter. Below in figure 16 is a list of commonly used objects for this purpose.

Hailstone Size to Object Comparison	
Object/Coin	**Hailstone size (inches)**
Pea	0.25 in
Marble	0.50 in
Penny	0.75 in
Nickel	0.88 in
Ping-pong ball	1.50 in
Golf ball	1.75 in
Tennis ball	2.50 in
Baseball	2.75 in
Grapefruit	4.00 in
Softball	4.50 in

Figure 16: Hailstone Size to Object Comparison

Location

There have been a recorded 179 hail events since 1950 in Aiken County. Hail size recorded in the county ranges from 0.75 inches to 2.50 inches. Hail occurs all across Aiken County but especially in the cities of North Augusta and the City of Aiken. Reporting for the unincorporated areas or smaller towns are considerably lower than the larger towns and cities in the Counties.

Extent

Aiken County has experienced 179 hail events that have been documented in the past 65 years (1950-2019). Since the last 5-year update of this Plan, 16 hail events have been reported between 8/1/2015 and 10/31/2019. $500 in property damage during this 5-year timeframe was reported. A list of the events and dates they occurred in each municipality and unincorporated areas of the County is shown in Figure 17 below.

Figure 17. Historic Occurrences of Hail in Aiken County

Date	Event	Location	Description
1958-2019	Hail	County	0.75 to 1.75 inches in diameter (penny to golf ball size hail) $2K in property damage
1993-2017	Hail	Aiken	0.75 to 1.75 inches in diameter (penny to golf ball size hail)
N/A	Hail	Burnettown	No events recorded
1995-2014	Hail	Jackson	0.75 to 1.75 inches in diameter (penny to golf ball size hail) $5K in property damage
1995-2006	Hail	Monetta	0.75 to 2.50 inches in diameter (penny to tennis ball size hail)
1998-2017	Hail	New Ellenton	0.75 to 1.00 inches in diameter (penny to quarter size hail)
1998-2017	Hail	North Augusta	0.75 to 1.75 inches in diameter (penny to golf ball size hail) $20K in property damage
2015-2016	Hail	Perry	.50 to 1.00 inches in diameter (marble to quarter size hail)
1996-2015	Hail	Salley	0.88 inches in diameter (nickel size hail)
1995-2015	Hail	Wagener	0.75 to 1.75 inches in diameter (penny to golf ball size hail) $50K in property damage
2004-2009	Hail	Windsor	0.75 to 1.75 inches in diameter (penny to golf ball size hail)

Source: NCSC

The recorded hailstorms over the past 69 years have caused no recorded injuries or fatalities in the county. A total of $77.53K in property damage was reported in the County, along with reports of

homes with damaged siding, windows, and roofs; vehicles with broken windows and vehicles being badly dented; and crops flattened. Hail size recorded in the county ranges from 0.75 inches to 2.50 inches.

Probability

Based on the recorded hailstorm events for Aiken County, there is a probability that a hailstorm will occur at least once, if not more every year in the County (0.43). A hailstorm event has more than a 100% likelihood of occurring every year in the County (230.8%).

Figure 18. Hailstorm Probability for Aiken County

Municipality	# of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (% Chance per Year)
Aiken	38	69	1.8	55.1%
Burnettown	0	69	*	*
Jackson	13	69	5.3	18.8%
Monetta	10	69	6.9	14.5%
New Ellenton	10	69	6.9	14.5%
North Augusta	16	69	4.3	23.2%
Perry	3	69	23	4.3%
Salley	5	69	13.8	7.2%
Wagener	12	69	5.75	17.4%
Windsor	5	69	13.8	7.2%
Unincorporated	67	69	1.03	97.1%
County	*179*	*69*	*0.4*	*259.4%*

Source: NCDC * Unable to calculate (cannot divide by zero)

Vulnerability

Overall, Aiken County has a moderate vulnerability to hail. The majority of hail events occurred in the incorporated municipalities of the County. There is an 97% chance that a hail event may occur in the unincorporated area of the County each year. A total of $77K in property damage was reported, with no injuries or deaths.

A range of 0.75 to 2.50 inches in hail size is common for Aiken County and its incorporated municipalities. Hailstorms can cause damage to roofs, automobiles, power lines, trees, gardens, agricultural crop, and other structural damage.

Additionally, the breakdown for the Tax Year 2020 shows an assessed market value of $289,253,240 for owner occupied land and buildings; $267,126,410 for non-owner occupied buildings; $7,921,160 for agricultural land and building; and $219,470 for agricultural corporate ownership. The total number of Parcels in Aiken County is 104,448.

Drought Analysis

Grant Blankenship for the New York Times

Hazard Description

The NWS describes four types of drought: meteorological, agricultural, hydrological, and socioeconomic.

Meteorological drought is defined in terms of the departure from a normal precipitation pattern and the duration of the drought hazard. Meteorological drought has a slow-onset that usually takes at least three months to develop and may last for several seasons or years.

Agricultural drought links the various characteristics of meteorological drought to agricultural impacts. The focus is on precipitation shortages and soil-water deficits. A plant's demand for water is dependent on prevailing weather conditions, biological characteristics of the specific plant, its stage of growth, and the physical and biological properties of the soil.

Hydrological drought refers to deficiencies in surface water and sub-surface water supplies. The frequency and severity of hydrological drought is often defined on a watershed basin scale. Although climate is a primary contributor, other factors such as changes in land use, land degradation, and the construction of dams all affect the hydrological characteristics of the basin. Hydrological droughts often lag behind meteorological and agricultural droughts.

Socioeconomic drought occurs when physical water shortage begins to affect the population, individually and collectively. Most socioeconomic definitions of drought associate it with supply, demand, and economic good.

Drought differs from other hazards in many ways. First, the effects of drought take a considerable amount of time to accumulate and the extent of the hazard can linger for prolonged periods after the drought itself had ceased. Second, the absence of a definitive and universally accepted definition of drought complicates the determination of whether a drought is occurring and the level of its severity. Third, compared to other natural hazards, the geographical area, impacts, and duration of drought are difficult to quantify.

Severity

The Palmer Drought Severity Index was developed in the 1960's and uses temperature and rainfall information in a formula to determine dryness. It has become the semi-official drought index. The Palmer Index is most effective in determining long term drought. The South Carolina State Climatology Office measures drought using a scale based on the Palmer Drought Severity Index. It

uses a zero (0) as normal, and drought is shown in terms of minus numbers; minus one (-1) is incipient drought, minus two (-2) is moderate drought, minus three (-3) is severe drought, and minus four (-4) is extreme drought.
The different levels of drought as assigned by the SCDNR uses seven different indicators to measure the varying stages of drought throughout the state. Incipient means that the first stages of drought are beginning to appear according to the indices that measure rain level, stream level, crop moisture, and others. The levels following incipient are upgrades in drought status based on dynamic data. (SCDNR Climatology Office)

Below is the South Carolina Drought Status, effective January 30, 2020.

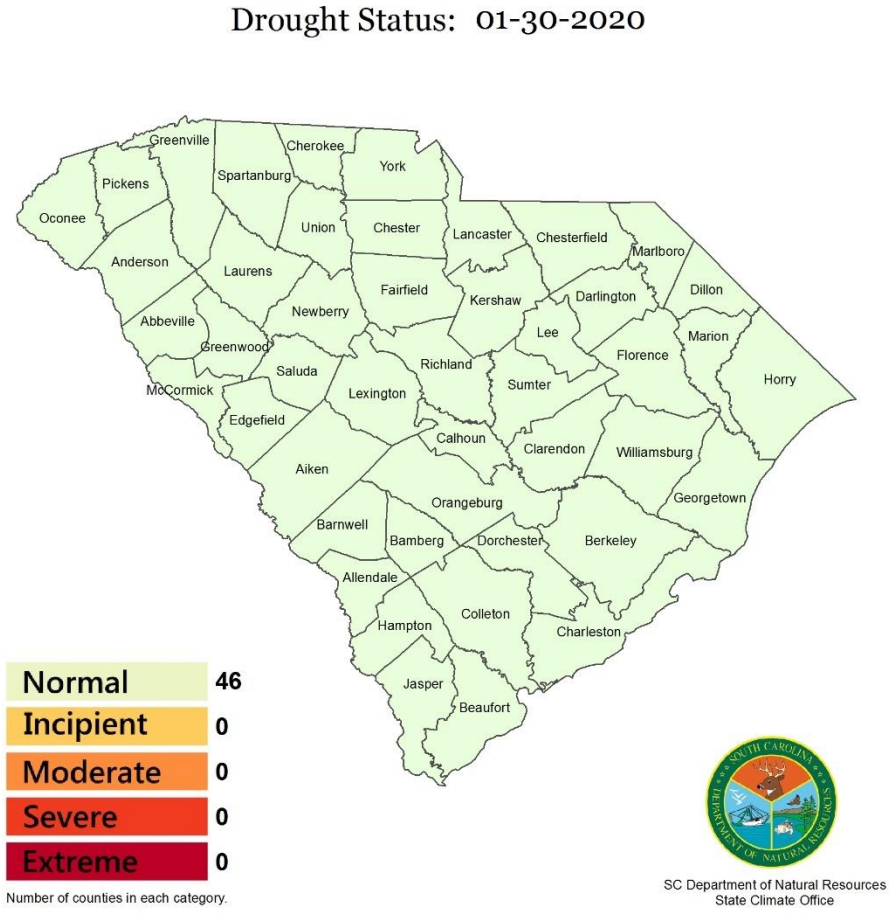


Figure 19: South Carolina Drought Status by County
Due to above average rainfall totals statewide during December and January, it was a quick decision and a unanimous vote to remove the drought status of 27 counties.

"South Carolina has been dealing with drought since May 2019," said S.C. State Climatologist Hope Mizzell. "Last year's drought brought significant impacts to agriculture, low streamflows and increased wildfires. It is good news to see all drought indicators return to normal."

Conditions across much of the state had already improved somewhat during the fall, and heavy rains beginning in December brought relief to the remaining 27 counties. In fact, December's statewide rainfall totals placed it among the top ten wettest Decembers on record in South Carolina. December's statewide total was 6.74 inches, which is 3.13 inches above normal and makes it the 118th wettest December in the 125 years that records have been kept. Individual station totals for December ranged from 13.75" at the Charleston 5.4 SSE (CoCoRaHS station) to 4.67" at Anderson FAA Airport. The majority of the State has received normal to above normal rainfall also in January. (SC Drought Response Committee)

Over the past thirteen years (2006-2019) Aiken County has ranged in drought status from normal to severe. Below in figure 20 a list of Aiken County's drought status can be seen for the past thirteen (13) years.

Figure 20. Drought Status for Aiken County

Date/Year	Status
January 2020	Normal
October 2019	Moderate
May 2019	Incipient
May 2018	Normal
November 2017	Incipient
April 2017	Incipient
December 2016	Moderate
July 2016	Incipient
June 2015	Incipient
January 2015	Normal
September 2014	Incipient
April 2013	Normal
January 2013	Moderate
December 2012	Severe
September 2012	Moderate
April 2012	Severe
June 2011	Moderate
July 2010	Incipient
April 2009	Normal
April 2008	Moderate
September 2007	Severe
June 2007	Moderate
February 2007	Incipient
September 2006	Moderate
August 2006	Incipient
April 2006	Normal

Source: SC State Climate Office

Location

Droughts are region-wide natural disasters and will be addressed in that way. There is no specific

location mapping for droughts in the Aiken County region.

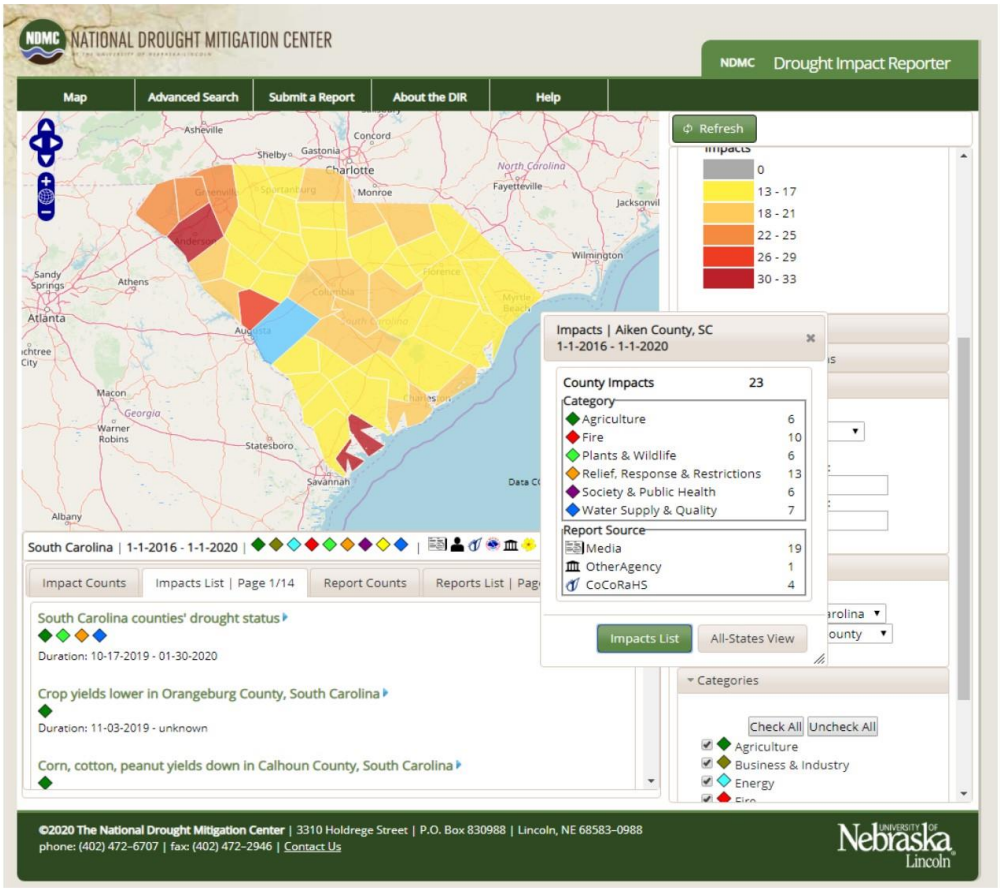
Extent

In the Aiken County region, declarations of drought occur frequently. Statistics from the USC Hazards and Vulnerability Research Institute show that from the years 1950 to 2015 there have been a recorded 29 declared droughts. Agricultural production was affected by the lack of rain and extremely high temperatures. In the summer months the range for drought is abnormally dry to severely dry. From figure 16 above it can be assumed that Aiken County experiences periods of normal, or no drought, to severe drought.

The following is a list of impacts associated with drought. Each one can directly or indirectly impact Aiken County's economy, environment, and people.

Drought Impacts		
Economy	**Environment**	**People**
• Damage to crops • Increase in food prices • Increased transportation costs for food • Reduced dairy and livestock production • Increased fire hazard • Loss to recreational and tourism industry • Revenue loss to water reliant businesses • Loss of navigability of rivers and canals • Reduction of economic development	• Reduction and degradation of fish and wildlife habitat • Wind and water erosion of soils • Loss of wetlands • Increased number and severity of fires • Air quality effects • Damage to plant species • Lower water levels in reservoirs, lakes, and ponds • Water quality effects (i.e., salt concentration, increased water temperature, pH, dissolved oxygen, turbidty)	• Food shortages • Public dissatisfaction with government • Loss of aesthetic values • Reduction or modification of recreational activities • Health issues related to use restrictions • Increased fire hazard • Mental and physical stress • Decrease in quality of life • Increased poverty • Population migrations

Figure 21: Drought Impacts



Probability

It should be noted that droughts are region-wide natural disasters and will be addressed in that way. There is no location mapping for droughts in the Aiken County region. In the Aiken County region, declarations of drought occur frequently. Historical data reports that there have been 29 drought declarations over the last 65 years (1950 to 2015). However, official records updating drought declarations are unavailable. A different metric known as "drought impacts" was supplemented to measure the effects a drought can have on Aiken County. It has been provided via the National Drought Mitigation Center. The data provides twenty-three (23) impacts in Aiken County since January 1, 2016.

Figure 22. Drought Probability for Aiken County

	# of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (% Chance per Year)
Countywide	52	69	1.3	75.4%

Source: USC Hazards and Vulnerability Research Institute, National Drought Mitigation Center

From figure 22 above, it can be expected that the Aiken County region will have a drought declaration or impact approximately every one to two (1-2) years, with a 75.4% chance of a drought period occurring every year.

Vulnerability

Overall, the Aiken County region is moderately affected by abnormal to severe levels of drought. Droughts cause devastating affects to agricultural production. From the 2017 Census of Agriculture, cropland and pasture account for 162,628 acres in the county. There were a reported 1,249 farms, with the average farm size being 130 acres. The market value of crops sales was $29,141,000. Therefore, the vulnerability of the Aiken County region to instances of drought can be considered moderate.

Each drought produces a unique set of impacts, depending not only on its severity, duration, and spatial extent, but also on ever-changing social conditions. A wide-range of factors, both physical and social, determines society's vulnerability to drought.

Understanding both direct and indirect impacts (see Figure 21) is one of the most significant challenges in preparing for drought. The direct impacts include loss of revenue from businesses reliant on water, such as car washes, landscapers, and manufacturers. In a drought, water use restrictions may force businesses to suspend all or a portion of their activities. The indirect impacts associated with drought may be far-reaching. The more removed the impact from the cause, the more complex the link to the cause. Indirect impacts are diffused, making it very difficult to determine financial estimates of damages.

Additionally, the breakdown for the Tax Year 2020 shows an assessed market value of $289,253,240 for owner occupied land and buildings; $267,126,410 for non-owner occupied buildings; $7,921,160 for agricultural land and building; and $219,470 for agricultural corporate ownership. The total number of Parcels in Aiken County is 104,448

Earthquake Analysis

Hazard Description

An earthquake is a sudden, rapid shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface. Stress built up in the Earth's crust causes rocks near the surface to break and slip, and when this occurs, an earthquake results. This region along which the slip occurs at the Earth's surface is called a fault. There are three types of faults: strike-slip (rock blocks move horizontally), normal (rock moves down relative to the other side), and thrust (rock moves up relative to the other side). The earthquake faults can be seen in the illustration below:

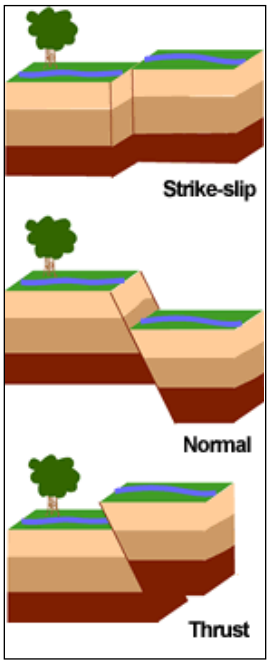


Figure 23: Types of Earthquake Faults

Source: USGS/SC HMP 2018

Annually in South Carolina, there are about 10 to 15 earthquakes recorded, with only 3-5 actually noticed by people. Because of this low frequency of noticeable events, many people are unaware of the earthquake risk in South Carolina. However, all 46 counties in the state are susceptible to efforts

of earthquakes. About 70 percent of earthquake activity in the state is located in the Middleton Place-Summerville Seismic Zone. This zone is located about 12 miles northwest of Charleston and is the most active zone in South Carolina, experiencing 10 to 15 earthquakes a year. *(Source: SC HMP 2018)*

Energy is released when an earthquake occurs, which results in the shaking people feel and that which is detectable by seismic instruments. The point below the surface, within the Earth's crust where an earthquake begins is called the hypocenter or focus, and the point directly above this depth on the Earth's surface is the epicenter.

Ground acceleration caused by earthquakes has the potential to destroy buildings and infrastructure and cause loss of life. Aftershocks are typically smaller than the main shock, and can continue over a period of weeks, months, or years after the initial earthquake is felt. In addition to the effects of ground acceleration, earthquakes can also cause landslides, and liquefaction under certain conditions. Liquefaction occurs when unconsolidated, saturated soils exhibit fluid-like properties due to intense shaking and vibrations experienced during an earthquake. Together, ground shaking, landslides, and liquefaction can damage and destroy buildings, disrupt utilities (i.e. gas, electric, phone, water), and trigger fires.

According to the U.S. Geological Survey (USGS) Earthquake Hazards Program, most earthquakes occur at the boundaries where the earth's tectonic plates meet, although it is possible for earthquakes to occur entirely within plates. Calhoun County and its incorporated municipalities are located well within the North American plate, far from the plate boundary located east in the Atlantic Ocean. Seismic research is ongoing with regard to causes of earthquakes in regions far from plate margins. Regardless of where they are centered, earthquakes can affect locations beyond their point of origin.

Severity

The terms magnitude and intensity are used to describe the overall severity of an earthquake. The severity of an earthquake depends on the amount of energy released at the epicenter, the distance from the epicenter, and the underlying soil type.

All these factors affect how much the ground shakes, known as Peak Ground Acceleration (PGA) and what a building experiences, known as Spectral Acceleration (SA) during an earthquake.

An earthquake's magnitude is a measurement of the total amount of energy and is expressed in terms of the Richter scale. Intensity measures the effects of an earthquake at a particular place and is expressed in terms of the Modified Mercalli scale. Figure 24 shows the approximate comparison between Richter scale magnitude and Modified Mercalli Intensity (MMI).

Magnitude and Intensity Comparison	
Richter Magnitude Scale	**Typical Maximum MMI**
1.0 to 3.0	I
3.0 to 3.9	II to III
4.0 to 4.9	IV to V
5.0 to 5.9	VI to VII
6.0 to 6.9	VII to IX
7.0 and Higher	VIII or Higher

Figure 24: Magnitude and Intensity Comparison

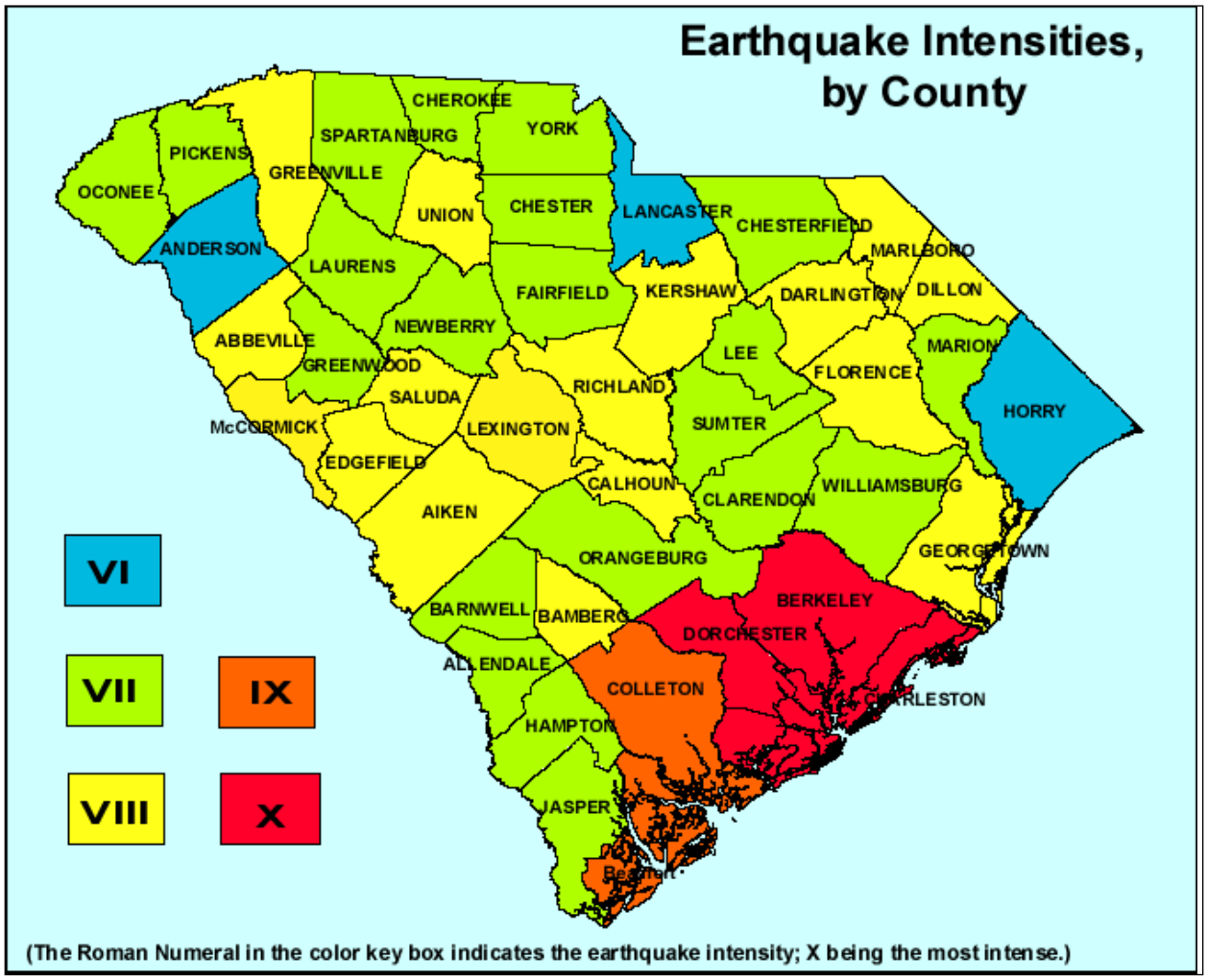
Figure 25 describes the effects of the various intensity ratings.

MMI Scale Rating	
MMI	**Damage/Perception**
I	• Not felt except by a very few under especially favorable conditions
II	• Felt only by a few people at rest, especially on upper floors of buildings
III	• Felt quite noticeably by people indoors, especially on upper floors of buildings • Many people do not recognize it as an earthquake • Standing motor cars may rock slightly • Vibrations similar to the passing of a truck
IV	• Felt indoors by many, outdoors by few during the day • At night, many awakened • Dishes, windows, doors, disturbed; walls make cracking sound • Sensation like heavy truck striking building • Standing motor cars rocked noticeably
V	• Felt by nearly everyone; many awakened • Some dishes, windows broken • Unstable objects overturned • Pendulum clocks may stop
VI	• Felt by all; many frightened • Some heavy furniture moved • Few instances of fallen plaster • Damage slight

VII	• Damage negligible in buildings of good design and construction • Slight to moderate damage in well-built ordinary structures • Considerable damage in poorly built or badly designed structures • Some chimneys broken
VIII	• Damage slight in specially designed structures • Considerable damage in ordinary substantial buildings with partial collapse • Damage great in poorly built structures • Fall of chimneys, factory stacks, columns, monuments, walls • Heavy furniture overturned
IX	• Damage considerable in specially designed structures • Well-designed frame structures thrown out of plumb • Damage great in substantial buildings, with partial collapse • Buildings shifted off foundations
X	• Some well-built wooden structures destroyed • Most masonry and frame structures destroyed with foundations • Rails bent
XI	• Few, if any masonry or frame structures remain standing • Bridges destroyed • Rails bent greatly
XII	• Total damage • Lines of sight and level are distorted • Objects thrown into the air

Figure 25: MMI Scale

Figure 26 below illustrates the earthquake intensities by County.



Source: SCDNR

Location

South Carolina is located in the interior of the North American plate, and earthquakes that occur within a plate are called intraplate earthquakes. Earthquake activity in South Carolina fall under three main causes: fault activity, reservoir induced seismicity, and Appalachian rise. A map showing the fault system in South Carolina is shown on the following page.

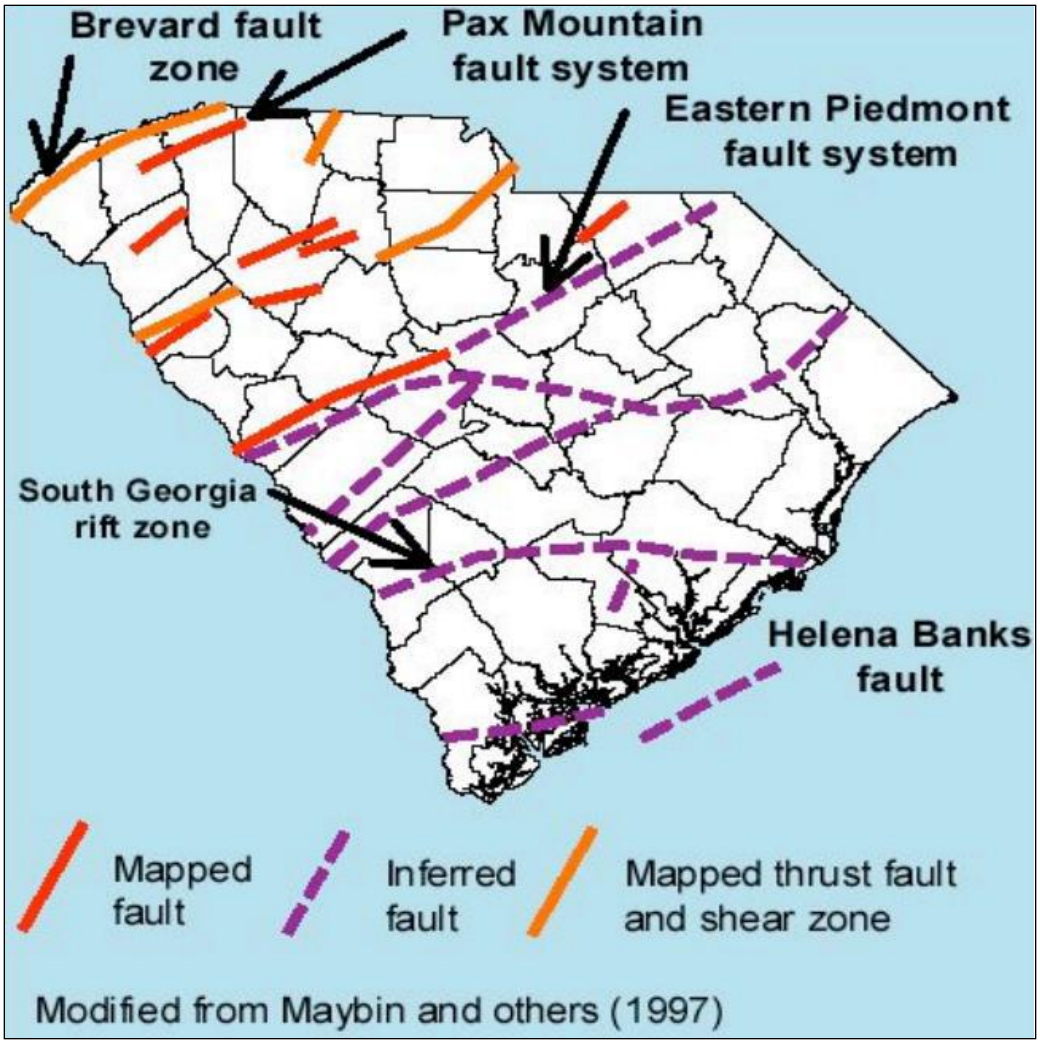


Figure 27: South Carolina Fault System
Source: SC HMP 2018/SCDNR

Earthquakes are possible in Aiken County and its incorporated municipalities. Approximately four (4) earthquakes, all measuring within the Richter scale were recorded in the County over a 45 year timeframe (1974-2019). Figure 28 on the following page gives the timeframe, location, and magnitude of the four events.

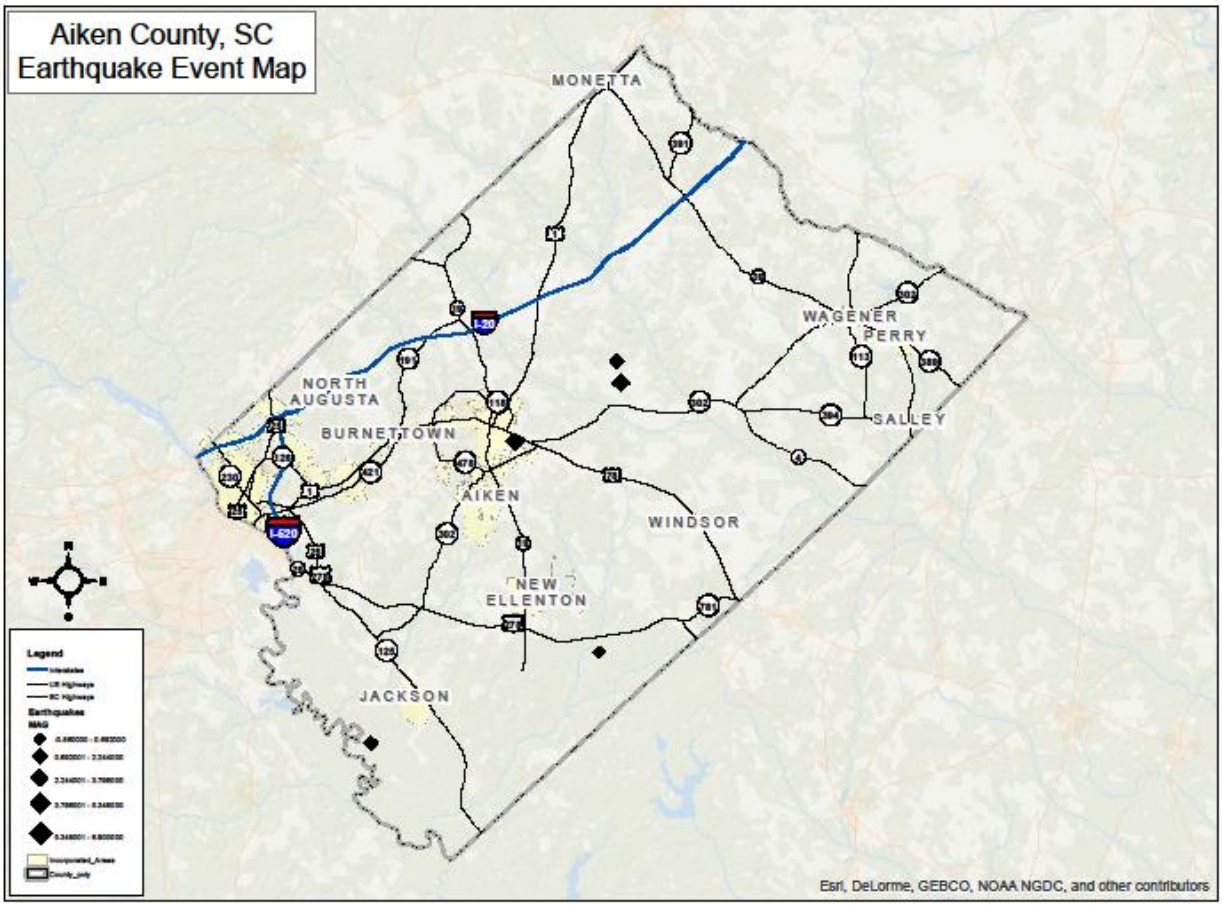
Figure 28. Historic Occurrences of Earthquakes in Aiken County

Date	Location	Richter Magnitude	Damage Perception
September 19, 2014	Aiken	2.6	▪ Not felt except by a very few under especially favorable conditions
October 8, 2001	Windsor	2.6	▪ Not felt except by a very few under especially favorable conditions
August 8, 1993	County	3.2	▪ Felt only by a few people at rest, especially on upper floors of buildings ▪ New Bridge Rd/New Holland Rd
February 17, 1988	Aiken	2.5	▪ Not felt except by a very few under especially favorable conditions

Source: USC Hazards and Vulnerability Research Institute

The following map shows earthquakes in Aiken County and the surrounding area. In Aiken County there have been four documented earthquake events over the past 45 years (1974-2019).

Map 12: Earthquake Map



Extent

Aiken County has experienced four recorded earthquakes over a 45 year timeframe (1974-2019). Two (2) of the events were in or near the City of Aiken, one (1) occurred in Windsor, and one (1) occurred in the unincorporated part of the county.

Probability

The probability of earthquakes in Aiken County is low. There have only been four epicenters in the area within the last 45 years (1974-2019), with three (3) having an intensity of "I", and one (1) having an intensity of about "II".

Figure 29: Earthquake Probability for Aiken County				
Location	Number of Events	Years in Record	Recurrence Interval	Hazard Frequency
Aiken	2	45	22.5	4.4%
Windsor	1	45	45	2.2%
Unincorporated	1	45	45	2.2%
County	*4*	*45*	*11.25*	*8.8%*

Vulnerability

The infrequency of major earthquakes, coupled with low magnitude events in the past can led one to perceive that Aiken County and its incorporated municipalities are not vulnerable to a damaging earthquake. While the towns and county do not sit on a major fault system, they are nonetheless susceptible to earthquakes. A high-magnitude earthquake could cause significant financial losses, casualties, and disruptions in critical facilities and services. Dams, bridges, and other infrastructure are also a concern and could incur serious damage from an earthquake.

A building's construction is a key factor in how well it can withstand the forces produced by earthquakes. Unreinforced masonry buildings are most at risk in an earthquake because the walls are prone to collapse outward. Steel and wood buildings have more ability to absorb the energy from an earthquake. Wood buildings with proper foundation ties have rarely collapsed in earthquakes.

Currently there is no reliable method for predicting the time, place, and size of an earthquake. Earthquakes typically occur with little or no warning. Based on the previous events and potential for great losses, Aiken County and its incorporated municipalities have a low vulnerability to earthquakes.

Additionally, the breakdown for the Tax Year 2020 shows an assessed market value of $289,253,240 for owner occupied land and buildings; $267,126,410 for non-owner occupied buildings; $7,921,160 for agricultural land and building; and $219,470 for agricultural corporate ownership. The total number of Parcels in Aiken County is 104,448

Wildfire Analysis

Hazard Description

Any forest fire, brush fire, grass fire, or any other outdoor fire that is not controlled and supervised is called a wildfire. These fires cause damage to the forest resource as well as wildlife habitat, water quality, and air quality. Wildfires are the most common natural hazard in South Carolina.

According to the South Carolina Emergency Management Division (SCEMD), South Carolina responds to over 5,000 wildfires, which burn nearly 30,000 acres. The SCFC reports that the forest fire danger is usually highest in late winter and early spring (January through mid-April) when the vegetation is dead or dormant. March is usually the busiest month for SCFC firefighters.

According to the SCFC, nearly 98 percent of all the wildfires in the state are human caused. The leading cause of wildfires, which accounts for between 40 and 45 percent of all wildfires reported, are the result of someone intentionally setting fire to someone else's property. Burning debris, such as trash, yard waste, construction waste, and agricultural fields often burns out of control, causing 30 to 35 percent of wildfires annually. Equipment use causes about 5 percent of wildfires, usually due to faulty equipment such as farm equipment or hot catalytic converters on automobiles. Between 4 and 5 percent of wildfires are caused by careless smoking. Between 3 and 5 percent of the state's wildfires are caused by children playing with matches, lighters and fireworks. Wildfires caused by campfires account for 1 to 3 percent of fires, occurring mainly during the summer months. Fires that are started by sparks resulting from carbon build-up on railroad tracks cause 1 to 2 percent of the annually reported wildfires. Miscellaneous fires such as those caused by negligence of adults using fireworks, structural fires that ignite nearby wooded areas, or unattended warming fires account for four to six percent of wildfires. Lightning only causes about 2 percent of the annually reported fires in the state. (Source: SCEMD State HMP 2018)

Severity

The severity of a wildfire is based on the damage to the forest resource, wildlife, water and air quality, and the number of acres damaged. For this section, wildfire will be discussed on a county wide level. There is no particular event of wildfire that is illustrated on an individual jurisdiction basis.

Location

Particular events of wildfire will not be discussed on an individual jurisdiction basis, events will be understood to be county wide and presented as such.

The areas within the county that are at a greater risk of wildfires are those areas that have a higher density of vegetation and forests. Smaller county jurisdictions; Monetta, Perry, Salley, Wagener, and Windsor face a higher risk of wildfires than the more urbanized jurisdictions of Aiken, Burnettown, North Augusta, New Ellenton, and Jackson. Though the outskirts of urban areas are at risk due to the proximity of forested and vegetated areas, the risk in the urban core is comparatively lower. The City of Aiken's Hitchcock Woods presents a unique threat as it sits on the outskirts of the urban downtown. Frequent controlled burns and close monitoring keep the forest from presenting a dangerous situation. Historic wildfire occurrences validate this claim as the vast majority start in the forested areas of the county.

Extent

The South Carolina Forestry Commission has historical data for wildfires in Aiken County dating back to 1946 through 2019. During this 73 year period 12,939 wildfires have been documented in the county. In this 73 year timeframe approximately 105,773 acres have been destroyed in the county. Wildfires are extremely common in Aiken County and throughout the state due to the large number of forested areas and drought conditions.

Probability

From 1946 to 2019 there have been a recorded 12,939 wildfire events in Aiken County. The total number of acres affected was 105,773. Figure 30 below depicts the wildfire probability for Aiken County.

Figure 30. Wildfire Probability for Aiken County

	# of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (% Chance per Year
Wildfire	12,939	73	<0.1	17724%

Source: SC Forestry Commission

The areas within the county that are at a greater risk of wildfires are those areas that have a higher density of vegetation and forests. Though the outskirts of urban areas are at risk due to the proximity of forested and vegetated areas, the risk in the urban core is comparatively lower.

Vulnerability

Overall, Aiken County has a high vulnerability to wildfires. The probability of one or more wildfires in the county per year is highly likely (greater than 100%). Unincorporated areas within the county are at an even greater risk and vulnerability to wildfires due to the fact that there is more wooded

acreage compared to that of the urbanized towns. By law, the South Carolina Forestry Commission is responsible for wild land fire protection outside of corporate town or city limits. South Carolina law regulates outdoor burning in unincorporated areas. Except within town or city limits, anyone planning to burn outdoors must:

1. Notify the Forestry Commission before starting the fire
2. Clear a firebreak around the area to be burned
3. Have adequate tools, equipment, and personnel on hand to control the fire
4. Stay with the fire until it is completely safe.

After examining past events, wildfires have not caused a great amount of significant reported damage within the county. Therefore, when taking into consideration the high probability of wildfire in the county, and the past history of the event, Aiken County has a high level vulnerability to wildfire.

Additionally, the breakdown for the Tax Year 2020 shows an assessed market value of $289,253,240 for owner occupied land and buildings; $267,126,410 for non-owner occupied buildings; $7,921,160 for agricultural land and building; and $219,470 for agricultural corporate ownership. The total number of Parcels in Aiken County is 104,448

Flood Analysis

Photograph by James Nielsen/AFP/Getty Images

Hazard Description

Flooding is the most frequent and costly natural hazard in the United States. About 75% of presidential disaster declarations are related to flooding. The National Flood Insurance Program defines a flood as a general and temporary condition of partial or complete inundation of normally dry land areas. South Carolina is especially vulnerable to flooding because of its low elevation and frequency of storms.

The terms used to classify floods are diverse, as are the number of subtypes. Floods may be broadly classified into two categories, as either general or flash floods.

General Floods

These floods are usually long-term events that may last for several days; riverine and coastal flooding fall under general flood types.

Flash Floods

Floods are caused by locally heavy rains in areas where water runs off quickly, moving at very high speeds. Flash floods can cause severe damage; it is able to pick up great debris, uproot trees, roll boulders, destroy buildings, and damage bridges and roads. Urban flooding, dam/levee failure, and debris or ice jam water fall under flash flooding type.

South Carolina has five major river basins and one coastal region. The State's rivers generally start in the northwest and flow southeasterly to the Atlantic Ocean, passing through three physiographic areas:

1. The Blue Ridge Mountains in the far northwestern corner of the State
2. The Piedmont Plateau
3. The Coastal Plain

There are five distinctive types of flooding in South Carolina. Flash, riverine, and coastal related to the three physiographic areas listed above.

1. **Flash flooding**: rapid onset of events which occur from short, heavy rainfall, accumulating in areas faster than the ground is able to absorb it.

2. **Riverine flooding**: this occurs when an increase in water volume within a river channel causes an overflow onto the surrounding floodplain. Also known as "overbank flooding."

3. **Coastal flooding:** water pushed inland as a result of storm surge, wind-driven waves and heavy rainfall produced by hurricanes, tropical storms, nor'easters, and other coastal storms.

4. **Local drainage problems:** can occur anywhere in the State where the ground is where the drainage pattern had been disrupted, or where channels or culverts have not been maintained.

5. **Dam/levee failure:** each dam in the State has the potential to fail and suddenly release its water, flooding the land downstream. *(Source: SC HMP 2018)*

Figure 31. Flood Classifications

General Flood	Flash Flood
Riverine Coastal Local drainage	Urban Dam/levee failure Debris/ice jam

Severity

The National Weather Service (NWS) categorizes flooding as major, moderate, and minor. Figure 32 below gives a description of the three flooding categories.

NWS Flood Categories	
Category	**Description**
Major	• Extensive inundation and property damage • Often involves the evacuation of people and the closure of both primary and secondary roads
Moderate	• Inundation of secondary roads • Transfer to higher elevation necessary to save property • Some evacuation may be required
Minor	• Minimal or no property damage • Possibly some public inconvenience

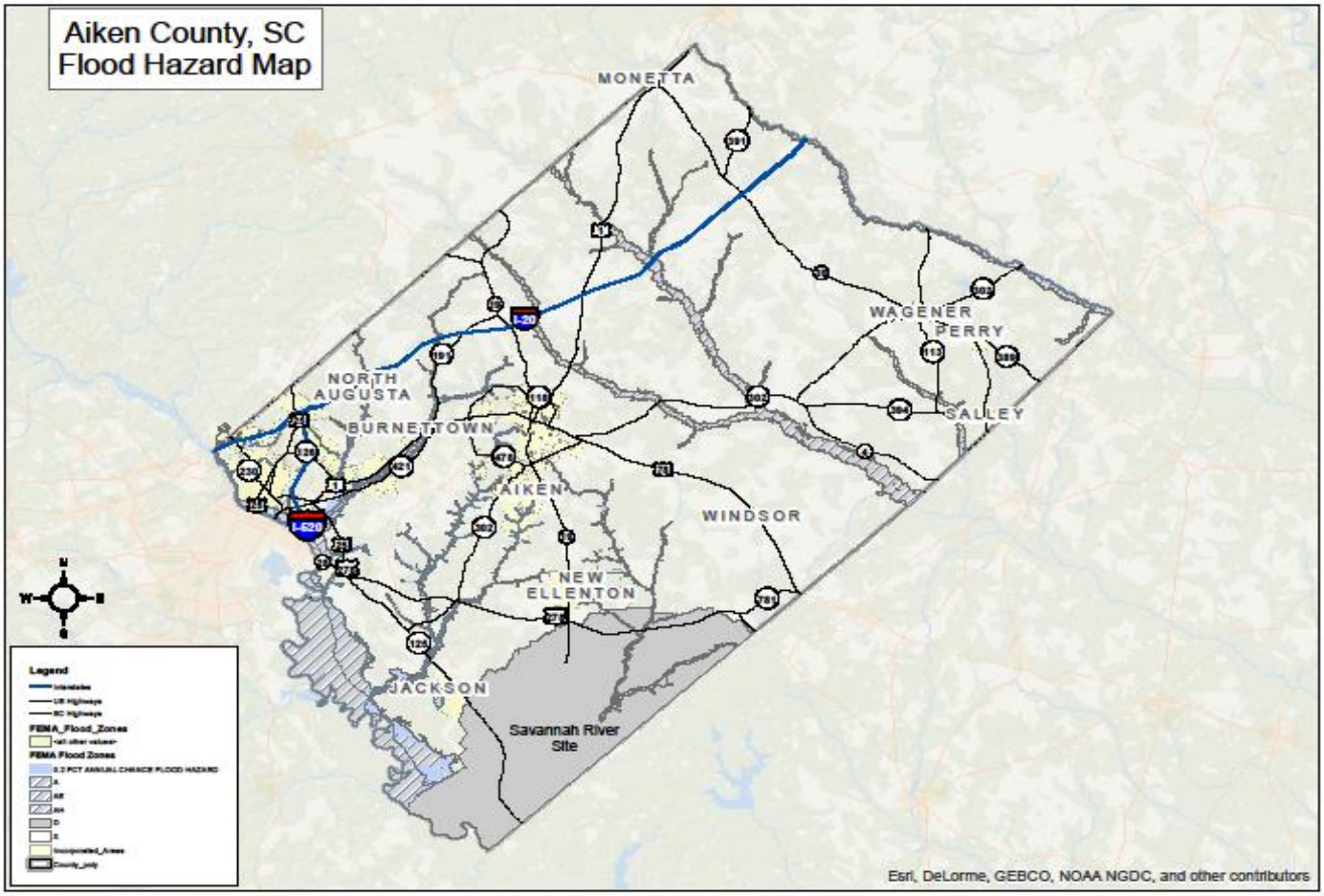
Figure 32: NWS Flood Categories

Location

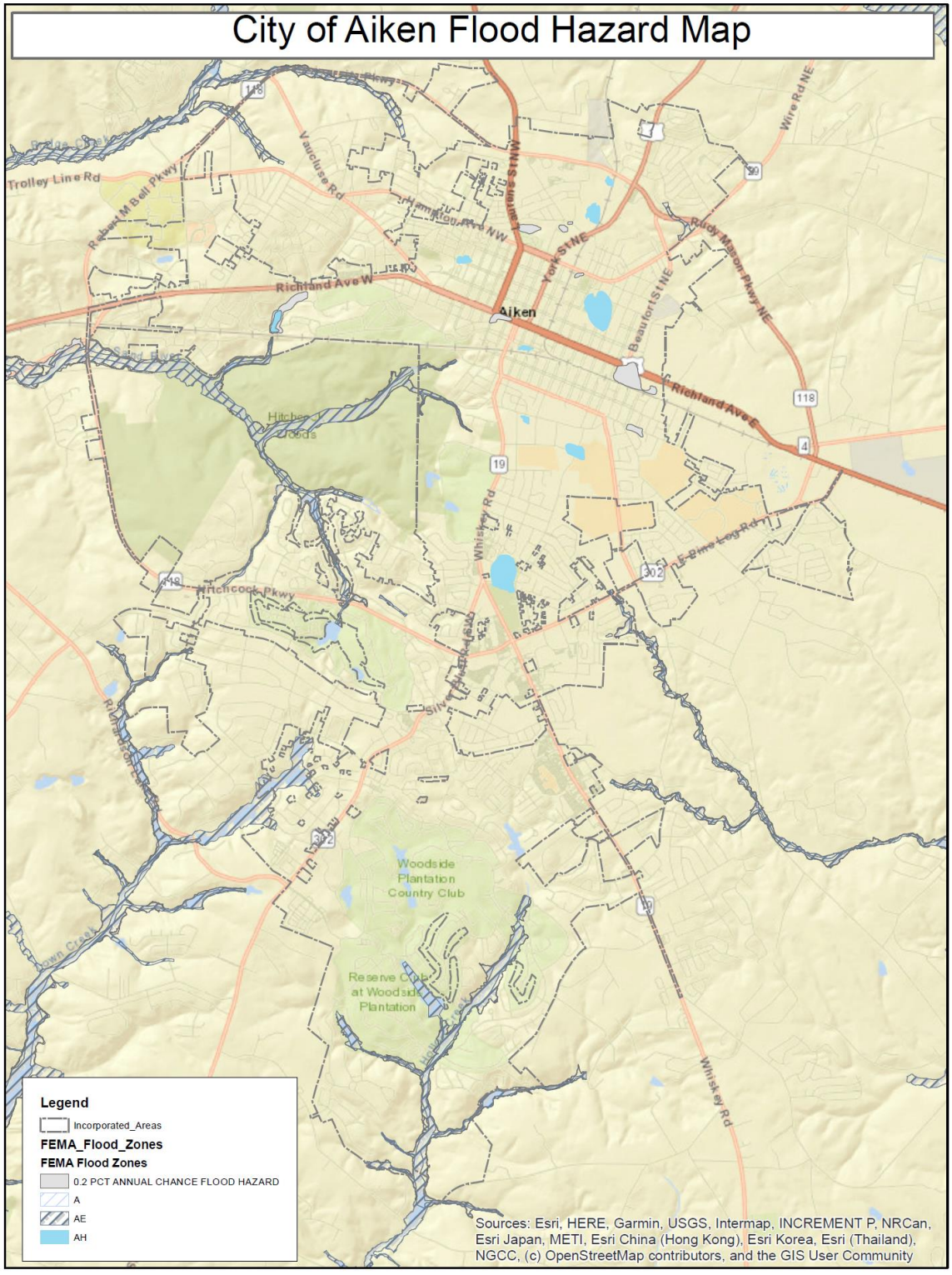
Identification of floodplain areas within the county and the incorporated municipalities was based on the most recent Flood Insurance Rate Maps (FIRM) produced by FEMA. These maps display the locations of all of the major water bodies in the county and delineate the 100-year floodplain boundaries (Zone A and AE). These are areas that have a one percent (1%) chance of equaling or exceeding the recorded base flood elevation during any year. Mandatory flood insurance is required to be purchased within Zone A and flood management standards apply. Zone AE is also an area at high risk for flooding, subject to inundation by the one percent (1%) chance of a flood event annually. Base Flood Elevations (BFEs) are shown. Mandatory flood insurance is a requirement. Zone X is an area of moderate to low-risk flood hazard. These properties are outside of the high-risk zones. Although this flood risk is reduced, it is not removed. Flood insurance is not required in this zone, but is available.

Map 14 below identifies flood prone areas within Aiken County and Map 14a identifies the City of Aiken flood prone areas

Map 14: Flood Map



Map 14a – City of Aiken Flood Map



Extent

The following figure 33 gives specific information concerning flooding events and their location within Aiken County.

Figure 33. Historic Occurrences of Flooding in Aiken County

Date	Location	Event	Description
September 8, 2018	Graniteville	Flash Flood	▪ Numerous roads were flooded and closed in Graniteville, including Canal St, Ascauga Lake Rd, and Hwy 421. One person was rescued from a car, and another person was rescued from a home. ▪ $.1K in property damage
October 8, 2016	Graniteville	Flash Flood	▪ South Carolina Highway patrol reported a roadway washout at Breezy Hill Road and Ascauga Lake Road from the fallout of Hurricane Matthew. ▪ $5.5K in property damage
September 2, 2016	Aiken	Flash Flood	▪ Intersection of Richland Avenue and Gaston Road closed due to flooding from Hurricane Hermine ▪ $1K in property damage
November 28, 2014	Aiken	Flash Flood	▪ Horse Creek downstream of Langley Pond Dam
June 4, 2013	North Augusta, Belvedere, Graniteville	Flooding	▪ Several streets flooded and closed ▪ Heavy rains also caused flash flooding in North Augusta causing evacuations of two apartment complexes. Water levels rose to 4 feet in depth and flooded the bottom level apartments.
July 31, 2010	North Augusta	Flash Flooding	▪ $12K in property damage
January 24, 2010	Graniteville	Flash Flooding	▪ $2K in property damage
August 10, 2003	Aiken	Flash Flooding	▪ Several streets flooded and closed ▪ Exit 22 ramp on I-20 closed
March 7, 1996	County(Western)	Flash Flooding	▪ $3K in property damage
January 1993	County	Flooding	▪ $217.4K in crop damage ▪ $10.9K in property damage
October 1990	County	Flooding	▪ $320K in property damage
June 1990	County	Flooding	▪ $2.5K in property damage
September 1989	County	Flooding	▪ $2.5K in property damage
September 1988	County	Flooding	▪ $0.5K in property damage
June 1986	County	Flooding	▪ $5K in property damage

July 1984	County	Flooding	▪ $0.4K in property damage
May 1984	County	Flooding	▪ $0.5K in property damage
February 1984	County	Flooding	▪ $0.6 in property damage
December 1983	County	Flooding	▪ $6.41K in crop damage ▪ $641.03K in property damage
March 1983	County	Flooding	▪ $0.3K in crop damage ▪ $2.7K in property damage
August 1980	County	Flooding	▪ $0.5K in property damage
March 1980	County	Flooding	▪ $4.9K in crop damage ▪ $39.5K in crop damage
January 1978	County	Flooding	▪ $6.5K in property damage
October 1976	County	Flooding	▪ $10.9K in crop damage ▪ $10.9K in property damage
July 1975	County	Flooding	▪ $6.9K in crop damage
March 1975	County	Flooding	▪ $0.5K in property damage
June 1973	County	Flooding	▪ $86.2K in crop damage ▪ $0.8K in property damage
March 1973	County	Flooding	▪ $0.3K in property damage
February 1973	County	Flooding	▪ $1.1K in property damage
March 1966	County	Flooding	▪ $1.1K in crop and property damage
March 1964	County	Flooding	▪ $0.1K in crop and property damage
Source: NCDC			

Additionally, the USC Hazard and Vulnerability Research Institute (USC HVRI) provides flood occurrences for Aiken County between 1950 and 2019, however locations specific to municipalities are not listed. The information provided is based on the best available data. There are no listed histories for flooding or flash flooding event for the municipalities of Burnettown, Jackson, Monetta, New Ellenton, Perry, Salley, Wagener or Windsor. The data shows that 31 floods occurred in Aiken County over a 69 year timeframe (1950-2019), with recorded crop damage $334.2K property damage being $1.06M, one injury, and one fatality. (USC HVRI).

The National Climate Date Center (NCDC) Storm Event Database only lists flooding events in Aiken County that go back to 1996. Most of the flooding events listed take place in the unincorporated areas of Aiken County while a few are listed in municipalities. Again, information provided is based on the best available information. There are no listed histories for flooding events in the municipalities of Burnettown, Jackson, Monetta, New Ellenton, Perry, Salley, Wagener or Windsor.

Probability

FEMA Flood Insurance Rate Maps (FIRM's) delineate special flood-hazard areas and the risk zones in a community. These special flood-hazard areas identify locations that have a chance of experiencing coastal or river flooding in any given year. The 100-year flood designation means the area has a 1% chance of flooding in any given year.

Figure 34. Flood Probability for Aiken County

Location	# of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (% Chance per Year)
North Augusta	2	69	34.5	2.8%
Aiken	3	69	23	4.3%
Unincorporated	3	69	23	4.3%
Countywide	23	69	3	33%

Source: NCDC/USC HVRI

Based on analysis of records from the National Climatic Data Center, USC HVRI, and FEMA's FIRMs, Aiken County and its incorporated municipalities have a history of experiencing flooding. Aiken County had 31 reported floods/flash floods over a 69 year period (1950 to 2019). Aiken County has a 44.9% chance of a flood event to occur each year within the county, and a risk of at least one flood to occur every two to three years based on the documented history of flooding.

FEMA FIRMs indicate and illustrate special flood hazard areas (SFHAs) subject to inundation by the 1% annual chance of flood in Zone A for the unincorporated areas of Aiken County as well as areas surrounding the 10 incorporated municipalities. The FIRMs also show Zone B and Zone C designations: Zone B is areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one foot or where the contributing drainage area is less than one square mile; Zone C is areas of minimal flooding.

In Aiken County, there are numerous SFHAs indicated on the FEMA FIRMs subject to inundation by the 1% annual chance of flood in Zone A. Aiken County has many creeks, rivers, and streams that could result in loss and damage should overflow occur during unusual rainfall. The following water bodies have been identified on the FEMA FIRMs that could pose a potential threat: Savannah River, Edisto River, Horse Creek, Little Horse Creek, Bridge Creek, Shaw Creek, Town Creek, Hollow Creek, Cedar Creek, Tinker Creek, Upper Three Runs Creek, Sudlow Lake, Langley Pond, and Reynolds Pond to name a few. The Langley Pond Dam, built over 100 years ago, has undergone a major construction renovation that included the replacement of the old spill way with a new labyrinth

style spill way. The dam project was completed in May of 2020, at a total project cost of $14.4 million. (source *Aiken Standard* – May 2020*)*

The municipalities in the more eastern portion of the county, Monetta, Wagener, Salley, Perry and Windsor are Zone A or minimal flood risk. The City of Aiken (see FIRM Map) does have floodplain areas, specifically along Sand River and Sand River Tributaries in Zone AE. The City has taken on a hydrology study of these areas. Little Horse Creek and Horse Creek are within the jurisdiction of the Town of Burnettown. Zones AE and X are located in this municipality along these bodies of water. While the majority of the City of North Augusta is in Zone A, or at minimal risk of flooding; the City boarders the Savannah River (on the western and south sides) with those specific area in Zone AE with special flood zone hazards. The Town of Jackson, in the southwestern portion of Aiken is Zone A, minimal flood risk.

Vulnerability

Severe rainstorms can cause area drainage systems to overflow, resulting in flooded roads. This excessive flooding of the highway network can eventually cause permanent damage to the road infrastructure. Also, there were reports of flooding to homes. Consideration of susceptibility should be given to mobile/manufactured homes as well. The data shows that 31 floods occurred in Aiken County over a 69 year timeframe (1950-2019), with recorded crop damage $334.2K property damage being $1.06M, one injury, and one fatality. Overall, Aiken County, as a whole, has a moderate vulnerability to flooding.

FEDERAL REQUIREMENTS FOR LOCAL HAZARD MITIGATION PLANS

Requirement 201.6(c)(2)(ii): The risk assessment **must** also address National Flood Insurance Program (NFIP) insured structures that have been repetitively damaged by floods.

Repetitive Loss Properties

Repetitive loss properties are those for which two or more losses of at least $1,000 each have been paid under the National Flood Insurance Program within any 10-year period since 1978. After reviewing such properties and structures within the plan area of Aiken County and its incorporated municipalities, no such property has been identified as a repetitive loss property.

NFIP Participation

The National Flood Insurance Program (NFIP) enables property owners in participating communities to purchase insurance protection from the government against losses from flooding. Participation in the NFIP is based on an agreement between local communities and the federal government which states that if a community will adopt and enforce a floodplain management ordinance to reduce future flood risks to new construction in SFHAs, the federal government will make flood insurance available within the community as a financial protection against flood losses. After reviewing FEMA's "Community Status Book Report for Communities Participating in the National Flood Program," Aiken County is an active participant in the National Flood Insurance Program (NFIP) and has

continued compliance with NFIP requirements and objectives. The City of Aiken, Town of Burnettown, Town of Jackson, Town of New Ellenton, and City of North Augusta are active participants in the NFIP. The Town of Monetta, Town of Perry, Town of Salley, Town of Wagener, and Town of Windsor are not listed and therefore are considered not mapped.

One of the primary objectives of the NFIP is to guide development away from high-flood risk areas. NFIP regulations minimize the impact of structures that are built in SFHAs by requiring them not to cause obstructions to the natural flow of floodwaters. As a condition of Aiken County's participation in the NFIP, those structures built within SFHAs must adhere to strict floodplain management regulations enforced by the community.

Aiken County's floodplain management program ensures compliance by enforcing regulations and policies that require pre-construction site approval prior to any structure being built within a floodplain or zone. An application with the County's Building Inspector, who is also the Floodplain Manager, is required to identify the property being developed and to determine if it is within an existing flood zone. When new development occurs, Aiken County will utilize the revised flood maps adopted in 2012. Aiken County oversees the floodplain management compliance for many of its municipalities in the same way as it ensures the compliance and enforcement for the County.

Additionally, the breakdown for the Tax Year 2020 shows an assessed market value of $289,253,240 for owner occupied land and buildings; $267,126,410 for non-owner occupied buildings; $7,921,160 for agricultural land and building; and $219,470 for agricultural corporate ownership. The total number of Parcels in Aiken County is 104,448

Winter Storm Analysis

Hazard Description

Winter storms are often thought of as a snowstorm. While this can be true, there are also other types of weather associated with winter storms that can be extremely hazardous.

Storms and Strong Winds

Sometimes winter storms are accompanied by strong winds creating blizzard conditions with blinding wind-driven snow, severe drifting, and dangerous wind chill. Strong winds with these intense storms and cold fronts can knock down trees, utility poles, and power lines.

Extreme Cold

Extreme cold often accompanies a winter storm or is left in its wake. Prolonged exposure to the cold can cause frostbite or hypothermia and become life-threatening. In areas unaccustomed to winter weather, near freezing temperatures are considered "extreme cold." Freezing temperatures can cause severe damage to citrus fruit crops and other vegetation. Pipes may freeze and burst in homes that are poorly insulated or without heat.

Ice Storms

Heavy accumulations of ice can bring down trees, electrical wires, telephone poles and lines, and communication towers. Communications and power can be disrupted for days while utility companies work to repair the extensive damage. Even small accumulations of ice may cause extreme hazards to motorists and pedestrians.

Heavy Snow Storms

Heavy snow can immobilize a region and paralyze a city, stranding commuters, stopping the flow of supplies, and disrupting emergency and medical services. In rural areas, homes and farms may be isolated for days, and unprotected livestock may be lost. The cost of snow removal, repairing damages, and loss of business can have large economic impacts on cities and towns.

A winter storm develops from three basic elements: cold air, moisture, and lift. Below freezing temperatures in the clouds and near the ground are necessary to make snow and/or ice; moisture is needed to form clouds and precipitation; and something to raise the moist air to form the clouds and cause precipitation is required (i.e. warm air colliding with cold air and being forced to rise over the cold dome).

Severity

The severity of a winter storm depends on several factors including temperature, wind speed, type of precipitation, rate of deposition, and time of day and/or year the storm occurs. Everyone is potentially at risk during winter storms. The actual threat to the individual depends on the specific situation. Recent observations indicate the following:

- Related to ice and snow:
    - About 70% occur in automobiles
    - About 25% are people caught out in the storm
    - Majority are males over 40 years old
- Related to exposure to cold:
    - 50% are people over 60 years old
    - Over 75% are males
    - About 20% occur in the home

Dangers associated with exposure to cold include frostbite, hypothermia, and wind chill. Most deaths associated with winter weather and storms are indirectly related, such as fatalities from traffic accidents due to icy conditions, or hypothermia from prolonged exposure.

Location

There have been nine (9) significant winter storms recorded in Aiken County within the past 69 years (1950-2019). The most recent storm took place on February 12, 2014. The following figure 35 details the nine (9) storms that affected the County. Individual jurisdictions are not discussed in detail because the events were part of a county wide and statewide disaster. The participating jurisdictions are assumed to be incorporated in the winter event report.

Figure 35. Historic Occurrences of Winter Storms in Aiken County

Date	Location	Type	Description
January 2, 2002	Statewide	Winter Storm	· Ice accumulations ranged from 1/4 to 1 in. · Snow accumulations ranged from 2 to 8 in. · Trees and power lines down · Numerous auto accidents · Driving conditions were treacherous
January 23, 2003	Statewide	Winter Storm	· Power outages for 3,500 homes · Snow accumulations ranged from 2 to 7 in. · Trees and power lines down · Numerous auto accidents · Driving conditions were treacherous

January 25, 2004	Statewide	Ice Storm	· Ice accumulations of 1/2 to 3/4 in. · Six people were injured in traffic related accidents · Trees and power lines down · Numerous auto accidents · Driving conditions were treacherous · Total damage estimates were $28.5M Statewide
December 26, 2004	Statewide	Ice Storm	· Ice accumulations of 1/4 to 3/4 in. · Trees and power lines down · Numerous auto accidents · Driving conditions were treacherous · Several power outages reported · Accumulation of sleet up to 1 in.
January 29, 2005	Statewide	Ice Storm	· Ice accumulations of 1/4 to 1/2 in. on trees and other structures · Numerous auto accidents · Overpasses and bridges iced over · Several power outages reported
February 12, 2010	Statewide	Heavy Snow Event	• Roadways treacherous • Several thousand homes lost power • Average total snowfall across the region was around 4-6 in. but ranged from 3 to 8 in. with a couple of locations reporting near 9 in.
January 10, 2011	Statewide	Winter Storm	Snow accumulations of 1 to 4 in.
January 28, 2014	Statewide	Winter Storm	A winter storm produced sleet and snow across Aiken County causing hazardous traveling conditions. Snow/sleet accumulations ranged from 1 to 3 inches across the county. $24K in property damage
February 12, 2014	Statewide	Winter Storm	• Several thousand homes lost power • Average total snowfall across the region was around 4-6 inches but ranged from 3 to 8 in. with a couple of locations reporting near 9 in.
Source: NCDC			

Extent

The nine (9) significant winter storms/ice storms that affected Aiken County as part of a statewide event caused minor damages; auto accidents, downed power lines and trees, power outages, ice accumulations.

Probability

Figure 36. Winter Storm Probability for Aiken County				
Location	**# of Events**	**Years in Record**	**Recurrence Interval (Years)**	**Hazard Frequency (% Chance per Year)**
County/Statewide	9	69	7.6	13%
Source: NCDC				

Based on the data from the above figure 36, it is estimated that a winter storm event may occur every 7.6 years, with a 13% chance of a storm occurring every year in Aiken County. However, mild winter storm events are common in this region of the State. Typically Aiken County experiences some ice, sleet, or snow event annually. During the months of December to March these events are more likely to occur.

Vulnerability

Heavy accumulations of snow can distress a community; standing commuters, closing vital businesses and facilities, stopping the flow of supplies, and disrupting emergency and medical services. Accumulations of snow can also result in downed trees and power lines. The cost of snow removal, repairing damages, and the loss of business can have a severe economic impact on Aiken County and its communities.

Ice storms can also have a significant impact on the County. Heavy accumulations of ice can bring down trees and topple utility poles and communication towers. Ice can disrupt communication and power for days while utility companies repair extensive damage. Even small accumulations of ice can be extremely dangerous to motorists and pedestrians. Bridges and overpasses are particularly dangerous because they freeze before other surfaces.

The 2014 Winter Storm from the February 11-13, 2014 winter weather event was declared a major Federal disaster for 21 counties in South Carolina, which were most severely affected by the storm. Statewide damage was estimated at $360 million on over 1.5 million acres. The ice storm took down trees, cut electricity and power to thousands of homes in the County. Aiken County spent a total of about $33.2 million to pick up more than 1 million cubic yards of debris and enact recovery and emergency services. The City of Aiken spent just around $2 million. Aiken County has received federal reimbursement of about $22 million out of the expected $27 million from the Federal Emergency Management Agency (FEMA). This has left the County paying approximately $6.1 million out of pocket without the state's match. The City of Aiken received about $1.8 million from FEMA, leaving the City paying a few thousand dollars. *Source: Aiken Standard, March 2015.*

Additionally, the breakdown for the Tax Year 2020 shows an assessed market value of $289,253,240 for owner occupied land and buildings; $267,126,410 for non-owner occupied buildings; $7,921,160 for agricultural land and building; and $219,470 for agricultural corporate ownership. The total number of Parcels in Aiken County is 104,448

2.2 Overall Risk Probability and Frequency

The Task Force Committee reviewed this section for the update process and made the necessary changes to Figure 37 to reflect the updated statistics described in Section 2.1.

To determine the probability of a natural hazard event, the number of events, total number of years those events have been recorded, and the frequency of events must be determined. The recurrence interval is also helpful in portraying how common a certain type of hazard is. Dividing the number of years by the number of events produces the recurrence interval, or how often the event will occur per year. The percentage frequency of events is determined by dividing the number of events by the total number of years and multiplying by 100. This gives a reliable sense of the chance a hazard will occur per year.

Figure 37 below is necessary in determining overall hazard vulnerability. The figure also helps to define what types of events are more frequent in Aiken County.

Figure 37. All Hazards Probability for Aiken County

Hazard	# of Events	Years in Record	Recurrence Interval (in years)	Hazard Frequency (chance per year)
Tornado	38	58	1.5	65.5%
Tropical Storm	14	166	11.9	8.4%
Hail	179	69	0.4	259.4%
Drought	52	69	1.3	75.4%
Earthquake	4	45	11.25	8.8%
Wildfire	12,939	73	<0.1	17,724%
Flood	31	69	2.2	44.9%
Winter Storm	9	69	7.6	13%

Data sources: NCDC, USC Hazards and Vulnerability Research Institute, SC State Climate Office, SC Forestry Commission

2.3 Overall Vulnerability Assessment

No changes were made to the mathematical methodology for prioritizing hazards, after review by the Task Force Committee. The overall vulnerability summary figures on the following pages remain largely unchanged from the last updated process. The updated hazard data has been reviewed as part of the update process.

Prioritization of Hazards for Aiken County

Based on these findings and the results of technical research the following hazards were selected as priority hazards for Aiken County: Tornadoes, Hurricanes/Tropical Storms, Hail, Drought, Earthquakes, Wildfires, Flooding, and Winter Storms.

To assess and evaluate hazards, four criteria have been established by the task force committee and each has been given a rating of low, medium, or high risk.

1. History – A record of occurrences
2. Vulnerability – The number of people and the value of property that could be affected
3. Impact – Assuming the greatest event possible and the worst case scenario.
4. Probability – The likelihood an event will occur (chances per year)
5. Priority Score- Composite score value for each hazard weighing priority attention to planning

In the scoring system, each of the four criteria identified for describing and analyzing potential hazards is assigned a rating and their respective number.

Low	1 point
Medium	5 points
High	10 points

Since some criteria are judged to be more important than others, a weighting factor was established to balance out the total scoring. The following weights are used:

History	2
Vulnerability	5
Impact	10
Probability	7

A composite score for each hazard is arrived at by multiplying the score value assigned to each criterion by its weight and then summing the four totals. For example:

Hazard: Flood

History	Medium	5pts x 2 (weighting factor) = 10 pts
Vulnerability	Medium	5pts x 5 (weighting factor) = 25 pts
Impact	High	10pts x 10 (weighting factor) = 100 pts
Probability	Medium	5pts x 7 (weighting factor) = 35 pts
		Total = 160 pts

All information has been compiled and created as to the various hazards in the County. Those hazards with the highest numerical scores will receive priority attention for planning and mitigation purposes. The methods used for determining the rating of High, Medium, and Low risks are as follows:

History: Risk determined by past occurrences in each participating jurisdiction, where available, and by county wide occurrences.

Vulnerability: Based on the total population from the jurisdiction and an estimated projection on property values and facilities within the jurisdiction.

Impact: Risk determination was established by taking into account the vulnerability of the jurisdiction/county as well as past history of occurrence. Determination was also based on the extent of the event located in previous hazard profile section of the plan.

Probability: Determined by hazard frequency percentage located in the previous section of overall risk probability and frequency.

The following figure 38 and figure 39 are the overall vulnerability summary for hazards within Aiken County and its incorporated jurisdictions. Plan goals and objectives are prioritized according to these figures.

Figure 38. Aiken County Hazard Identification and Analysis Worksheet

Type of Hazard	History (2)	Vulnerability (5)	Impact (10)	Probability (7)	**Total Score**
Tornado	Medium	Medium	High	High	
Priority Score	10	25	100	70	**205**
Hurricane/Tropical Storm	Low	Medium	Medium	Low	
Priority Score	2	25	50	7	**84**
Hail	High	Medium	Medium	High	
Priority Score	20	25	50	70	**165**
Drought	High	Medium	High	High	
Priority Score	20	25	100	70	**215**
Earthquake	Low	Medium	Medium	Low	
Priority Score	2	25	50	7	**84**
Wildfire	High	Medium	High	High	
Priority Score	20	25	100	70	**215**
Flood	Medium	Medium	High	Medium	
Priority Score	10	25	100	35	**170**
Winter Storms	Low	Medium	High	Low	
Priority Score	2	25	100	7	**134**

Figure 39. Aiken County: Incorporated Jurisdictions Hazard Identification and Analysis Worksheet						
Municipality	**Type of Hazard**	**History (2)**	**Vulnerability (5)**	**Impact (10)**	**Probability (7)**	**Total Score**
Aiken	Tornado	Medium	High	Medium	Low	
	Priority Score:	10	50	50	7	**117**
	Hurricane/Tropical Storm	COUNTYWIDE				
	Priority Score:					
	Hail	Medium	High	Medium	Medium	
	Priority Score:	10	50	50	35	**145**
	Drought	COUNTYWIDE				
	Priority Score:					
	Earthquake	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Wildfire	COUNTYWIDE				
	Priority Score:					
	Flood		Low	Medium	Low	
	Priority Score:	**2**	5	50	7	**64**
	Winter Storms	COUNTYWIDE				
	Priority Score:					
Burnettown	Tornado	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Hurricane/Tropical Storm	COUNTYWIDE				
	Priority Score:					
	Hail	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Drought	COUNTYWIDE				
	Priority Score:					
	Earthquake	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Wildfire	COUNTYWIDE				
	Priority Score:					
	Flood	No listed history				
	Priority Score:					
	Winter Storms	COUNTYWIDE				
	Priority Score:					
Jackson	Tornado	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Hurricane/Tropical Storm	COUNTYWIDE				
	Priority Score:					
	Hail	Medium	Low	Low	Low	
	Priority Score:	10	5	10	7	**32**
	Drought	COUNTYWIDE				
	Priority Score:					
	Earthquake	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Wildfire	COUNTYWIDE				
	Priority Score:					
	Flood					

	Priority Score:	No listed history				
	Winter Storms	COUNTYWIDE				
	Priority Score:					
Monetta	Tornado	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Hurricane/Tropical Storm	COUNTYWIDE				
	Priority Score:					
	Hail	Medium	Low	Low	Low	
	Priority Score:	10	5	10	7	**32**
	Drought	COUNTYWIDE				
	Priority Score:					
	Earthquake	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Wildfire	COUNTYWIDE				
	Priority Score:					
	Flood	No listed history				
	Priority Score:					
	Winter Storms	COUNTYWIDE				
	Priority Score:					
New Ellenton	Tornado	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Hurricane/Tropical Storm	COUNTYWIDE				
	Priority Score:					
	Hail	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Drought	COUNTYWIDE				
	Priority Score:					
	Earthquake	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Wildfire	COUNTYWIDE				
	Priority Score:					
	Flood	No listed history				
	Priority Score:					
	Winter Storms	COUNTYWIDE				
	Priority Score:					
North Augusta	Tornado	Low	Medium	Low	Low	
	Priority Score:	2	25	10	7	**44**
	Hurricane/Tropical Storm	COUNTYWIDE				
	Priority Score:					
	Hail	Medium	High	Medium	Low	
	Priority Score:	10	50	50	7	**117**
	Drought	COUNTYWIDE				
	Priority Score:					
	Earthquake	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Wildfire	COUNTYWIDE				
	Priority Score:					
	Flood	Low	Low	Medium	Low	
	Priority Score:	2	5	50	7	**64**

	Winter Storms	COUNTYWIDE				
	Priority Score:					
Perry	Tornado	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Hurricane/Tropical Storm	COUNTYWIDE				
	Priority Score:					
	Hail	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Drought	COUNTYWIDE				
	Priority Score:					
	Earthquake	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Wildfire	COUNTYWIDE				
	Priority Score:					
	Flood	No listed history				
	Priority Score:					
	Winter Storms	COUNTYWIDE				
	Priority Score:					
Salley	Tornado	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Hurricane/Tropical Storm	COUNTYWIDE				
	Priority Score:					
	Hail	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Drought	COUNTYWIDE				
	Priority Score:					
	Earthquake	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Wildfire	COUNTYWIDE				
	Priority Score:					
	Flood	No listed history				
	Priority Score:					
	Winter Storms	COUNTYWIDE				
	Priority Score:					
Wagener	Tornado	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Hurricane/Tropical Storm	COUNTYWIDE				
	Priority Score:					
	Hail	Medium	Low	Low	Low	
	Priority Score:	10	5	10	7	**32**
	Drought	COUNTYWIDE				
	Priority Score:					
	Earthquake	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Wildfire	COUNTYWIDE				
	Priority Score:					
	Flood	No listed history				
	Priority Score:					
	Winter Storms					

	Priority Score:	COUNTYWIDE				
Windsor	Tornado	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Hurricane/Tropical Storm	COUNTYWIDE				
	Priority Score:					
	Hail	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Drought	COUNTYWIDE				
	Priority Score:					
	Earthquake	Low	Low	Low	Low	
	Priority Score:	2	5	10	7	**24**
	Wildfire	COUNTYWIDE				
	Priority Score:					
	Flood	No listed history				
	Priority Score:					
	Winter Storms	COUNTYWIDE				
	Priority Score:					

2.4 Community Mitigation Capability Assessment

No changes were made to this section after the Task Force Committee reviewed and analyzed during the update process.

Purpose

The main purpose of this section is to examine the policies, ordinances, and codes that have been put in place to reduce the impacts of natural hazards. In some instances, especially in the more rural jurisdictions, such existing plans do not exist. In these cases, the town is typically covered underneath the county's plans. The following is a collection of policies concerning natural hazards, mitigation, and emergency preparedness, reviewed by the Lower Savannah Council of Governments. This section is essential for the examination of current natural hazard mitigation. The review of the following plans aided the development of this hazard mitigation by allowing the plan developers to see what is already in place to deal with natural hazards.

Aiken County's Emergency Management Division provides overall coordination during major emergencies, such as hurricanes, tornados, and other natural and manmade disasters. The EMD is responsible for all hazards planning, natural and technological, hazard mitigation, preparedness for, response to, and recovery from disasters, and the coordination of the Emergency Preparedness Committee.

Aiken County has an Emergency Operations Plan that was developed for use by Aiken County Government Officials to ensure mitigation and preparedness, appropriated response, and timely recovery from hazards that may affect Aiken County. The plan has three major parts: letter of promulgation approves the plan and assigns responsibilities, basic plan outlines polices and general procedures that provide a common basis for joint county and municipal governments operations in a natural, technological, or purposeful harm disaster, and Emergency Support Functions (ESFs) providing guidelines for the development of appropriate mechanisms to facilitate the prompt and efficient application of resources in any emergency or disaster situation.

Comprehensive plans and zoning ordinances exist in Aiken County and five out of the ten incorporated municipalities. Integrating mitigation concepts and policies with existing comprehensive plans provides and expanded means for implementing initiatives through established, legal frameworks. The foundation of these plans lies in the promotion of health, safety, efficiency, and wellbeing for all segments of the population. Some of the primary plan objectives include preservation of the County's unique natural environment and historic heritage, creation of a stable and diverse economy, and promoting sustainable developments. A local hazard mitigation initiative can be strengthened by finding opportunities where the implementation of other County goals and policies also supports the mitigation recommendations presented in this plan.

Zoning ordinances cover the unincorporated areas of the county and five of the municipalities. Zoning can be used to restrict growth in high risk areas, allow low density development or designate only certain uses in hazard prone areas. All the zoning ordinances require erosion control practices for ground disturbing activities, protection of existing waterways, and revegetation. These practices and others promote best management practices and reduce the risk of flooding hazard in particular.

Aiken County has land development regulations that provide policy for infrastructure for new development. Like zoning regulations, these regulations provide best management practices to reduce the risk of flooding hazards.

Building codes are important in mitigation because codes are developed for areas of the state in consideration of types, frequency and intensity of hazards present in that geographic region. Consequently, structures that are built to applicable codes are inherently resistant to many hazards like strong wind, floods, and earthquakes. Additionally, Aiken County has a mobile and manufactured home ordinance that provides separate standards for those types of housing

Intergovernmental cooperation is a great asset to the implementation of hazard mitigation actions. This way local, county, and State agencies can act as resources for each other. Interaction between the County, towns, and regional planning organizations occurs in areas such as plan development and grant writing.

The major conclusion reached after conducting the capability assessment is that Aiken County will need to rely on technical and financial assistance from various resources to effectively implement hazard mitigation actions over the next five years. The constraints facing the County and especially the municipalities include both limited staff resources and extremely limited funding.

During this planning process, it is apparent that the County has a strong capability to bring together various groups to work together in crafting better communities of the future. The same cooperative effort, if joined with the appropriate technical and financial assistance from regional, state, and federal resources, can be harnessed to implement the priority hazard mitigation actions. A sustained effort by citizens, staff, and local officials can create a more sustainable and disaster resistant future.

Each of the local governments has the capacity to handle mitigation issues, but is limited due to funding and limited staff. The results of the capability assessment help to provide the framework for developing recommendation for specific mitigation actions. It also helps to identify shortfalls in the local government capabilities as well as draw attention to existing successes. The capability assessment was analyzed then used to rank the mitigation strategies according to the capability of the county or the municipalities to implement the actions.

Incorporation of the requirements of the mitigation plan into existing planning mechanisms

Figure 40. Existing Planning Mechanisms

Jurisdiction	Comprehensive Plan	Capital Improvement Plan	Building Code/LDR	Flood Hazard Ordinance	Zoning Ordinance	Emergency Operations Plan**
Aiken County	Yes	Yes	Yes	Yes	Yes	Yes
Aiken	Yes	Yes	Yes	Yes	Yes	Yes
Burnettown	Yes	No	Yes*	Yes	Yes	Yes
Jackson	Yes	No	Yes*	Yes	Yes	Yes
Monetta	No	No	Yes*	No	No	Yes
New Ellenton	Yes	Yes	Yes*	Yes	Yes	Yes
North Augusta	Yes	Yes	Yes	Yes	Yes	Yes
Perry	No	No	Yes*	No	No	Yes
Salley	No	No	Yes*	No	No	Yes
Wagener	No	No	Yes*	No	No	Yes
Windsor	No	No	Yes*	No	No	Yes

*Enforced by County ** Municipalities covered by County EOP

There are several ways to incorporate the hazard mitigation plan requirements into the existing planning processes. First, the comprehensive plans are updated every five years and cover features of the jurisdictions such as natural resources and community facilities. Planning commissions within each jurisdiction revise the plans then recommend the revised plan to the local governing bodies for approval. Using this process, hazard mitigation elements can be included in plan updates.

Capital improvement activities are usually included as part of the comprehensive plans. The jurisdictions are covered under the County CIP. The zoning ordinances are built from the findings of the comprehensive plan, so changes to the zoning ordinances can be made after the comprehensive plan is updated.

Updating the comprehensive plan would cover areas such as economic development, land use, natural resources, road construction and community facilities. From that, the zoning ordinance could reflect needed changes for issues such as development, land uses, storm water retention or road grading activities.

Building codes are standard across the county and can be updated with hazard mitigation findings by the governing body of each local government. In addition, the state has adopted the Southern Building Code. As changes are made to the state building code by the state legislature local jurisdictions may adopt those changes and incorporate them into local building codes.

Public hearings, which provide an opportunity for public comment, are required prior to adoption of any of the above planning mechanisms.

Part Three:
Mitigation Strategy

3.1 Mitigation Strategy

After review and analysis from the Task Force Committee, the Mitigation Strategy section has remained unchanged for the update process.

The Mitigation Strategy section describes how Aiken County and its incorporated municipalities will reduce or eliminate potential losses from hazards identified in the Natural Hazard Risk Assessment section. The strategy focuses on existing and potential mitigation actions that will mitigate the effects of a natural hazard event on Aiken County's population, economy, and property. The Mitigation Strategy is a coordinated effort by various agencies and partners to develop and implement a comprehensive range of inventive and effective natural hazard mitigation actions.

Mitigation Strategy Approach

- Establish mitigation goals and objectives that aim to reduce or eliminate Aiken County's long-term vulnerability to natural-hazard events
- Identify and analyze a comprehensive range of hazard-specific mitigation actions that aim to achieve the goals and objectives of the Mitigation Strategy
- Describe how Aiken County will prioritize, implement, and administer mitigation actions

FEMA Requirements

The Task Force Committee developed the mitigation strategy consistent with the process and steps presented in the Federal Emergency Management Agency's (FEMA) How-To-Guide: Developing the Mitigation Plan. This section satisfies the following requirements:

- **Requirement §201.6(c)(3)(i):** The hazard mitigation strategy ***shall*** include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.
- **Requirement §201.6(c)(3)(ii):** The mitigation strategy ***shall*** include a section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. The mitigation strategy must also address the jurisdiction's participation in the National Flood Insurance Program (NFIP), and continued compliance with NFIP requirements, as appropriate.
- **Requirement §201.6(c)(3)(iii):** The mitigation strategy ***shall*** include an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization ***shall*** include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

Process

Using the findings from the risk assessment and the capabilities assessment as a guide the task force developed the following mitigation goals, objectives, and strategies for implementation. Goals and objectives were developed by the Task Force, Lower Savannah Council of Government representatives, and FEMA representatives and included a period provided for comment and revision. Once the final goals and objectives were determined the Task Force developed the mitigation strategies that would aid the county and participating jurisdictions in meeting the goals and objectives identified in the plan. Strategies were selected using the information obtained from the capabilities assessment, which identified existing programs and shortfalls related to mitigation activities.

The first step in the mitigation actions and prioritization process was the county Task Force reviewed a broad range of potential mitigation actions. From these proposed actions, the Task Force developed a prioritization method based on a number of different factors. The projects were ranked based on a cost-benefit review that showed which projects were most needed, which of these projects was the most likely to be accomplished, and which would most effectively address mitigation needs. Those projects that required minimal funds were considered higher in priority because of the high likelihood that they could be accomplished as well as having a maximum cost-benefit ratio.

In addition to reviewing potential monetary costs, the team considered the social impact of each potential project, the technical capabilities of the local government to carry through the project, impact on the environment, ability of the local government to maintain the project, and any political or legal effects of the decision. Actions that can immediately aid in the mitigation of the most likely and dangerous natural hazards are higher in priority under each of the goals for Aiken County and the participating municipalities. This cost-benefit review was the basis for each of the project feasibility rankings.

Each action and project includes the following: a priority rank, project name, description, responsible party, and timeframe. The participating municipalities will rely on grants and other sources in order to fund mitigation projects.

Based on the recommendations of the Task Force the following implementation schedule has been developed. Projects have been listed by priority according to the ranking assigned by the Task Force (High, Medium, or Low). Feasibility to implement the projects is also ranked High, Medium or Low based on the results of the capability assessment.

The Task Force identified, analyzed, and prioritized all actions based on the hazard vulnerability, historical occurrence of the hazard, cost effectiveness, and compliance with NFIP. They prioritized the actions on a high, medium and low scale defined as the following:

- **High Priority:** A project that meets multiple plan objectives, benefits exceed cost, is grant-eligible, can be completed in a short-term period once project is funded.
- **Medium Priority:** A project that meets at least one plan objective, benefits exceed costs, funding not secured, grant eligibility is questionable, and can be completed within 1 to 5 years once project is funded

- **Low Priority:** A project that will mitigate the risk of a hazard, benefits may exceed costs, funding is not secured, project may not be grant-eligible and/or timeline for completion is considered long-term

As a side note, it should be mentioned that these priority definitions are considered to be dynamic and can change from one category to another based on changes to a parameter such as availability of funding. For example, a project might be assigned a medium priority because of the uncertainty of a funding source. This priority could be changed to high once a funding source has been identified such as a grant. The prioritization schedule for this plan will be reviewed and updated as needed through the plan maintenance strategy described in section 4.1 of this Plan.

Cost Benefit Review

A key criterion for mitigation projects to be eligible for funding is that they must be cost-effective. If the project benefits are higher than the project costs, then the project is cost-effective. In order to ensure a consistent approach in determining the cost-effectiveness of all mitigation projects, Aiken County will use the FEMA Benefit Cost Analysis (BCA) module and process. A Benefit-Cost Analysis (BCA) is a method for determining the potential positive effects of a specific mitigation action and comparing them to the cost of the action. To assess and demonstrate the cost-effectiveness of mitigation actions, FEMA has developed a suite of BCA software, including hazard-specific modules. Agencies seeking funding under one of FEMA's mitigation grant programs will perform a detailed BCA using this software prior to the submission of the grant application.

Aiken County will weigh the effectiveness of the mitigation actions based on the implementation timeframe, the history of occurrences for specific hazards, and the cost of the project.

Implementation and Administration

The following categories have been identified as information for each action that will guide Aiken County and its participating municipalities in the implementation and administration of the actions: description, agencies, timeframe, cost, funding source, and priority. It also serves to coordinate the various agencies involved to avoid duplicating or conflicting efforts. The mitigation strategies contain a wide variety of actions that mitigate the effects of natural hazards on the population, economy, and property of Aiken County.

Figure 41. Implementation Key	
Column Header	**Description**
Mitigation Action & Description	Contains the title and description of the action
Agency	Lists the agency that has primary jurisdiction over the mitigation action and any supporting entities that will assist in the implementation, funding, or maintenance of the mitigation action
Project Timeframe/Duration	Estimates when the project will begin and approximately how long it will take to complete. "Ongoing" refers to actions that are either underway or have no definitive end date
Estimated Project Cost	Estimates costs associated with implementing each mitigation action
Possible Funding Source(s)	Identifies possible sources of funding including capital funding, grants, bonds, and other types of funding
FEMA Category	Identifies the associated FEMA mitigation action category (Prevention, Property Protection, Public Education and Awareness, Natural Resource Protection, Emergency Services, and Structural Projects)
Goals and Objectives	Identifies the hazard mitigation goals and objectives addressed by the mitigation action
Priority	Lists the results of the mitigation action prioritization

3.2 Aiken County Goals and Objectives

The Task Force Committee reviewed and analyzed the County's goals and objectives in Figure 42 as part of the update process.

Developing Goals and Objectives

The first step in developing a hazard mitigation strategy is to establish goals and objectives that aim to reduce or eliminate Aiken County's long-term vulnerability to natural hazard events. Mitigation goals are general guidelines explaining what the County and its participating municipalities want to achieve in terms of hazard and loss prevention. Objectives are specific, measurable strategies or implementation steps used to achieve the identified goals. Developing clear goals and objectives helped reinforce Aiken County's overall purpose and mission for undertaking a mitigation planning process.

The goals and objectives set forth below provide the necessary framework to develop a mitigation strategy. The Task Force Committee reviewed and analyzed all goals to ensure they would reduce or avoid long-term vulnerabilities to the identified hazards. Aiken County will re-evaluate its hazard mitigation goals and objectives each plan maintenance cycle to ensure they continue to represent the hazard mitigation priorities.

Hazard Mitigation Goals and Objectives	
Goal 1: Protect public health and safety	
Objective 1.1	Improve systems that provide warning and emergency communications.
Objective 1.2	Reduce the impacts of hazards on vulnerable populations.
Objective 1.3	Train emergency responders.
Objective 1.4	Strengthen local building code enforcement.
Goal 2: Increase public preparedness and awareness for natural disasters	
Objective 2.1	Enhance understanding of natural hazards and the risks they pose.
Objective 2.2	Improve hazard information, including databases, maps, articles in local media, instructional web site, pamphlets, information packets, etc.
Objective 2.3	Improve public knowledge of hazards and protective measures allowing individuals to appropriately prepare for and respond to hazard events.
Goal 3: Protect property	
Objective 3.1	Implement mitigation programs that protect critical facilities and services, and promote reliability of lifeline systems to minimize impacts from hazards, maintain operations, and expedite recovery in an emergency.
Objective 3.2	Consider known hazards when identifying a site for new facilities and systems.
Objective 3.3	Adopt and enforce public policies to minimize hazard impacts on buildings, infrastructure, and neighborhoods and enhance safe construction in high hazard areas.
Objective 3.4	Integrate new hazard and risk information into building codes and land use planning mechanisms.
Objective 3.5	Educate public officials, developers, realtors, contractors, building owners, and the public about hazard risks and building requirements.

Goal 4: Emergency Services	
Objective 4.1	Immediate actions taken in response to a hazard event can minimize the impact of hazard incidents on people and property.
Goal 5: Reduce the potential effects of flooding on homes and buildings in Aiken County	
Objective 5.1	Continue the implementation of zoning codes.
Objective 5.2	Study flood areas to implement needed changes in development and storm drainage.
Goal 6: Ensure protection and emergency shelters	
Objective 6.1	Shelters must be identified to provide protection to the public.
Objective 6.2	Identify buildings approved for occupancy during natural hazards.
Objective 6.3	The number of shelters should be adequate and safe for the amount of people that may potentially need them.

Figure 42: Aiken County Hazard Mitigation Goals and Objectives

3.3 Aiken County Mitigation Actions

The Task Force Committee reviewed and analyzed the County's mitigation action in figure 43 as part of the update process.

Mitigation actions include programs, plans, projects, or policies that help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force Committee identified and analyzed a comprehensive range of hazard-specific mitigation actions with particular emphasis on actions that affect new and existing buildings and infrastructure within Aiken County, and also the protection of the citizens.

Identification

The Task Force Committee identified both existing and potential mitigation actions within their respective agencies that have the following criteria:

- Reduce or eliminate the long-term risk to human life and property from at least one of the eight natural hazards identified in the Risk Assessment Section
- Fall under one or more of the six FEMA mitigation action categories
- Achieve one or more of the hazard mitigation goals and objectives

Mitigation Action Categories

FEMA organizes mitigation actions into six broad categories. These categories allow similar types of mitigation actions to be compared, and provides a standardized method for eliminating unsuitable actions. All mitigation actions identified in this strategy fall within one of the FEMA mitigation action categories below:

1. **Prevention:** Government administrative or regulatory actions or processes that influence the way land buildings are developed and built. These actions also include public activities that reduce hazard losses. Examples from this strategy include building and construction code revisions, zoning regulation changes, and computer-hazard modeling.
2. **Property Protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples from this strategy include seismic retrofits, roadway elevations, and floodproofing.
3. **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Examples from this strategy include programs that target severe repetitive loss properties and vulnerable populations.
4. **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems. Examples from this strategy

include projects creating open space or wetlands.

5. **Emergency Services:** Actions that protect people and property during and immediately after a disaster or hazard event. Examples from this strategy include enhancements that provide advanced warning and redundant communications.
6. **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Examples from this strategy include projects that control floodwater, reconstruct dams and seawalls, and construct green roofs.

Summary of Mitigation Actions

The final list of Aiken County's mitigation actions is in the figure below. Many of the actions protect public health and safety, promote a sustainable economy, protect the environment, and increase public preparedness for disasters. The mitigation actions are the County's programs, plans, projects, or policies that the county may implement to help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force identified, analyzed, and prioritized all actions based on the hazard vulnerability, historical occurrence of the hazard, cost effectiveness, and compliance with NFIP.

Since the last update, Aiken County has maintained and addressed several mitigation initiatives. The Langley Pond dam built over 100 years ago, has undergone a major construction renovation that included the replacement of the old spill way with a new labyrinth style spill way. The dam project was completed in May of 2020, at a total project cost of $14.4 million. (source *Aiken Standard* – May 2020*)* The County has taken on a corridor study of a major throughfare and various impacts that include stormwater flooding. A Long -Range Transportation Plan (LRTP) for the rural areas as well as a metropolitan transportation study that include the North Augusta/Aiken area has been conducted. The County's Land Management Regulations continues to be reviewed on a regular basis. The population growth and trends are seen to be increasing for western area of Aiken County. This is seen through comprehensive and strategic planning documents. Several municipalities in the Aiken County are included in these various documents and studies. Much of what Aiken County continues to do is outlined in the Community Mitigation Capability Assessment section (2.4) of this update. The majority of municipalities in Aiken County rely on Aiken County Emergency Management as their guide for initiatives.

Status on Strategies

After reevaluating and reviewing the mitigation actions for the plan update, it was evident that some of the previous strategies for Aiken County were not implemented due to the lack of funding sources. Note some mitigation actions identified in the plan update may not ultimately be implemented due to prohibitive costs, scale, low benefit/cost analysis rations, or other concerns.

Aiken County Hazard Mitigation Actions											
Mitigation Action and Description	**Agency**	**Timeframe**	**Hazard(s)**	**Estimated Project Cost**	**Possible Funding Source(s**	**FEMA Category**	**Goals and Objectives**	**Prioritization**	**Implementation Status**	**Implementation Schedule**	**Milestones Achieved, Impediments to Implementation**
Develop a continuing communications and education program including instructional web-site, pamphlets, information packets and articles in the local media.	Aiken County/ Emergency Management	Ongoing	ALL	N/A	PDM, HMGP	Public Education and Awareness	1.1,1.2,1.3	Medium	Ongoing	Ongoing	Initially Achieved, but efforts are ongoing
Implement and enforce zoning codes and building codes to ensure no new structures are built within the floodplains.	Aiken County Building and Planning	Completed	Flood	N/A	N/A	Prevention	3.2,3.6,5.1, 5.2	High	Complete	Continuous process	Enforcement is necessary
Establishment and identification of emergency shelters during times of natural hazards.	Emergency Management	Ongoing	ALL	N/A	N/A	Emergency Services/ Property Protection	1.2, 6.1, 6.2, 6.3	Medium	Ongoing	Ongoing	Achieved but ongoing review

Identify flood prone areas and determine appropriate improvements to drainage services and levels of flood protection.	Aiken County/ SCDNR/ SCDOT	*Ongoing	Flood	N/A	Federal and State Grants	Property Protection	3.2,3.5,3.6, 5.1,5.2	Medium	Depending on funding	5 years	Depending on funding
Develop an enhanced notification system for the citizens using a variety of communicatio n media to simultaneously notify, alert, and/or instruct citizens prior to and during an emergency.	Aiken County/ Emergency Management	Completed	ALL	N/A	PDM/H MGP	Emergency Services/ Public Education and Awareness	1.1,1.2,1.3, 2.1	Medium	Complete	In place	Emergency telephone notification system, National Weather Service transmitter, Alert FM System Achieved
Retro Fit Critical Facilities *See Aiken County Critical Infrastructure Protection Plan	Emergency Management	*Ongoing	ALL	N/A	PDM/H MGP	Emergency Services/Pr operty Protection	3.1,3.2,3.3, 3.4,3.5,3.6	High	Dependi ng on funding	5 years	Depending on funding
Continue to regularly inspect roads and bridges throughout the county to ensure they are ready for extra	Aiken County/ SCDOT/ Emergency Management	*Ongoing	ALL	N/A	General Fund /Local or Federal grants	Emergency Services/ Prevention	1.2,2.3,4.1	High	This is will be an on-going project that will continue to be impl-mented and developed over time	Continuous	Achieved, a continuous action item

service if a disaster strikes.											
Continue to regularly review local government comprehensive plans and ordinances to ensure that they include provisions for pre- and post-disaster planning.	Aiken County Planning and Development	*Ongoing	ALL	N/A	Local or Federal grants	Prevention/ Property Protection	1.4,2.2,3.2.3.3,3.4,3.5, 5.1,5.2	High	Continuous process	Continuous; every 5 years requires review, then 10 years requires update	Achieved; done on a regular basis
Continue to monitor the status of Langley Pond Dam and it's deteriorating condition.	Aiken County/ Emergency Management	Completed	Flood	N/A	PDM/HMGP/ Local or Federal grants	Emergency Services/ Property Protection/ Prevention	3.1,3.2,3.3, 3.4,3.5,3.6	High	Completed	Completed	Dam replacement completed but ongoing monitoring will be in place.
Explore options for access to sewer lines during inclement weather for SC 125/Horsecreek Wastewater Treatment Facility	Aiken County/ Emergency Management	*Ongoing	ALL	N/a	Local/HMGP/ other Federal grants	Property Protection/ Prevention	1.4,2.2,3.2.3.3,3.4,3.5, 5.1,5.2	Low	Dependig on funding	Continuous	Depending on funding

Figure 43: Aiken County Hazard Mitigation Actions

*Ongoing is defined as continuing without termination or interruption

3.4 City of Aiken Goals and Objectives

The Task Force Committee reviewed and analyzed the City of Aiken's goals and objectives and revised Figure 44 as part of the update process.

Developing Goals and Objectives

The first step in developing a hazard mitigation strategy is to establish goals and objectives that aim to reduce or eliminate the City of Aiken's long-term vulnerability to natural hazard events. Mitigation goals are general guidelines explaining what the City wants to achieve in terms of hazard and loss prevention. Objectives are specific, measurable strategies or implementation steps used to achieve the identified goals. Developing clear goals and objectives helped reinforce Aiken's overall purpose and mission for undertaking a mitigation planning process.

The goals and objectives set forth below provide the necessary framework to develop a mitigation strategy. The City of Aiken will re-evaluate its hazard mitigation goals and objectives each plan maintenance cycle to ensure they continue to represent the hazard mitigation priorities.

Hazard Mitigation Goals and Objectives	
Goal 1: Protect public health and safety	
Objective 1.1	Improve systems that provide warning and emergency communications.
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Objective 2.1	Enhance understanding of natural hazards and the risks they pose.
Objective 2.2	Improve hazard information, including databases, maps, articles in local media, instructional web site, pamphlets, information packets, etc.
Objective 2.3	Improve public knowledge of hazards and protective measures allowing individuals to appropriately prepare for and respond to hazard events.
Goal 3: Protect property	
Objective 3.1	Implement mitigation programs that protect critical facilities and services, and promote reliability of lifeline systems to minimize impacts from hazards, maintain operations, and expedite recovery in an emergency.
Objective 3.2	Consider known hazards when identifying a site for new facilities and systems.
Objective 3.3	Adopt and enforce public policies to minimize hazard impacts on buildings, infrastructure, and neighborhoods and enhance safe construction in high hazard areas.
Objective 3.4	Integrate new hazard and risk information into building codes and land use planning mechanisms.
Objective 3.5	Educate public officials, developers, realtors, contractors, building owners, and the public about hazard risks and building requirements.
Goal 4: Emergency Services	
Objective 4.1	Immediate actions taken in response to a hazard event can minimize the impact of hazard incidents on people and property.

Goal 5: Reduce the potential effects of flooding on homes and buildings in the City of Aiken	
Objective 5.1	Continue the implementation of zoning codes.
Objective 5.2	Study flood areas to implement needed changes in development and storm drainage.
Goal 6: Ensure protection and emergency shelters	
Objective 6.1	Shelters must be identified to provide protection to the public.
Objective 6.2	Identify buildings approved for occupancy during natural hazards.
Objective 6.3	The number of shelters should be adequate and safe for the amount of people that may potentially need them.

Figure 44: City of Aiken Hazard Mitigation Goals and Objectives

3.5 City of Aiken Mitigation Actions

The Task Force Committee reviewed and analyzed the City's mitigation action in figure 43 as part of the update process.

Mitigation actions include programs, plans, projects, or policies that help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force Committee identified and analyzed a comprehensive range of hazard-specific mitigation actions with particular emphasis on actions that affect new and existing buildings and infrastructure within the City of Aiken, and also the protection of the citizens.

Identification

The Task Force Committee identified both existing and potential mitigation actions within their respective agencies that have the following criteria:

- Reduce or eliminate the long-term risk to human life and property from at least one of the eight natural hazards identified in the Risk Assessment Section
- Fall under one or more of the six FEMA mitigation action categories
- Achieve one or more of the hazard mitigation goals and objectives

Mitigation Action Categories

FEMA organizes mitigation actions into six broad categories. These categories allow similar types of mitigation actions to be compared, and provides a standardized method for eliminating unsuitable actions. All mitigation actions identified in this strategy fall within one of the FEMA mitigation action categories below:

1. **Prevention:** Government administrative or regulatory actions or processes that influence the way land buildings are developed and built. These actions also include public activities that reduce hazard losses. Examples from this strategy include building and construction code revisions, zoning regulation changes, and computer-hazard modeling.

2. **Property Protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples from this strategy include seismic retrofits, roadway elevations, and floodproofing.

3. **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Examples from this strategy include programs that target severe repetitive loss properties and vulnerable populations.

4. **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems. Examples from this strategy include projects creating open space or wetlands.

5. **Emergency Services:** Actions that protect people and property during and immediately after a disaster or hazard event. Examples from this strategy include enhancements that provide advanced warning and redundant communications.

6. **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Examples from this strategy include projects that control floodwater, reconstruct dams and seawalls, and construct green roofs.

Summary of Mitigation Actions

The final list of the City of Aiken's mitigation actions is in the figure below. Many of the actions protect public health and safety, promote a sustainable economy, protect the environment, and increase public preparedness for disasters. The mitigation actions are the city's programs, plans, projects, or policies that the town may implement to help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force identified, analyzed, and prioritized all actions.

Since the last update, the City of Aiken has maintained and addressed several mitigation initiatives. As mention previously, the City is undertaking a hydrology study of the downtown area and Sand River areas. The City continues to support mitigation through partnerships with Aiken County, most specifically the Whiskey Road corridor.

Status on Strategies

After reevaluating and reviewing the mitigation actions for the plan update, it was evident that none of the previous strategies for the City of Aiken were implemented due to the lack of funding sources. Note some mitigation actions identified in the plan update may not ultimately be implemented due to prohibitive costs, scale, low benefit/cost analysis rations, or other concerns

City of Aiken Hazard Mitigation Actions											
Mitigation Action and Description	**Agency**	**Hazard**	**Timeframe**	**Estimated Project Cost**	**Possible Funding Source**	**FEMA Category**	**Goals and Objectives**	**Prioritization**	**Implementation Status**	**Implementation Schedule**	**Milestones Achieved, Impediments to Implementation**
Develop a continuing communications and education program including instructional web-site, pamphlets, information packets and articles in the local media.	County/ Emergency Management	ALL	Immediate	N/A	PDM, HMGP	Public Education and Awareness	2.1, 2.2, 2.3	High	Depending on funding	Currently in place	Continuous process
Implement and enforce zoning codes and building codes to ensure no new structures are built within the floodplains.	City of Aiken/ Building and Planning	Flood	*Ongoing	N/A	Local	Prevention	1.4, 3.2, 3.3	Medium	Completed	Currently in place	Continuous process that requires enforcement
Establishment and identification of emergency shelters during times of natural hazards.	County /Emergency Management	ALL	Complete	N/A	N/A	Emergency Services/ Property Protection	1.2, 2.3, 6.1, 6.2, 6.3	Low	Completed	Currently in place	Completed at this date

Identify flood prone areas and determine appropriate improvements to drainage services and levels of flood protection.	Emergency Management/ SCDNR	Flood	*Ongoing	N/A	Federal and State Grants	Property Protection	2.1, 2.2, 5.2	Low	Depending on funding	5 years	Continuous process requiring funding source
Develop an enhanced notification system for the citizens using a variety of communication media to simultaneously notify, alert, and/or instruct citizens prior to and during an emergency	County/ Emergency Management	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/ Public Education and Awareness	1.1, 2.3, 4.1	Medium	Depending on funding	Currently in place	Based on funding source
Retrofit Critical Facilities *See Aiken County Critical Infrastructure Protection Plan	Emergency Management	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/Property Protection	1.1,1.3,2.3,3.1,3.3,3.4,3.5,4.1,6.1, 6.2	High	Depending on funding	5 Years	New identified action

Installation of two portable generators and two new generators at water treatment plant such that 3.0 MGD of incremental portable water capacity will be available to supplement the city's existing capacity of 2.5 MGD.	City of Aiken/Emergency Management	Severe Ice Storm/ Winter Storm	Immediate	$297,000	HMGP, Local, Federal and State Grants	Prevention/ Property Protection	1.2,3.1	High	Completed	Currently in place	Completed

Figure 45: City of Aiken Hazard Mitigation Actions

*Ongoing is defined as continuing without termination or interruption

3.6 Town of Burnettown Goals and Objectives

The Task Force Committee reviewed and analyzed the Town of Burnettown goals and objectives and revised Figure 46 as part of the update process.

Developing Goals and Objectives

The first step in developing a hazard mitigation strategy is to establish goals and objectives that aim to reduce or eliminate the Town of Burnettown long-term vulnerability to natural hazard events. Mitigation goals are general guidelines explaining what the Town wants to achieve in terms of hazard and loss prevention. Objectives are specific, measurable strategies or implementation steps used to achieve the identified goals. Developing clear goals and objectives helped reinforce Burnettown's overall purpose and mission for undertaking a mitigation planning process.

The goals and objectives set forth below provide the necessary framework to develop a mitigation strategy. The Town of Burnettown will re-evaluate its hazard mitigation goals and objectives each plan maintenance cycle to ensure they continue to represent the hazard mitigation priorities.

Hazard Mitigation Goals and Objectives	
Goal 1: Protect public health and safety	
Objective 1.1	Improve systems that provide warning and emergency communications.
Objective 1.2	Reduce the impacts of hazards on vulnerable populations.
Objective 1.3	Train emergency responders.
Objective 1.4	Strengthen local building code enforcement.
Goal 2: Increase public preparedness and awareness for natural disasters	
Objective 2.1	Enhance understanding of natural hazards and the risks they pose.
Objective 2.2	Improve hazard information, including databases, maps, articles in local media, instructional web site, pamphlets, information packets, etc.
Objective 2.3	Improve public knowledge of hazards and protective measures allowing individuals to appropriately prepare for and respond to hazard events.
Objective 2.4	Educate residents on meaning of warning systems and scheduled testing of systems.
Goal 3: Protect property	
Objective 3.1	Implement mitigation programs that protect critical facilities and services, and promote reliability of lifeline systems to minimize impacts from hazards, maintain operations, and expedite recovery in an emergency.
Objective 3.2	Consider known hazards when identifying a site for new facilities and systems.
Objective 3.3	Adopt and enforce public policies to minimize hazard impacts on buildings, infrastructure, and neighborhoods and enhance safe construction in high hazard areas.
Objective 3.4	Integrate new hazard and risk information into building codes and land use planning mechanisms.
Objective 3.5	Educate public officials, developers, realtors, contractors, building owners, and the public about hazard risks and building requirements.
Goal 4: Emergency Services	
Objective 4.1	Immediate actions taken in response to a hazard event can minimize the impact of hazard incidents on people and property.

Goal 5: Reduce the potential effects of flooding on homes and buildings in the Town of Burnettown	
Objective 5.1	Continue the implementation of zoning codes.
Objective 5.2	Study flood areas to implement needed changes in development and storm drainage.
Goal 6: Ensure protection and emergency shelters	
Objective 6.1	Shelters must be identified to provide protection to the public.
Objective 6.2	Identify buildings approved for occupancy during natural hazards.
Objective 6.3	The number of shelters should be adequate and safe for the amount of people that may potentially need them.

Figure 46: Town of Burnettown Hazard Mitigation Goals and Objectives

3.7 Town of Burnettown Mitigation Actions

The Task Force Committee reviewed and analyzed the Town of Burnettown's mitigation in Figure 47 as part of the update process.

Mitigation actions include programs, plans, projects, or policies that help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force Committee identified and analyzed a comprehensive range of hazard-specific mitigation actions with particular emphasis on actions that affect new and existing buildings and infrastructure within the Town of Burnettown, and also the protection of the citizens.

Identification

The Task Force Committee identified both existing and potential mitigation actions within their respective agencies that have the following criteria:

- Reduce or eliminate the long-term risk to human life and property from at least one of the eight natural hazards identified in the Risk Assessment Section
- Fall under one or more of the six FEMA mitigation action categories
- Achieve one or more of the hazard mitigation goals and objectives

Mitigation Action Categories

FEMA organizes mitigation actions into six broad categories. These categories allow similar types of mitigation actions to be compared, and provides a standardized method for eliminating unsuitable actions. All mitigation actions identified in this strategy fall within one of the FEMA mitigation action categories below:

1. **Prevention:** Government administrative or regulatory actions or processes that influence the way land buildings are developed and built. These actions also include public activities that reduce hazard losses. Examples from this strategy include building and construction code revisions, zoning regulation changes, and computer-hazard

modeling.

2. **Property Protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples from this strategy include seismic retrofits, roadway elevations, and floodproofing.

3. **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Examples from this strategy include programs that target severe repetitive loss properties and vulnerable populations.

4. **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems. Examples from this strategy include projects creating open space or wetlands.

5. **Emergency Services:** Actions that protect people and property during and immediately after a disaster or hazard event. Examples from this strategy include enhancements that provide advanced warning and redundant communications.

6. **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Examples from this strategy include projects that control floodwater, reconstruct dams and seawalls, and construct green roofs.

Summary of Mitigation Actions

The final list of the Town of Burnettown's mitigation actions is in the figure below. Many of the actions protect public health and safety, promote a sustainable economy, protect the environment, and increase public preparedness for disasters. The mitigation actions are the town's programs, plans, projects, or policies that the town may implement to help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force identified, analyzed, and prioritized all actions.

Burnettow, located in the western portion of Aiken County, continues to see population growth. Since the last update County land regulations, zoning and building codes continue to be enforced. As noted earlier in this update, the Langley Pond dam built over 100 years ago, has undergone a major construction renovation that included the replacement of the old spill way with a new labyrinth style spill way. The dam project was completed in May of 2020, at a total project cost of $14.4 million. While Langley Pond is located in the unincorporated area of the County, it is adjacent to Burnettown; thus the repairs have a positive impact to this jurisdiction.

Status on Strategies

After reevaluating and reviewing the mitigation actions for the plan update, it was evident that none of the previous strategies for the Town of Burnettown were implemented due to the lack of funding sources. Note some mitigation actions identified in the plan update may not ultimately be implemented due to prohibitive costs, scale, low benefit/cost analysis rations, or other concerns

Town of Burnettown Hazard Mitigation Actions											
Mitigation Action and Description	**Agency**	**Hazard**	**Timeframe**	**Estimated Project Cost**	**Possible Funding Source**	**FEMA Category**	**Goals and Objectives**	**Prioritization**	**Implementation Status**	**Implementation Schedule**	**Milestones Achieved, Impediment to Implementation**
Develop a continuing communications and education program including instructional web-site, pamphlets, information packets and articles in the local media.	County/ Emergency Management	ALL	Immediate	N/A	PDM, HMGP	Public Education and Awareness	2.1, 2.2, 2.3	High	Depending on funding	Ongoing	Identify funding source
Implement and enforce zoning codes and building codes to ensure no new structures are built within the floodplains.	County/ County Building and Planning	Flood	*Ongoing	N/A	N/A	Prevention	1.4, 3.2, 3.3	Medium	Completed	Currently in place	Continuous process that requires enforcement
Establishment and identification of emergency shelters during times of natural hazards.	County/ Emergency Management	ALL	Immediate	N/A	N/A	Emergency Services/ Property Protection	1.2, 2.3, 6.1, 6.2, 6.3	Low	Completed	Currently in place	Completed to date/ongoing
Identify flood prone areas and determine appropriate improvements to drainage services and levels of flood protection.	Emergency Management / SCDNR	Flood	*Ongoing	N/A	Federal and State Grants	Property Protection	2.1, 2.2, 5.2	Low	Depending on funding	5 years	Identify funding source

Retrofit Critical Facilities *See Aiken County Critical Infrastructure Protection Plan	Emergency Management	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/ Property Protection	1.1,1.3,2.3,3.1, 3.3,3.4,3.5,4.1, 6.1,6.2	High	Depending on funding	5 Years	Depending on Funding

Figure 47: Town of Burnettown Hazard Mitigation Actions

*Ongoing is defined as continuing without termination or interruption

3.8 Town of Jackson Goals and Objectives

The Task Force Committee reviewed and analyzed the Town of Jackson's goals and objectives as part of the update process.

Developing Goals and Objectives

The first step in developing a hazard mitigation strategy is to establish goals and objectives that aim to reduce or eliminate the Town of Jackson's long-term vulnerability to natural hazard events. Mitigation goals are general guidelines explaining what the Town wants to achieve in terms of hazard and loss prevention. Objectives are specific, measurable strategies or implementation steps used to achieve the identified goals. Developing clear goals and objectives helped reinforce Jackson's overall purpose and mission for undertaking a mitigation planning process.

The goals and objectives set forth below provide the necessary framework to develop a mitigation strategy. The Town of Jackson will re-evaluate its hazard mitigation goals and objectives each plan maintenance cycle to ensure they continue to represent the hazard mitigation priorities.

Hazard Mitigation Goals and Objectives	
Goal 1: Protect public health and safety	
Objective 1.1	Improve systems that provide warning and emergency communications.
Objective 1.2	Reduce the impacts of hazards on vulnerable populations.
Goal 2: Increase public preparedness and awareness for natural disasters	
Objective 2.1	Enhance understanding of natural hazards and the risks they pose.
Objective 2.2	Improve hazard information, including databases, maps, articles in local media, instructional web site, pamphlets, information packets, etc.
Objective 2.3	Improve public knowledge of hazards and protective measures allowing individuals to appropriately prepare for and respond to hazard events.
Goal 3: Protect property	
Objective 3.1	Implement mitigation programs that protect critical facilities and services, and promote reliability of lifeline systems to minimize impacts from hazards, maintain operations, and expedite recovery in an emergency.
Objective 3.2	Consider known hazards when identifying a site for new facilities and systems.
Objective 3.3	Adopt and enforce public policies to minimize hazard impacts on buildings, infrastructure, and neighborhoods and enhance safe construction in high hazard areas.
Objective 3.4	Integrate new hazard and risk information into building codes and land use planning mechanisms.
Hazard Mitigation Goals and Objectives	
Goal 4: Emergency Services	
Objective 4.1	Immediate actions taken in response to a hazard event can minimize the impact of hazard incidents on people and property.
Goal 5: Reduce the potential effects of flooding on homes and buildings in the Town of Jackson	
Objective 5.1	Consider the implementation of zoning codes, to be enforced by the County.
Objective 5.2	Study flood areas to implement needed changes in development and storm drainage.
Goal 6: Ensure protection and emergency shelters	
Objective 6.1	Shelters must be identified to provide protection to the public.
Objective 6.2	Identify buildings approved for occupancy during natural hazards.

Objective 6.3	The number of shelters should be adequate and safe for the amount of people that may potentially need them.

Figure 48: Town of Jackson Hazard Mitigation Goals and Objectives

3.9 Town of Jackson Mitigation Actions

The Task Force Committee reviewed and analyzed the Town of Jackson's mitigation actions, in Figure 49, as part of the update process.

Mitigation actions include programs, plans, projects, or policies that help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force Committee identified and analyzed a comprehensive range of hazard-specific mitigation actions with particular emphasis on actions that affect new and existing buildings and infrastructure within the Town of Jackson, and also the protection of the citizens.

Identification

The Task Force Committee identified both existing and potential mitigation actions within their respective agencies that have the following criteria:

- Reduce or eliminate the long-term risk to human life and property from at least one of the eight natural hazards identified in the Risk Assessment Section
- Fall under one or more of the six FEMA mitigation action categories
- Achieve one or more of the hazard mitigation goals and objectives

Mitigation Action Categories

FEMA organizes mitigation actions into six broad categories. These categories allow similar types of mitigation actions to be compared, and provides a standardized method for eliminating unsuitable actions. All mitigation actions identified in this strategy fall within one of the FEMA mitigation action categories below:

1. **Prevention:** Government administrative or regulatory actions or processes that influence the way land buildings are developed and built. These actions also include public activities that reduce hazard losses. Examples from this strategy include building and construction code revisions, zoning regulation changes, and computer-hazard modeling.

2. **Property Protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples from this strategy include seismic retrofits, roadway elevations, and floodproofing.

3. **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Examples from this strategy include programs that target severe repetitive loss properties and vulnerable populations.

4. **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems. Examples from this strategy

include projects creating open space or wetlands.

5. **Emergency Services:** Actions that protect people and property during and immediately after a disaster or hazard event. Examples from this strategy include enhancements that provide advanced warning and redundant communications.

6. **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Examples from this strategy include projects that control floodwater, reconstruct dams and seawalls, and construct green roofs.

Summary of Mitigation Actions

The final list of the Town of Jackson's mitigation actions is in the figure below. Many of the actions protect public health and safety, promote a sustainable economy, protect the environment, and increase public preparedness for disasters. The mitigation actions are the town's programs, plans, projects, or policies that the town may implement to help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force identified, analyzed, and prioritized all actions.

The Town of Jackson is currently undertaking a ten- year update of it's comprehensive plan and zoning ordinances. In additional to updates in population and housing trends, just to name a few; the plan will include an inventory of potential natural hazardous and potential implementation strategies.

Status on Strategies

After reevaluating and reviewing the mitigation actions for the plan update, it was evident that none of the previous strategies for the Town of Jackson were implemented due to the lack of funding sources. Note some mitigation actions identified in the plan update may not ultimately be implemented due to prohibitive costs, scale, low benefit/cost analysis rations, or other concerns

Figure 49: Town of Jackson Hazard Mitigation Actions

*Ongoing is defined as continuing without termination or interruption

Town of Jackson Hazard Mitigation Actions											
Mitigation Action and Description	**Agency**	**Hazard**	**Timeframe**	**Estimated Project Cost**	**Possible Funding Source**	**FEMA Category**	**Goals and Objectives**	**Prioritization**	**Implementation Status**	**Implementation Schedule**	**Milestones Achieved, Impediments to Implementation**
Develop a continuing communications and education program including instructional web-site, pamphlets, information packets and articles in the local media.	County/ Emergency Management	ALL	Immediate	N/A	PDM, HMGP	Public Education and Awareness	2.1, 2.2, 2.3	High	Depending on funding	Ongoing	Identify funding source
Continue the implementation of zoning codes and building codes to ensure no new structures are built within the floodplains.	Town of Jackson	Flood	*Ongoing	N/A	N/A	Prevention	5.1,5.2	Medium	Completed	Currently in place /ongoing	Continuous process requiring enforcement
Establishment and identification of emergency shelters during times of natural hazards.	County/Emergency Management	ALL	Immediate	N/A	N/A	Emergency Services/ Property Protection	1.2, 2.3, 6.1, 6.2, 6.3	Medium	Completed	Currently in place	Completed at this date/ongoing

Identify flood prone areas and determine appropriate improvements to drainage services and levels of flood protection.	Emergency Management/ SCDNR	Flood	*Ongoing	N/A	Federal and State Grants	Property Protection	2.1, 2.2, 5.2	Low	Depending on funding	5 years	Identify funding source
Notification of the public in cases of emergency.	County/Emergency Management	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/ Public Education and Awareness	1.1, 2.3, 4.1	High	Currently in place	Completed	Continuous process during hazard events
Retrofit Critical Facilities *See Aiken County Critical Infrastructure Protection Plan	Emergency Management	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/Property Protection	1.1,1.3,2.3, 3.1,3.3,3.4, 3.5,4.1,6.1, 6.2	High	Depending on funding	5 Years	Depending on Funding

3.10 Town of Monetta Goals and Objectives

The Task Force Committee reviewed and analyzed the Town of Monetta's goals and objectives and revised as part of the update process.

Developing Goals and Objectives

The first step in developing a hazard mitigation strategy is to establish goals and objectives that aim to reduce or eliminate the Town of Monetta's long-term vulnerability to natural hazard events. Mitigation goals are general guidelines explaining what the Town wants to achieve in terms of hazard and loss prevention. Objectives are specific, measurable strategies or implementation steps used to achieve the identified goals. Developing clear goals and objectives helped reinforce Monetta's overall purpose and mission for undertaking a mitigation planning process.

The goals and objectives set forth below provide the necessary framework to develop a mitigation strategy. The Town of Monetta will re-evaluate its hazard mitigation goals and objectives each plan maintenance cycle to ensure they continue to represent the hazard mitigation priorities.

Hazard Mitigation Goals and Objectives	
Goal 1: Protect public health and safety	
Objective 1.1	Improve systems that provide warning and emergency communications.
Objective 1.2	Reduce the impacts of hazards on vulnerable populations.
Goal 2: Increase public preparedness and awareness for natural disasters	
Objective 2.1	Enhance understanding of natural hazards and the risks they pose.
Objective 2.2	Improve hazard information, including databases, maps, articles in local media, instructional web site, pamphlets, information packets, etc.
Objective 2.3	Improve public knowledge of hazards and protective measures allowing individuals to appropriately prepare for and respond to hazard events.
Goal 3: Protect property	
Objective 3.1	Implement mitigation programs that protect critical facilities and services, and promote reliability of lifeline systems to minimize impacts from hazards, maintain operations, and expedite recovery in an emergency.
Objective 3.2	Consider known hazards when identifying a site for new facilities and systems.
Objective 3.3	Adopt and enforce public policies to minimize hazard impacts on buildings, infrastructure, and neighborhoods and enhance safe construction in high hazard areas.
Objective 3.4	Integrate new hazard and risk information into building codes and land use planning mechanisms.
Hazard Mitigation Goals and Objectives	
Goal 4: Emergency Services	
Objective 4.1	Immediate actions taken in response to a hazard event can minimize the impact of hazard incidents on people and property.
Goal 5: Reduce the potential effects of flooding on homes and buildings in the Town of Monetta	
Objective 5.1	Continue the implementation of zoning codes, to be enforced by the County.
Objective 5.2	Study flood areas to implement needed changes in development and storm drainage.

Goal 6: Ensure protection and emergency shelters	
Objective 6.1	Shelters must be identified to provide protection to the public.
Objective 6.2	Identify buildings approved for occupancy during natural hazards.
Objective 6.3	The number of shelters should be adequate and safe for the amount of people that may potentially need them.

Figure 50: Town of Monetta Hazard Mitigation Goals and Objectives

3.11 Town of Monetta Mitigation Actions

The Task Force Committee reviewed and analyzed the Town of Monetta's mitigation actions in Figure 51 as part of the update process.

Mitigation actions include programs, plans, projects, or policies that help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force Committee identified and analyzed a comprehensive range of hazard-specific mitigation actions with particular emphasis on actions that affect new and existing buildings and infrastructure within the Town of Monetta, and also the protection of the citizens.

Identification

The Task Force Committee identified both existing and potential mitigation actions within their respective agencies that have the following criteria:

- Reduce or eliminate the long-term risk to human life and property from at least one of the eight natural hazards identified in the Risk Assessment Section
- Fall under one or more of the six FEMA mitigation action categories
- Achieve one or more of the hazard mitigation goals and objectives

Mitigation Action Categories

FEMA organizes mitigation actions into six broad categories. These categories allow similar types of mitigation actions to be compared, and provides a standardized method for eliminating unsuitable actions. All mitigation actions identified in this strategy fall within one of the FEMA mitigation action categories below:

1. **Prevention:** Government administrative or regulatory actions or processes that influence the way land buildings are developed and built. These actions also include public activities that reduce hazard losses. Examples from this strategy include building and construction code revisions, zoning regulation changes, and computer-hazard modeling.

2. **Property Protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples from this strategy include seismic retrofits, roadway elevations, and floodproofing.

3. **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Examples from this strategy include programs that target severe repetitive loss properties and vulnerable populations.

4. **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems. Examples from this strategy include projects creating open space or wetlands.

5. **Emergency Services:** Actions that protect people and property during and immediately after a disaster or hazard event. Examples from this strategy include enhancements that provide advanced warning and redundant communications.

6. **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Examples from this strategy include projects that control floodwater, reconstruct dams and seawalls, and construct green roofs.

Summary of Mitigation Actions

The final list of the Town of Monetta's mitigation actions is in the figure below. Many of the actions protect public health and safety, promote a sustainable economy, protect the environment, and increase public preparedness for disasters. The mitigation actions are the town's programs, plans, projects, or policies that the town may implement to help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force identified, analyzed, and prioritized all actions.

Since the last update, County land regulations, zoning and building codes continue to be enforced. There has been very little change regarding housing, population and development that would impact Monetta's vulnerability.

Status on Strategies

After reevaluating and reviewing the mitigation actions for the plan update, it was evident that none of the previous strategies for the Town of Monetta were implemented due to the lack of funding sources. Note some mitigation actions identified in the plan update may not ultimately be implemented due to prohibitive costs, scale, low benefit/cost analysis rations, or other concerns

Note some mitigation actions identified in the plan update may not ultimately be implemented due to prohibitive costs, scale, low benefit/cost analysis rations, or other concerns

Town of Monetta Hazard Mitigation Actions											
Mitigation Action and Description	**Agency**	**Hazard**	**Timeframe**	**Estimated Project Cost**	**Possible Funding Source**	**FEMA Category**	**Goals and Objectives**	**Prioritization**	**Implementation Status**	**Implementation Schedule**	**Milestones Achieved, Impediments to Implementation**
Develop a continuing communications and education program including instructional web-site, pamphlets, information packets and articles in the local media.	County/ Emergency Management	ALL	Immediate	N/A	PDM, HMGP	Public Education and Awareness	2.1, 2.2, 2.3	High	Depending on funding	Ongoing	Identify funding source
Identify flood prone areas and determine appropriate improvements to drainage services and levels of flood protection.	Emergency Management / SCDNR	Flood	*Ongoing	N/A	Federal and State Grants	Property Protection	2.1, 2.2, 5.2	Low	Depending on Funding	Ongoing	Identify funding source
Retrofit Critical Facilities *See Aiken County Critical Infrastructure Protection Plan	Emergency Management	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/Property Protection	1.1,1.3,2.3,3.1, 3.3,3.4,3.5,4.1, 6.1,6.2	High	Depending on Funding	Ongoing	New identified action

Figure 51: Town of Monetta Hazard Mitigation Actions

*Ongoing is defined as continuing without termination or interruption

3.12 Town of New Ellenton Goals and Objectives

The Task Force Committee reviewed and analyzed the Town of New Ellenton's goals and objectives as part of the update process.

Developing Goals and Objectives

The first step in developing a hazard mitigation strategy is to establish goals and objectives that aim to reduce or eliminate the Town of New Ellenton's long-term vulnerability to natural hazard events. Mitigation goals are general guidelines explaining what the Town wants to achieve in terms of hazard and loss prevention. Objectives are specific, measurable strategies or implementation steps used to achieve the identified goals. Developing clear goals and objectives helped reinforce New Ellenton's overall purpose and mission for undertaking a mitigation planning process.

The goals and objectives set forth below provide the necessary framework to develop a mitigation strategy. The Town of New Ellenton will re-evaluate its hazard mitigation goals and objectives each plan maintenance cycle to ensure they continue to represent the hazard mitigation priorities.

Hazard Mitigation Goals and Objectives	
Goal 1: Protect public health and safety	
Objective 1.1	Improve systems that provide warning and emergency communications.
Objective 1.2	Reduce the impacts of hazards on vulnerable populations.
Goal 2: Increase public preparedness and awareness for natural disasters	
Objective 2.1	Enhance understanding of natural hazards and the risks they pose.
Objective 2.2	Improve hazard information, including databases, maps, articles in local media, instructional web site, pamphlets, information packets, etc.
Objective 2.3	Improve public knowledge of hazards and protective measures allowing individuals to appropriately prepare for and respond to hazard events.
Goal 3: Protect property	
Objective 3.1	Implement mitigation programs that protect critical facilities and services, and promote reliability of lifeline systems to minimize impacts from hazards, maintain operations, and expedite recovery in an emergency.
Objective 3.2	Consider known hazards when identifying a site for new facilities and systems.
Objective 3.3	Adopt and enforce public policies to minimize hazard impacts on buildings, infrastructure, and neighborhoods and enhance safe construction in high hazard areas.
Objective 3.4	Integrate new hazard and risk information into building codes and land use planning mechanisms.
Objective 3.5	Ensure existing critical facilities and emergency shelters are better able to withstand the forces of a hazard.
Goal 4: Emergency Services	
Objective 4.1	Immediate actions taken in response to a hazard event can minimize the impact of hazard incidents on people and property.
Goal 5: Reduce the potential effects of flooding on homes and buildings in the Town of New Ellenton	
Objective 5.1	Continue the implementation of zoning codes, to be enforced by the County.
Objective 5.2	Study flood areas to implement needed changes in development and storm drainage.

Goal 6: Ensure protection and emergency shelters	
Objective 6.1	Shelters must be identified to provide protection to the public.
Objective 6.2	Identify buildings approved for occupancy during natural hazards.
Objective 6.3	The number of shelters should be adequate and safe for the amount of people that may potentially need them.
Figure 52: Town of New Ellenton Hazard Mitigation Goals and Objectives	

3.13 Town of New Ellenton Mitigation Actions

The Task Force Committee reviewed and analyzed the Town of New Ellenton's mitigation actions in Figure 53 as part of the update process.

Mitigation actions include programs, plans, projects, or policies that help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force Committee identified and analyzed a comprehensive range of hazard-specific mitigation actions with particular emphasis on actions that affect new and existing buildings and infrastructure within the Town of New Ellenton, and also the protection of the citizens.

Identification

The Task Force Committee identified both existing and potential mitigation actions within their respective agencies that have the following criteria:

- Reduce or eliminate the long-term risk to human life and property from at least one of the eight natural hazards identified in the Risk Assessment Section
- Fall under one or more of the six FEMA mitigation action categories
- Achieve one or more of the hazard mitigation goals and objectives

Mitigation Action Categories

FEMA organizes mitigation actions into six broad categories. These categories allow similar types of mitigation actions to be compared, and provides a standardized method for eliminating unsuitable actions. All mitigation actions identified in this strategy fall within one of the FEMA mitigation action categories below:

1. **Prevention:** Government administrative or regulatory actions or processes that influence the way land buildings are developed and built. These actions also include public activities that reduce hazard losses. Examples from this strategy include building and construction code revisions, zoning regulation changes, and computer-hazard modeling.

2. **Property Protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples

from this strategy include seismic retrofits, roadway elevations, and floodproofing.

3. **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Examples from this strategy include programs that target severe repetitive loss properties and vulnerable populations.

4. **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems. Examples from this strategy include projects creating open space or wetlands.

5. **Emergency Services:** Actions that protect people and property during and immediately after a disaster or hazard event. Examples from this strategy include enhancements that provide advanced warning and redundant communications.

6. **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Examples from this strategy include projects that control floodwater, reconstruct dams and seawalls, and construct green roofs.

Summary of Mitigation Actions

The final list of the Town of New Ellenton's mitigation actions is in the figure below. Many of the actions protect public health and safety, promote a sustainable economy, protect the environment, and increase public preparedness for disasters. The mitigation actions are the town's programs, plans, projects, or policies that the town may implement to help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force identified, analyzed, and prioritized all actions.

In 2020, the Town of New Ellenton updated its comprehensive plan and zoning ordinance. Through this process it was noted that housing and population demands have decreased over the past ten years. The zoning ordinance was amended to include specific verbiage from the Aiken County Land Regulations regarding manufactured homes. Additionally, information was included in the zoning ordinance to strengthen regulations for the safety of manufactured homes. Since the last update, there has been little change in major development that would impact the Town's natural vulnerabilities.

Status on Strategies

Note some mitigation actions identified in the plan update may not ultimately be implemented due to prohibitive costs, scale, low benefit/cost analysis rations, or other concerns

The Town of New Ellenton did not participate in the original HMP process. The following mitigation actions are new and have been identified for this update, as the Town of New Ellenton is now a participating municipality in Aiken County's HMP. Note some mitigation actions identified in the

plan update may not ultimately be implemented due to prohibitive costs, scale, low benefit/cost analysis rations, or other concerns

Town of New Ellenton Hazard Mitigation Actions											
Mitigation Action and Description	**Agency**	**Hazard**	**Time-frame**	**Estimated Project Cost**	**Possible Funding Source**	**FEMA Category**	**Goals and Objectives**	**Prioritization**	**Implementation Status**	**Implementation Schedule**	**Milestones Achieved, Impediments to Implementation**
Develop a continuing communications and education program including instructional web-site, pamphlets, information packets and articles in the local media.	County/ Emergency Management	ALL	Immediate	N/A	PDM, HMGP	Public Education and Awareness	2.1, 2.2, 2.3	High	Depending on funding	Ongoing	Open with Work being done
Continue the implementation of zoning codes and building codes to ensure no new structures are built within the floodplains.	Town of New Ellenton Building and Zoning	Flood	*Ongoing	N/A	N/A	Prevention	5.1,5.2	Medium	Completed	Currently in place	Continuous process requiring enforcement
Establishment and identification of emergency shelters during times of natural hazards.	County/Emergency Management	ALL	Immediate	N/A	N/A	Emergency Services/ Property Protection	1.2, 2.3, 6.1, 6.2, 6.3	Medium	Completed	Currently in place and ongoing	Identified and ongoing
Identify flood prone areas and determine appropriate improvements to drainage services and levels of flood protection.	Emergency Management/ SCDNR	Flood	*Ongoing	N/A	Federal and State Grants	Property Protection	2.1, 2.2, 5.2	Low	Depending on funding	5 years	Identify funding source
Notification of the public in cases of emergency.	County/Emergency Management	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/ Public Education and Awareness	1.1, 2.3, 4.1	High	Currently in place	Completed and ongoing	Continuous process during hazard event
Retrofit Critical Facilities *See Aiken County Critical Infrastructure Protection Plan	Emergency Management	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/Property Protection	1.1,1.3,2.3,3.1,3.3,3.4,3.5,4.1,6.1,6.2	High	Depending on funding	5 Years	Depending on Funding

Bring up to wind resistant code the Town of New Ellenton Fire Station and Greendale Elementary Gymnasium	Town of New Ellenton/Emergency Management	ALL	Immediate	N/A	PDM/HMGP	Property Protection	3.1,3.3,3.5	High	Depending on funding	5 years	Identify funding source
Develop an Emergency Evacuation Plan for the citizens of New Ellenton	Town of New Ellenton	ALL	Immediate	N/A	PDM/HMGP	Emergency Services	1.1,1.2,4.1	High	Depending on funding	2-3 years	Identify funding source

Figure 53: Town of New Ellenton Hazard Mitigation Actions

*Ongoing is defined as continuing without termination or interruption

3.14 City of North Augusta Goals and Objectives

The Task Force Committee developed the City of North Augusta's goals and objectives and revised as part of the update process

Developing Goals and Objectives

The first step in developing a hazard mitigation strategy is to establish goals and objectives that aim to reduce or eliminate the City of North Augusta's long-term vulnerability to natural hazard events. Mitigation goals are general guidelines explaining what the City wants to achieve in terms of hazard and loss prevention. Objectives are specific, measurable strategies or implementation steps used to achieve the identified goals. Developing clear goals and objectives helped reinforce North Augusta's overall purpose and mission for undertaking a mitigation planning process.

The goals and objectives set forth below provide the necessary framework to develop a mitigation strategy. The City of North Augusta will re-evaluate its hazard mitigation goals and objectives each plan maintenance cycle to ensure they continue to represent the hazard mitigation priorities.

Hazard Mitigation Goals and Objectives	
Goal 1: Protect public health and safety	
Objective 1.1	Improve systems that provide warning and emergency communications.
Objective 1.2	Reduce the impacts of hazards on vulnerable populations.
Goal 2: Increase public preparedness and awareness for natural disasters	
Objective 2.1	Enhance understanding of natural hazards and the risks they pose.
Objective 2.2	Improve hazard information, including databases, maps, articles in local media, instructional web site, pamphlets, information packets, etc.
Objective 2.3	Improve public knowledge of hazards and protective measures allowing individuals to appropriately prepare for and respond to hazard events.
Goal 3: Protect property	
Objective 3.1	Implement mitigation programs that protect critical facilities and services, and promote reliability of lifeline systems to minimize impacts from hazards, maintain operations, and expedite recovery in an emergency.
Objective 3.2	Consider known hazards when identifying a site for new facilities and systems.
Objective 3.3	Adopt and enforce public policies to minimize hazard impacts on buildings, infrastructure, and neighborhoods and enhance safe construction in high hazard areas.
Objective 3.4	Integrate new hazard and risk information into building codes and land use planning mechanisms.
Objective 3.5	Ensure existing critical facilities and emergency shelters are better able to withstand the forces of a hazard.
Goal 4: Emergency Services	
Objective 4.1	Immediate actions taken in response to a hazard event can minimize the impact of hazard incidents on people and property.
Goal 5: Reduce the potential effects of flooding on homes and buildings in the City of North Augusta	
Objective 5.1	Continue the implementation of zoning codes.
Objective 5.2	Study flood areas to implement needed changes in development and storm drainage.

Goal 6: Ensure protection and emergency shelters	
Objective 6.1	Shelters must be identified to provide protection to the public.
Objective 6.2	Identify buildings approved for occupancy during natural hazards.
Objective 6.3	The number of shelters should be adequate and safe for the amount of people that may potentially need them.

Figure 54: City of North Augusta Hazard Mitigation Goals and Objectives

3.15 City of North Augusta Mitigation Actions

The Task Force Committee reviewed and analyzed the City of North Augusta's mitigation actions in Figure 55 as part of the update process.

Mitigation actions include programs, plans, projects, or policies that help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force Committee identified and analyzed a comprehensive range of hazard-specific mitigation actions with particular emphasis on actions that affect new and existing buildings and infrastructure within the City of North Augusta, and also the protection of the citizens.

Identification

The Task Force Committee identified both existing and potential mitigation actions within their respective agencies that have the following criteria:

- Reduce or eliminate the long-term risk to human life and property from at least one of the eight natural hazards identified in the Risk Assessment Section
- Fall under one or more of the six FEMA mitigation action categories
- Achieve one or more of the hazard mitigation goals and objectives

Mitigation Action Categories

FEMA organizes mitigation actions into six broad categories. These categories allow similar types of mitigation actions to be compared, and provides a standardized method for eliminating unsuitable actions. All mitigation actions identified in this strategy fall within one of the FEMA mitigation action categories below:

1. **Prevention:** Government administrative or regulatory actions or processes that influence the way land buildings are developed and built. These actions also include public activities that reduce hazard losses. Examples from this strategy include building and construction code revisions, zoning regulation changes, and computer-hazard modeling.

2. **Property Protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples from this strategy include seismic retrofits, roadway elevations, and floodproofing.

3. **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Examples from this strategy include programs that target severe repetitive loss properties and vulnerable populations.

4. **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses,

also preserve or restore the functions of natural systems. Examples from this strategy include projects creating open space or wetlands.

5. **Emergency Services:** Actions that protect people and property during and immediately after a disaster or hazard event. Examples from this strategy include enhancements that provide advanced warning and redundant communications.

6. **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Examples from this strategy include projects that control floodwater, reconstruct dams and seawalls, and construct green roofs.

Summary of Mitigation Actions

The final list of the City of North Augusta's mitigation actions is in the figure below. Many of the actions protect public health and safety, promote a sustainable economy, protect the environment, and increase public preparedness for disasters. The mitigation actions are the city's programs, plans, projects, or policies that the city may implement to help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force identified, analyzed, and prioritized all actions.

Since the last update, the City of North Augusta has experienced large growth, specifically regarding housing, development and increased population. The vulnerabilities associated with these increases have been considered and plan for accordingly through various planning City planning mechanisms and regulations. The City continues to enforce zoning, building and land regulations.

Status on Strategies

After reevaluating and reviewing the mitigation actions for the plan update, it was evident that none of the previous strategies for the City of North Augusta were implemented due to the lack of funding sources. Note some mitigation actions identified in the plan update may not ultimately be implemented due to prohibitive costs, scale, low benefit/cost analysis rations, or other concerns

City of North Augusta Hazard Mitigation Actions											
Mitigation Action and Description	**Agency**	**Hazard**	**Timeframe**	**Estimated Project Cost**	**Possible Funding Source**	**FEMA Category**	**Goals and Objectives**	**Prioritization**	**Implement-ation Status**	**Implement-ation Schedule**	**Milestones Achieved, Impediments to Implement-ation**
Develop a continuing communications and education program including instructional web-site, pamphlets, information packets and articles in the local media.	County/Emergency Management	ALL	Immediate	N/A	PDM, HMGP	Public Education and Awareness	2.1, 2.2, 2.3	High	Depending on funding	Currently in place	Continuous process requiring enforcement
Continue the implementation of zoning codes and building codes to ensure no new structures are built within the floodplains.	City of North Augusta Building and Zoning	Flood	*Ongoing	N/A	N/A	Prevention	5.1,5.2	Medium	Completed	Currently in place	Continuous process requiring enforcement
Establishment and identification of emergency shelters during times of natural hazards.	County/Emergency Management	ALL	Immediate	N/A	N/A	Emergency Services/ Property Protection	1.2, 2.3, 6.1, 6.2, 6.3	Medium	Completed	Currently in place	Completed at this date
Identify flood prone areas and determine appropriate improvements to drainage services and levels of flood protection.	Emergency Management/ SCDNR/ City of North Augusta	Flood	*Ongoing	N/A	Federal and State Grants	Property Protection	2.1, 2.2, 5.2	Low	Depending on funding	5 years	Identify funding source
Notification of the public in cases of emergency.	County/Emergency Management	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/ Public Education and Awareness	1.1, 2.3, 4.1	High	Currently in place	Completed	Continuous process during hazard events
Retrofit Critical Facilities	Emergency Management/ City of North Augusta	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/Property Protection	1.1,1.3,2.3,3.1,3.3,3.4,3.5,4.1,6.1,6.2	High	Depending on funding	3 Years	New identified action

*See Aiken County Critical Infrastructure Protection Plan											
Procure and use generators at designated critical facilities and pump stations	City of North Augusta	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/Property Protection	1.1,1.3,2.3,3.1,3.3,3.4,3.5,4.1,6.1,6.2	High	Depending on funding	5 years	New identified action
Debris removal and road clearance work	City of North Augusta/ SCDOT	ALL	*Ongoing	N/A	State and Federal Grants	Emergency Services/Property Protection	1.2,1.3,3.1,3.2, 4.1	Medium	Depending on Funding	5 years	New identified action

Figure 55: City of North Augusta Hazard Mitigation Actions

*Ongoing is defined as continuing without termination or interruption

3.16 Town of Perry Goals and Objectives

The Task Force Committee reviewed and analyzed the Town of Perry's goals and objectives as part of the update process.

Developing Goals and Objectives

The first step in developing a hazard mitigation strategy is to establish goals and objectives that aim to reduce or eliminate the Town of Perry's long-term vulnerability to natural hazard events. Mitigation goals are general guidelines explaining what the Town wants to achieve in terms of hazard and loss prevention. Objectives are specific, measurable strategies or implementation steps used to achieve the identified goals. Developing clear goals and objectives helped reinforce Perry's overall purpose and mission for undertaking a mitigation planning process.

The goals and objectives set forth below provide the necessary framework to develop a mitigation strategy. The Town of Perry will re-evaluate its hazard mitigation goals and objectives each plan maintenance cycle to ensure they continue to represent the hazard mitigation priorities.

Hazard Mitigation Goals and Objectives	
Goal 1: Protect public health and safety	
Objective 1.1	Improve systems that provide warning and emergency communications.
Objective 1.2	Reduce the impacts of hazards on vulnerable populations.
Goal 2: Increase public preparedness and awareness for natural disasters	
Objective 2.1	Enhance understanding of natural hazards and the risks they pose.
Objective 2.2	Improve hazard information, including databases, maps, articles in local media, instructional web site, pamphlets, information packets, etc.
Objective 2.3	Improve public knowledge of hazards and protective measures allowing individuals to appropriately prepare for and respond to hazard events.
Goal 3: Protect property	
Objective 3.1	Implement mitigation programs that protect critical facilities and services, and promote reliability of lifeline systems to minimize impacts from hazards, maintain operations, and expedite recovery in an emergency.
Objective 3.2	Consider known hazards when identifying a site for new facilities and systems.
Objective 3.3	Adopt and enforce public policies to minimize hazard impacts on buildings, infrastructure, and neighborhoods and enhance safe construction in high hazard areas.
Objective 3.4	Integrate new hazard and risk information into building codes and land use planning mechanisms.
Objective 3.5	Ensure existing critical facilities and emergency shelters are better able to withstand the forces of a hazard.
Goal 4: Emergency Services	
Objective 4.1	Immediate actions taken in response to a hazard event can minimize the impact of hazard incidents on people and property.
Goal 5: Reduce the potential effects of flooding on homes and buildings in the Town of Perry	
Objective 5.1	Continue the implementation of zoning codes. Enforced by County
Objective 5.2	Study flood areas to implement needed changes in development and storm drainage.

Goal 6: Ensure protection and emergency shelters	
Objective 6.1	Shelters must be identified to provide protection to the public.
Objective 6.2	Identify buildings approved for occupancy during natural hazards.
Objective 6.3	The number of shelters should be adequate and safe for the amount of people that may potentially need them.

Figure 56: Town of Perry Hazard Mitigation Goals and Objectives

3.17 Town of Perry Mitigation Actions

The Task Force Committee reviewed and analyzed the Town of Perry's mitigation actions in Figure 57 as part of the update process.

Mitigation actions include programs, plans, projects, or policies that help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force Committee identified and analyzed a comprehensive range of hazard-specific mitigation actions with particular emphasis on actions that affect new and existing buildings and infrastructure within the Town of Perry, and also the protection of the citizens.

Identification

The Task Force Committee identified both existing and potential mitigation actions within their respective agencies that have the following criteria:

- Reduce or eliminate the long-term risk to human life and property from at least one of the eight natural hazards identified in the Risk Assessment Section
- Fall under one or more of the six FEMA mitigation action categories
- Achieve one or more of the hazard mitigation goals and objectives

Mitigation Action Categories

FEMA organizes mitigation actions into six broad categories. These categories allow similar types of mitigation actions to be compared, and provides a standardized method for eliminating unsuitable actions. All mitigation actions identified in this strategy fall within one of the FEMA mitigation action categories below:

1. **Prevention:** Government administrative or regulatory actions or processes that influence the way land buildings are developed and built. These actions also include public activities that reduce hazard losses. Examples from this strategy include building and construction code revisions, zoning regulation changes, and computer-hazard modeling.

2. **Property Protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples from this strategy include seismic retrofits, roadway elevations, and floodproofing.

3. **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Examples from this strategy include programs that target severe repetitive loss properties and vulnerable populations.

4. **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses,

also preserve or restore the functions of natural systems. Examples from this strategy include projects creating open space or wetlands.

5. **Emergency Services:** Actions that protect people and property during and immediately after a disaster or hazard event. Examples from this strategy include enhancements that provide advanced warning and redundant communications.

6. **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Examples from this strategy include projects that control floodwater, reconstruct dams and seawalls, and construct green roofs.

Summary of Mitigation Actions

The final list of the Town of Perry's mitigation actions is in the figure below. Many of the actions protect public health and safety, promote a sustainable economy, protect the environment, and increase public preparedness for disasters. The mitigation actions are the town's programs, plans, projects, or policies that the town may implement to help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force identified, analyzed, and prioritized all actions.

Since the last update, County land regulations, zoning and building codes continue to be enforced. There has been very little change regarding housing, population and development that would impact Perry's vulnerability.

Status on Strategies

After reevaluating and reviewing the mitigation actions for the plan update, it was evident that none of the previous strategies for the Town of Perry were implemented due to the lack of funding sources. Note some mitigation actions identified in the plan update may not ultimately be implemented due to prohibitive costs, scale, low benefit/cost analysis rations, or other concerns

Town of Perry Hazard Mitigation Actions											
Mitigation Action and Description	**Agency**	**Hazard(s)**	**Timeframe**	**Estimated Project Cost**	**Possible Funding Source(s)**	**FEMA Category**	**Goals and Objectives**	**Prioritization**	**Implementation Status**	**Implementation Schedule**	**Milestones Achieved, Impediments to Implementation**
Develop a continuing communications and education program including instructional web-site, pamphlets, information packets and articles in the local media.	County/Emergency Management	ALL	Immediate	N/A	PDM, HMGP	Public Education and Awareness	2.1, 2.2, 2.3	High	Depending on funding	Ongoing	Open with Work being done
Continue the implementation of zoning codes and building codes to ensure no new structures are built within the floodplains.	Aiken County Building and Zoning	Flood	*Ongoing	N/A	N/A	Prevention	5.1,5.2	Medium	Continuous	Currently in place	Continuous process requiring enforcement
Establishment and identification of emergency shelters during times of natural hazards.	County/Emergency Management	ALL	Immediate	N/A	N/A	Emergency Services/ Property Protection	1.2, 2.3, 6.1, 6.2, 6.3	Medium	Completed	Currently in place / ongoing	Identified and ongoing
Identify flood prone areas and determine appropriate improvements to drainage services and levels of flood protection.	Emergency Management/ SCDNR	Flood	*Ongoing	N/A	Federal and State Grants	Property Protection	2.1, 2.2, 5.2	Low	Depending on funding	5 years	Identify funding source
Notification of the public in cases of emergency.	County/Emergency Management	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/ Public Education and Awareness	1.1, 2.3, 4.1	High	Currently in place	Currently in place/ongoing	Continuous process during hazard events
Retrofit Critical Facilities *See Aiken County Critical Infrastructure Protection Plan	Emergency Management	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/Property Protection	1.1,1.3,2.3,3.1,3.3,3.4,3.5, 4.1,6.1,6.2	High	Depending on funding	3 Years	Depending on funding

Figure 57: Town of Perry Hazard Mitigation Actions *Ongoing is defined as continuing without termination or interruption

3.18 Town of Salley Goals and Objectives

The Task Force Committee reviewed and analyzed the Town of Salley's goals and objectives and revised as part of the update process.

Developing Goals and Objectives

The first step in developing a hazard mitigation strategy is to establish goals and objectives that aim to reduce or eliminate the Town of Salley's long-term vulnerability to natural hazard events. Mitigation goals are general guidelines explaining what the Town wants to achieve in terms of hazard and loss prevention. Objectives are specific, measurable strategies or implementation steps used to achieve the identified goals. Developing clear goals and objectives helped reinforce Salley's overall purpose and mission for undertaking a mitigation planning process.

The goals and objectives set forth below provide the necessary framework to develop a mitigation strategy. The Town of Salley will re-evaluate its hazard mitigation goals and objectives each plan maintenance cycle to ensure they continue to represent the hazard mitigation priorities.

Hazard Mitigation Goals and Objectives	
Goal 1: Protect public health and safety	
Objective 1.1	Improve systems that provide warning and emergency communications.
Objective 1.2	Reduce the impacts of hazards on vulnerable populations.
Goal 2: Increase public preparedness and awareness for natural disasters	
Objective 2.1	Enhance understanding of natural hazards and the risks they pose.
Objective 2.2	Improve hazard information, including databases, maps, articles in local media, instructional web site, pamphlets, information packets, etc.
Objective 2.3	Improve public knowledge of hazards and protective measures allowing individuals to appropriately prepare for and respond to hazard events.
Goal 3: Protect property	
Objective 3.1	Implement mitigation programs that protect critical facilities and services, and promote reliability of lifeline systems to minimize impacts from hazards, maintain operations, and expedite recovery in an emergency.
Objective 3.2	Consider known hazards when identifying a site for new facilities and systems.
Objective 3.3	Adopt and enforce public policies to minimize hazard impacts on buildings, infrastructure, and neighborhoods and enhance safe construction in high hazard areas.
Objective 3.4	Integrate new hazard and risk information into building codes and land use planning mechanisms.
Objective 3.5	Ensure existing critical facilities and emergency shelters are better able to withstand the forces of a hazard.
Goal 4: Emergency Services	
Objective 4.1	Immediate actions taken in response to a hazard event can minimize the impact of hazard incidents on people and property.
Goal 5: Reduce the potential effects of flooding on homes and buildings in the Town of Salley	
Objective 5.1	Continue the implementation of zoning codes. Enforced by County.
Objective 5.2	Study flood areas to implement needed changes in development and storm drainage.

Goal 6: Ensure protection and emergency shelters	
Objective 6.1	Shelters must be identified to provide protection to the public.
Objective 6.2	Identify buildings approved for occupancy during natural hazards.
Objective 6.3	The number of shelters should be adequate and safe for the amount of people that may potentially need them.

Figure 58: Town of Salley Hazard Mitigation Goals and Objectives

3.19 Town of Salley Mitigation Actions

The Task Force Committee reviewed and analyzed the Town of Salley's mitigation actions in Figure 59 as part of the update process.

Mitigation actions include programs, plans, projects, or policies that help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force Committee identified and analyzed a comprehensive range of hazard-specific mitigation actions with particular emphasis on actions that affect new and existing buildings and infrastructure within the Town of Salley, and also the protection of the citizens.

Identification

The Task Force Committee identified both existing and potential mitigation actions within their respective agencies that have the following criteria:

- Reduce or eliminate the long-term risk to human life and property from at least one of the eight natural hazards identified in the Risk Assessment Section
- Fall under one or more of the six FEMA mitigation action categories
- Achieve one or more of the hazard mitigation goals and objectives

Mitigation Action Categories

FEMA organizes mitigation actions into six broad categories. These categories allow similar types of mitigation actions to be compared, and provides a standardized method for eliminating unsuitable actions. All mitigation actions identified in this strategy fall within one of the FEMA mitigation action categories below:

1. **Prevention:** Government administrative or regulatory actions or processes that influence the way land buildings are developed and built. These actions also include public activities that reduce hazard losses. Examples from this strategy include building and construction code revisions, zoning regulation changes, and computer-hazard modeling.

2. **Property Protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples from this strategy include seismic retrofits, roadway elevations, and floodproofing.

3. **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Examples from this strategy include programs that target severe repetitive loss properties and vulnerable populations.

4. **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses,

also preserve or restore the functions of natural systems. Examples from this strategy include projects creating open space or wetlands.

5. **Emergency Services:** Actions that protect people and property during and immediately after a disaster or hazard event. Examples from this strategy include enhancements that provide advanced warning and redundant communications.

6. **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Examples from this strategy include projects that control floodwater, reconstruct dams and seawalls, and construct green roofs.

Summary of Mitigation Actions

The final list of the Town of Salley's mitigation actions is in the figure below. Many of the actions protect public health and safety, promote a sustainable economy, protect the environment, and increase public preparedness for disasters. The mitigation actions are the town's programs, plans, projects, or policies that the town may implement to help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force identified, analyzed, and prioritized all actions.

Since the last update, County land regulations, zoning and building codes continue to be enforced. There has been very little change regarding housing, population and development that would impact Salley's vulnerability.

Status on Strategies

After reevaluating and reviewing the mitigation actions for the plan update, it was evident that none of the previous strategies for the Town of Salley were implemented due to the lack of funding sources. Note some mitigation actions identified in the plan update may not ultimately be implemented due to prohibitive costs, scale, low benefit/cost analysis rations, or other concerns

Town of Salley Hazard Mitigation Actions											
Mitigation Action and Description	**Agency**	**Hazard**	**Timeframe**	**Estimated Project Cost**	**Possible Funding Source**	**FEMA Category**	**Goals and Objectives**	**Prioritization**	**Implementation Status**	**Implementation Schedule**	**Milestones Achieved, Impediments to Implementation**
Develop a continuing communications and education program including instructional web-site, pamphlets, information packets and articles in the local media.	County/Emergency Management	ALL	Immediate	N/A	PDM, HMGP	Public Education and Awareness	2.1, 2.2, 2.3	High	Depending on funding	Ongoing	Open with Work being done
Continue the implementation of zoning codes and building codes to ensure no new structures are built within the floodplains.	Aiken County Building and Zoning	Flood	*Ongoing	N/A	N/A	Prevention	5.1,5.2	Medium	Completed	Currently in place	Continuous process requiring enforcement
Establishment and identification of emergency shelters during times of natural hazards.	County/Emergency Management	ALL	Immediate	N/A	N/A	Emergency Services/ Property Protection	1.2, 2.3, 6.1, 6.2, 6.3	Medium	Completed	Currently in place/ongoing	Identified and ongoing
Identify flood prone areas and determine appropriate improvements to drainage services and levels of flood protection.	Emergency Management/ SCDNR	Flood	*Ongoing	N/A	Federal and State Grants	Property Protection	2.1, 2.2, 5.2	Low	Depending on funding	5 years	Identify funding source
Notification of the public in cases of emergency.	County/Emergency Management	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/ Public Education and Awareness	1.1, 2.3, 4.1	High	Currently in place	Currently in place/ongoing	Continuous process during hazard events
Retrofit Critical Facilities	Emergency Management	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/ Property Protection	1.1,1.3,2.3,3.1,3.3,3.4,3.5, 4.1,6.1,6.2	High	Depending on funding	3 Years	Depending on funding

*See Aiken County Critical Infrastructure Protection Plan											

Figure 59: Town of Salley Hazard Mitigation Actions

*Ongoing is defined as continuing without termination or interruption

3.20 Town of Wagener Goals and Objectives

The Task Force Committee reviewed and analyzed the Town of Wagener's goals and objectives and revised as part of the update process.

Developing Goals and Objectives

The first step in developing a hazard mitigation strategy is to establish goals and objectives that aim to reduce or eliminate the Town of Wagener's long-term vulnerability to natural hazard events. Mitigation goals are general guidelines explaining what the Town wants to achieve in terms of hazard and loss prevention. Objectives are specific, measurable strategies or implementation steps used to achieve the identified goals. Developing clear goals and objectives helped reinforce Wagener's overall purpose and mission for undertaking a mitigation planning process.

The goals and objectives set forth below provide the necessary framework to develop a mitigation strategy. The Town of Wagener will re-evaluate its hazard mitigation goals and objectives each plan maintenance cycle to ensure they continue to represent the hazard mitigation priorities.

Hazard Mitigation Goals and Objectives	
Goal 1: Protect public health and safety	
Objective 1.1	Improve systems that provide warning and emergency communications.
Objective 1.2	Reduce the impacts of hazards on vulnerable populations.
Goal 2: Increase public preparedness and awareness for natural disasters	
Objective 2.1	Enhance understanding of natural hazards and the risks they pose.
Objective 2.2	Improve hazard information, including databases, maps, articles in local media, instructional web site, pamphlets, information packets, etc.
Objective 2.3	Improve public knowledge of hazards and protective measures allowing individuals to appropriately prepare for and respond to hazard events.
Goal 3: Protect property	
Objective 3.1	Implement mitigation programs that protect critical facilities and services, and promote reliability of lifeline systems to minimize impacts from hazards, maintain operations, and expedite recovery in an emergency.
Objective 3.2	Consider known hazards when identifying a site for new facilities and systems.
Objective 3.3	Adopt and enforce public policies to minimize hazard impacts on buildings, infrastructure, and neighborhoods and enhance safe construction in high hazard areas.
Objective 3.4	Integrate new hazard and risk information into building codes and land use planning mechanisms.
Objective 3.5	Ensure existing critical facilities and emergency shelters are better able to withstand the forces of a hazard.
Goal 4: Emergency Services	
Objective 4.1	Immediate actions taken in response to a hazard event can minimize the impact of hazard incidents on people and property.
Goal 5: Reduce the potential effects of flooding on homes and buildings in the Town of Wagener	
Objective 5.1	Continue the implementation of zoning codes. Enforced by County.
Objective 5.2	Study flood areas to implement needed changes in development and storm drainage.

Goal 6: Ensure protection and emergency shelters	
Objective 6.1	Shelters must be identified to provide protection to the public.
Objective 6.2	Identify buildings approved for occupancy during natural hazards.
Objective 6.3	The number of shelters should be adequate and safe for the amount of people that may potentially need them.

Figure 60: Town of Wagener Hazard Mitigation Goals and Objectives

3.21 Town of Wagener Mitigation Actions

The Task Force Committee reviewed and analyzed the Town of Wagener's mitigation actions in Figure 61 as part of the update process.

Mitigation actions include programs, plans, projects, or policies that help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force Committee identified and analyzed a comprehensive range of hazard-specific mitigation actions with particular emphasis on actions that affect new and existing buildings and infrastructure within the Town of Wagener, and also the protection of the citizens.

Identification

The Task Force Committee identified both existing and potential mitigation actions within their respective agencies that have the following criteria:

- Reduce or eliminate the long-term risk to human life and property from at least one of the eight natural hazards identified in the Risk Assessment Section
- Fall under one or more of the six FEMA mitigation action categories
- Achieve one or more of the hazard mitigation goals and objectives

Mitigation Action Categories

FEMA organizes mitigation actions into six broad categories. These categories allow similar types of mitigation actions to be compared, and provides a standardized method for eliminating unsuitable actions. All mitigation actions identified in this strategy fall within one of the FEMA mitigation action categories below:

1. **Prevention:** Government administrative or regulatory actions or processes that influence the way land buildings are developed and built. These actions also include public activities that reduce hazard losses. Examples from this strategy include building and construction code revisions, zoning regulation changes, and computer-hazard modeling.

2. **Property Protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples from this strategy include seismic retrofits, roadway elevations, and floodproofing.

3. **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Examples from this strategy include programs that target severe repetitive loss properties and vulnerable populations.

4. **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses,

also preserve or restore the functions of natural systems. Examples from this strategy include projects creating open space or wetlands.

5. **Emergency Services:** Actions that protect people and property during and immediately after a disaster or hazard event. Examples from this strategy include enhancements that provide advanced warning and redundant communications.

6. **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Examples from this strategy include projects that control floodwater, reconstruct dams and seawalls, and construct green roofs.

Summary of Mitigation Actions

The final list of the Town of Wagener's mitigation actions is in the figure below. Many of the actions protect public health and safety, promote a sustainable economy, protect the environment, and increase public preparedness for disasters. The mitigation actions are the town's programs, plans, projects, or policies that the town may implement to help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force identified, analyzed, and prioritized all actions.

Since the last update, County land regulations, zoning and building codes continue to be enforced. There has been very little change regarding housing, population and development that would impact Wagener's vulnerability.

Status on Strategies

After reevaluating and reviewing the mitigation actions for the plan update, it was evident that none of the previous strategies for the Town of Wagener were implemented due to the lack of funding sources. Note some mitigation actions identified in the plan update may not ultimately be implemented due to prohibitive costs, scale, low benefit/cost analysis rations, or other concerns

Town of Wagener Hazard Mitigation Actions											
Mitigation Action and Description	**Agency**	**Hazard**	**Time-frame**	**Estimated Project Cost**	**Possible Funding Source(s)**	**FEMA Category**	**Goals and Objectives**	**Prioritization**	**Implemen-tation Status**	**Implemen-tation Schedule**	**Milestones Achieved, Impediments to Implementation**
Develop a continuing communications and education program including instructional web-site, pamphlets, information packets and articles in the local media.	County/Emergency Management	ALL	Immediate	N/A	PDM, HMGP	Public Education and Awareness	2.1, 2.2, 2.3	High	Depending on funding	Ongoing	Open with Work being done
Continue the implementation of zoning codes and building codes to ensure no new structures are built within the floodplains.	Aiken County Building and Zoning	Flood	*Ongoing	N/A	N/A	Prevention	5.1,5.2	Medium	Completed	Currently in place	Continuous process requiring enforcement
Establishment and identification of emergency shelters during times	County/Emergency Management	ALL	Immediate	N/A	N/A	Emergency Services/ Property Protection	1.2, 2.3, 6.1, 6.2, 6.3	Medium	Completed	Currently in place/ ongoing	Completed at this date

of natural hazards.											
Identify flood prone areas and determine appropriate improvements to drainage services and levels of flood protection.	Emergency Management / SCDNR	Flood	*Ongoing	N/A	Federal and State Grants	Property Protection	2.1, 2.2, 5.2	Low	Depending on funding	5 years	Identify funding source
Notification of the public in cases of emergency.	County/Emergency Management	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/ Public Education and Awareness	1.1, 2.3, 4.1	High	Currently in place	Completed	Continuous process during hazard events
Retrofit Critical Facilities *See Aiken County Critical Infrastructure Protection Plan	Emergency Management	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/Property Protection	1.1,1.3,2.3, 3.1,3.3,3.4, 3.5,4.1,6.1, 6.2	High	Depending on funding	3 Years	New identified action

Figure 61: Town of Wagener Hazard Mitigation Actions

*Ongoing is defined as continuing without termination or interruption

3.22 Town of Windsor Goals and Objectives

The Task Force Committee reviewed and analyzed the Town of Windsor's goals and objectives as part of the update process.

Developing Goals and Objectives

The first step in developing a hazard mitigation strategy is to establish goals and objectives that aim to reduce or eliminate the Town of Windsor's long-term vulnerability to natural hazard events. Mitigation goals are general guidelines explaining what the Town wants to achieve in terms of hazard and loss prevention. Objectives are specific, measurable strategies or implementation steps used to achieve the identified goals. Developing clear goals and objectives helped reinforce Windsor's overall purpose and mission for undertaking a mitigation planning process.

The goals and objectives set forth below provide the necessary framework to develop a mitigation strategy. The Town of Windsor will re-evaluate its hazard mitigation goals and objectives each plan maintenance cycle to ensure they continue to represent the hazard mitigation priorities.

Hazard Mitigation Goals and Objectives	
Goal 1: Protect public health and safety	
Objective 1.1	Improve systems that provide warning and emergency communications.
Objective 1.2	Reduce the impacts of hazards on vulnerable populations.
Goal 2: Increase public preparedness and awareness for natural disasters	
Objective 2.1	Enhance understanding of natural hazards and the risks they pose.
Objective 2.2	Improve hazard information, including databases, maps, articles in local media, instructional web site, pamphlets, information packets, etc.
Objective 2.3	Improve public knowledge of hazards and protective measures allowing individuals to appropriately prepare for and respond to hazard events.
Goal 3: Protect property	
Objective 3.1	Implement mitigation programs that protect critical facilities and services, and promote reliability of lifeline systems to minimize impacts from hazards, maintain operations, and expedite recovery in an emergency.
Objective 3.2	Consider known hazards when identifying a site for new facilities and systems.
Objective 3.3	Adopt and enforce public policies to minimize hazard impacts on buildings, infrastructure, and neighborhoods and enhance safe construction in high hazard areas.
Objective 3.4	Integrate new hazard and risk information into building codes and land use planning mechanisms.
Objective 3.5	Ensure existing critical facilities and emergency shelters are better able to withstand the forces of a hazard.
Goal 4: Emergency Services	
Objective 4.1	Immediate actions taken in response to a hazard event can minimize the impact of hazard incidents on people and property.
Goal 5: Reduce the potential effects of flooding on homes and buildings in the Town of Windsor	
Objective 5.1	Continue the implementation of zoning codes, to be enforced by the County.
Objective 5.2	Study flood areas to implement needed changes in development and storm drainage.

Goal 6: Ensure protection and emergency shelters	
Objective 6.1	Shelters must be identified to provide protection to the public.
Objective 6.2	Identify buildings approved for occupancy during natural hazards.
Objective 6.3	The number of shelters should be adequate and safe for the amount of people that may potentially need them.

Figure 62: Town of Windsor Hazard Mitigation Goals and Objectives

3.23 Town of Windsor Mitigation Actions

The Task Force Committee reviewed and analyzed the Town of Windsor's mitigation actions in Figure 63 as part of the update process.

Mitigation actions include programs, plans, projects, or policies that help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force Committee identified and analyzed a comprehensive range of hazard-specific mitigation actions with particular emphasis on actions that affect new and existing buildings and infrastructure within the Town of Windsor, and also the protection of the citizens.

Identification

The Task Force Committee identified both existing and potential mitigation actions within their respective agencies that have the following criteria:

- Reduce or eliminate the long-term risk to human life and property from at least one of the eight natural hazards identified in the Risk Assessment Section
- Fall under one or more of the six FEMA mitigation action categories
- Achieve one or more of the hazard mitigation goals and objectives

Mitigation Action Categories

FEMA organizes mitigation actions into six broad categories. These categories allow similar types of mitigation actions to be compared, and provides a standardized method for eliminating unsuitable actions. All mitigation actions identified in this strategy fall within one of the FEMA mitigation action categories below:

1. **Prevention:** Government administrative or regulatory actions or processes that influence the way land buildings are developed and built. These actions also include public activities that reduce hazard losses. Examples from this strategy include building and construction code revisions, zoning regulation changes, and computer-hazard modeling.

2. **Property Protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples from this strategy include seismic retrofits, roadway elevations, and floodproofing.

3. **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Examples from this strategy include programs that target severe repetitive loss properties and vulnerable populations.

4. **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses,

also preserve or restore the functions of natural systems. Examples from this strategy include projects creating open space or wetlands.

5. **Emergency Services:** Actions that protect people and property during and immediately after a disaster or hazard event. Examples from this strategy include enhancements that provide advanced warning and redundant communications.

6. **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Examples from this strategy include projects that control floodwater, reconstruct dams and seawalls, and construct green roofs.

Summary of Mitigation Actions

The final list of the Town of Windsor's mitigation actions is in the figure below. Many of the actions protect public health and safety, promote a sustainable economy, protect the environment, and increase public preparedness for disasters. The mitigation actions are the town's programs, plans, projects, or policies that the town may implement to help reduce or eliminate the long-term risk to human life and property from natural hazards. The Task Force identified, analyzed, and prioritized all actions.

Since the last update, County land regulations, zoning and building codes continue to be enforced. There has been very little change regarding housing, population and development that would impact Windsor's vulnerability.

Status on Strategies

Note some mitigation actions identified in the plan update may not ultimately be implemented due to prohibitive costs, scale, low benefit/cost analysis rations, or other concerns

The Town of Windsor did not participate in the original HMP process. The following mitigation actions are new and have been identified for this update, as the Town of Windsor is now a participating municipality in Aiken County's HMP. Note some mitigation actions identified in the plan update may not ultimately be implemented due to prohibitive costs, scale, low benefit/cost analysis rations, or other concerns

Town of Windsor Hazard Mitigation Actions											
Mitigation Action and Description	**Agency**	**Hazard**	**Timeframe**	**Estimated Project Cost**	**Possible Funding Source**	**FEMA Category**	**Goals and Objectives**	**Prioritization**	**Implementation Status**	**Implementation Schedule**	**Milestones Achieved, Impediments to Implementation**
Develop a continuing communications and education program including instructional web-site, pamphlets, information packets and articles in the local media.	County/Emergency Management	ALL	Immediate	N/A	PDM, HMGP	Public Education and Awareness	2.1, 2.2, 2.3	High	Depending on funding	Ongoing	Open with Work being done
Continue the implementation of zoning codes and building codes to ensure no new structures are built within the floodplains.	Aiken County Building and Zoning	Flood	*Ongoing	N/A	N/A	Prevention	5.1,5.2	Medium	Completed	Currently in place	Continuous process requiring enforcement
Establishment and identification of emergency shelters during times of natural hazards.	County/Emergency Management	ALL	Immediate	N/A	N/A	Emergency Services/ Property Protection	1.2, 2.3, 6.1, 6.2, 6.3	Medium	Completed	Currently in place/ongoing	Identified and ongoing
Identify flood prone areas and determine appropriate improvements to drainage services and levels of flood protection.	Emergency Management/ SCDNR	Flood	*Ongoing	N/A	Federal and State Grants	Property Protection	2.1, 2.2, 5.2	Low	Depending on funding	5 years	Identify funding source
Notification of the public in cases of emergency.	County/Emergency Management	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/ Public Education and Awareness	1.1, 2.3, 4.1	High	Currently in place	Completed/ongoing	Continuous process during hazard events

Retrofit Critical Facilities *See Aiken County Critical Infrastructure Protection Plan	Emergency Management	ALL	*Ongoing	N/A	PDM/HMGP	Emergency Services/Property Protection	1.1,1.3,2.3,3.1,3.3,3.4,3.5,4.1,6.1,6.2	High	Depending on funding	3 Years	New identified action

Figure 63: Town of Windsor Hazard Mitigation Actions

*Ongoing is defined as continuing without termination or interruption

Part Four:
Plan Maintenance

4.1 Plan Maintenance and Update

As part of the update process, the Task Force Committee reviewed and analyzed this section. Other than dates for the update schedule, this section remains largely unchanged.

The Plan Maintenance section of Aiken County's Natural Hazard Mitigation Plan (HMP) describes the formal process that will ensure the Plan remains an effective and relevant document. This section establishes the method and schedule for monitoring, evaluating, and updating the HMP during a five-year plan-update cycle. It also established how Aiken County will maintain community involvement in the Plan.

Plan Maintenance Approach

- Incorporate hazard mitigation actions into existing planning mechanisms
- Determine how mitigation projects and actions will be monitored
- Establish indicators of effectiveness or success
- Develop an evaluation and revision schedule to ensure the Plan is up-to-date at the end of the five-year cycle
- Establish a process for public input and community involvement during the planning cycle

FEMA Requirements Addressed

The Task Force Committee created a plan maintenance strategy consistent with the process and steps presented in the FEMA How-To-Guide: Bringing the Plan to Life (FEMA 386-4). The following FEMA requirements are addressed in this section:

- **Requirement §201.6(c)(4)(i):** The plan maintenance process ***shall*** include a section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.
- **Requirement §201.6(c)(4)(ii):** The plan ***shall*** include a process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, where appropriate.
- **Requirement §201.6(c)(4)(iii):** The plan maintenance process ***shall*** include a discussion on how the community will continue public participation in the plan maintenance process.

Monitoring

Aiken County will monitor the implementation of mitigation actions identified in the Plan. During the five-year planning cycle, the following initiatives will be undertaken.

- Collect reports from the agencies involved in implementing mitigation projects or activities identified in the Mitigation Strategy section of this Plan
- Maintain and update the mitigation action table

- Conduct site visits and obtain reports of completed or initiated mitigation actions to incorporate in the plan revision as needed
- Research and document new natural disaster information pertaining to Aiken County and its incorporated municipalities during the planning cycle and incorporate into a revised Risk Assessment section as needed
- Organize meetings on an as needed basis with the Task Force Committee to discuss relevant hazard mitigation issues, provide status updates, and discuss available grant opportunities
- Coordinate, compile, and disseminate hazard mitigation funding information and applications
- Convene a meeting of the Task Force Committee following a natural disaster or when funding is announced to prioritize and submit potential mitigation actions for funding

The above activities outline plan maintenance during the four years leading up to the fifth year of the planning cycle. The Task Force Committee will be responsible for compiling, documenting, and incorporating all changes derived from the activities listed above into a revised plan document.

Evaluation

The Aiken County HMP will be evaluated on an as needed basis to determine the effectiveness of its projects, programs, and policies. The Task Force Committee will be responsible for scheduling and organizing the meetings, collecting, analyzing and incorporating reports, and providing revised drafts. The Task Force Committee members will assess the current version of the Plan and determine the improvements necessary for the plan update.

A thorough examination of the Plan will take place during the fifth year of the process to ensure Aiken County has an updated HMP at the end of the planning cycle. The Task Force Committee will review the goals and action items to determine their relevance to changing situations in the County and incorporated municipalities, as well as changes in State or Federal policy, and to ensure they are addressing current and expected conditions. The Committee will look at any changes in County resources that may influence the plan implementation (such as funding) and program changes to determine need for reassignment. The Committee will also review all portions of the Plan to determine if this information should be updated or modified, given any new available data. The Committee will evaluate the content of the Plan using the following criteria:

- Are the mitigation actions effective?
- Are there any changes in land development that affect mitigation priorities?
- Are the goals, objectives, and mitigation actions relevant given any changes in the County?
- Are the goals, objectives, and mitigation actions relevant given any changes to State or Federal regulations or policy?
- Is there any new data that affects the Risk Assessment portion of the Plan?

Update

The Task Force Committee will update the HMP every five years to reflect the results of the reports and on-going plan evaluation. Throughout the planning cycle, the Committee will compile new information and incorporate it into the Plan. The Committee will also assess and incorporate recommended comments expressed by FEMA in the initial review into the plan revision. At the end of the planning cycle, the Committee will submit the updated Plan to the State Emergency Management Office (SCEMD) and FEMA for review. After FEMA has approved the Aiken County HMP, the County and its incorporated municipalities will formally adopt the Plan. The following figure is an outline of how the Plan will be updated after the 2021 FEMA approval.

Plan Update Schedule		
Timeframe	**Participants**	**Outcome**
First quarter 2022	Task Force Committee	Discuss mitigation action progress and possible plan improvements
Fourth quarter 2022	Task Force Committee	Reconvene to discuss mitigation action progress and plan improvements
First quarter 2023	Aiken County	Apply for plan update grant funding
First quarter 2024	Task Force Committee	Reconvene and begin plan update
Second quarter 2025	Task Force Committee, SCEMD	Submit draft plan update to SCEMD for review and comments
Fourth quarter 2025	FEMA, Task Force Committee, SCEMD	Submit plan to FEMA for final approval
First quarter 2026	Aiken County, participating municipalities	Re-adopt the FEMA-approved HMP

Figure 64: Plan Update Schedule

Incorporation into Existing Planning Mechanisms

As part of the local capability assessment conducted during the planning process, the Task Force Committee identified current plans, programs, policies/ordinances, and studies/reports that will augment or help support mitigation planning efforts. The Committee, which will meet on an as needed basis, will be the mechanism for ensuring the County and the participating municipalities integrates hazard mitigation into their future planning activities. Following the HMP approval and adoption, the Committee will work to incorporate, where applicable, the HMP into the planning mechanisms identified under Section 2.4: Community Mitigation Capability Assessment. Incorporating the hazard mitigation strategies into these identified planning mechanisms is a fairly simple process. For example, the comprehensive plans include natural resources, land usage, and community facilities information that could easily include hazard mitigation elements into the plan.

To demonstrate the seriousness about planning for the safety, security, and vitality of its people, Aiken County and its participating jurisdictions will take various steps to successfully incorporate hazard mitigation planning into its comprehensive planning, programming and operational systems. A comprehensive plan can easily include hazard mitigation and recovery in the goals and objectives. Functional plans (i.e. Watershed Management Plans, Long Range Plans, Market and Targeted Industry

Plans, Parks and Recreation Plans, Solid Waste Plans, etc.) can incorporate and support hazard mitigation planning by including risk as a performance measure when defining and evaluating alternatives and policy recommendations. A Capital Improvement Program (CIP) can integrate hazard mitigation strategies. The Zoning Ordinance incorporates standards that promote the health, safety, and welfare of the public and property owner. A Zoning Ordinance easily allows for the hazard mitigation strategies to be included as part of the land use regulations, development standards, regulation of stormwater runoff, etc. Building Codes ensure that construction is safe and sustainable at its completion. Uniform building codes create a foundation for emergency responders to base operations on. Eliminating unsafe, blighted, or vacant buildings prevents hazards such as fires or criminal activity. Hazard mitigation strategies can be incorporated into Building Codes. The County and participating municipalities will exude every possible measure to ensure that the local governments incorporates hazard mitigation strategies and planning within the existing planning and programming documents as mentioned above.

Throughout the plan maintenance cycle, the Committee will work to integrate hazard mitigation goals and actions into the general operations of Aiken County agencies and the participating municipalities. The Committee will work with agencies to identify opportunities as outlined below:

- Update work plans, policies, or procedures to include hazard mitigation concepts
- Establish mitigation funding within capital and operational budgets
- Issue plans, policies, executive orders, regulations, or other directives to carry out mitigation actions
- Add hazard mitigation elements to all applicable plans

Continued Public Involvement

Aiken County is dedicated to continued public involvement in the hazard mitigation planning and review process. During all phases of plan maintenance, the public will have the opportunity to provide feedback. The 2021 Plan will be maintained and available for review through 2025. Individuals will have an opportunity to submit comments for the Plan update at any time. The Task Force Committee will compile all comments and present them at the meetings where members will consider them for incorporation into the revision. To help publicize the revised plan, a notice will be posted requesting feedback on an updated draft HMP. The Committee will hold community involvement meetings as determined, with representatives from various agencies, to be held at the County governmental facilities or other designated area and/or format (in-person, call-in or virtual format).


Part Five:
Plan Adoption

5.1 Overview

Formal plan adoption is a required part of the planning process and demonstrates Aiken County, the City of Aiken, Town of Burnettown, Town of Jackson, and Town of Monetta, Town of New Ellenton, City of North Augusta, Town of Perry, Town of Salley, Town of Wagener, and Town of Windsor's commitment to fulfilling the mitigation goals and objectives outlined in the Plan. In addition to fulfilling the requirements of the Disaster Mitigation Act of 2000, the County Council and City/Town Council adoption of the Hazard Mitigation Plan (HMP) will establish the Plan as a policy for Aiken County and the participating municipalities, which will define the actions the various agencies should take to comply with or implement the HMP.

Following a formal plan review by the Federal Emergency Management Agency (FEMA) and the South Carolina Emergency Management Division (SCEMD), FEMA will issue an "Approval Pending Adoption" to Aiken County. Upon review and approval of the HMP, Aiken County Council, Aiken City Council, Burnettown Town Council, Jackson Town Council, Monetta Town Council, New Ellenton Town Council, North Augusta City Council, Perry Town Council, Salley Town Council, Wagener Town Council, and Windsor Town Council will then formally adopt the HMP.

Plan Adoption Process

- Obtain "Approval Pending Adoption" status from FEMA
- Draft an adoption resolution or an ordinance to meet plan requirements and demonstrate Aiken County's, Aiken's, Burnettown's, Jackson's, Monetta's, New Ellenton's, North Augusta's, Perry's, Salley's, Wagener's, and Windsor's commitment to protect its residents and built environment from the effects of natural hazards
- Adopt HMP

FEMA Requirements Addressed

Aiken County and the Task Force Committee created a plan adoption strategy consistent with the process steps presented in FEMA's How-To-Guide: Bringing the Plan to Life (FEMA 386-4). This section satisfies the following FEMA requirement:

- **Requirement §201.6(c)(5):** The local hazard mitigation plan ***shall*** include documentation that the plan had been formally adopted by the governing body of the jurisdiction requesting approval of the plan.

5.2 Adoption Resolution/Ordinance

RESOLUTION TO BE INSERTED UPON ADOPTION

5.3 SCEMD Approval Letter

SCEMD APPROVAL LETTER TO BE INSERTED

5.4 FEMA Approval Letter

FEMA APPROVAL LETTER TO BE INSERTED

Part Six: Appendices

Appendix A: Acronym List

Acronym List	
Acronym	**Definition**
BCA	Benefic-Cost Analysis
BFE	Base Flood Elevation
BMP	Best Management Practices
DMA 2000	Disaster Mitigation Act of 2000
DOT	Department of Transportation
EF-Scale	Enhanced Fujita Scale
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FMA	Flood Mitigation Assistance
F-Scale	Fujita Scale
Ft	Feet
FTA	Federal Transit Administration
FY	Fiscal Year
GIS	Geographic Information System
HAZUS-MH	Hazards U.S. Multi-Hazard
HMGP	Hazard Mitigation Grant Program
HMP	Hazard Mitigation Plan
MMI	Modified Mercalli Intensity
Mph	Miles Per Hour
N/A	Not Applicable
NFIP	National Flood Insurance Program
NOAA	National Oceanic and Atmospheric Administration
NWS	National Weather Service
PDM	Pre-Disaster Mitigation
SRL	Severe Repetitive Loss
STAPLEE	Social, Technical, Administrative, Political, Legal, Economical, Environmental
TBD	To Be Determined

Appendix B: Glossary

Glossary	
Term	**Definition**
100-Year Flood	The term "100-year flood" can be misleading. The 100-year flood does not necessarily occur once every 100 years. Rather, it is the flood that has a 1 % chance of being equaled or exceeded in any given year. Thus, the 100-year flood could occur more than once in a relatively short period of time. The Federal Emergency Management Agency (FEMA) defines it as the 1 % annual chance flood, which is now the standard definition used by most federal and state agencies and by the National Flood Insurance Program (NFIP).
Agricultural Drought	Links the various characteristics of meteorological drought to agricultural impacts, while focusing on precipitation shortages and soil-water deficits.
Annualized Capital Stock Losses	Long-term average losses in a given year
Base Flood Elevation (BFE)	The water surface elevation of a 100-year flood event (a flood that has a 1 % chance of occurring in any given year as defined by the NFIP). The base flood is a statistical concept used to ensure that all properties
Beaufort Wind Scale	A simplified scale to aid in the estimation of wind speed and corresponding typical effects.
Benefit-Cost Analysis	A systematic, quantitative method of comparing projected benefits to projected costs of a project or policy. It is used as a measure of cost
Capability Assessment	Provides a description and analysis of a community's current capacity to address threats associated with hazards. The assessment includes two components: an inventory of an agency's mission, programs, and policies, and an analysis of its capacity to carry them out. A capability assessment is an integral part of the planning process in which a community's actions to reduce losses are identified, reviewed, and analyzed, and the framework for implementation is identified.
Coastal Storms	Tropical cyclones formed in the atmosphere over warm ocean areas. Wind speeds reach 74 miles per hour or more and blow in a large spiral around a relatively calm center or "eye. Circulation is counterclockwise in the Northern Hemisphere.
Community Rating System	A voluntary program under the NFIP that rewards participating communities (provides incentives) for exceeding the minimum requirements of the NFIP and completing activities that reduce flood hazard risk by providing flood insurance premium discounts.

Cultural Facilities	A critical facility is vital to the City's ability to provide essential services and protect life and property. Loss of a critical facility would result in a severe economic or catastrophic impact.
Dam Failure	An uncontrolled release of impounded water resulting in downstream flooding.
Debris	The scattered remains of assets broken or destroyed during the occurrence of a hazard. Debris caused by wind or water hazards can cause additional damage to other assets.
Disaster Mitigation Act of 2000 (DMA 2000)	The latest federal legislation enacted to encourage and promote proactive, pre-disaster planning as a condition of receiving financial assistance under the Robert T. Stafford Act. The DMA emphasizes planning for disasters before they occur. Under the DMA, a pre-disaster hazard mitigation program and new requirements for the national post-disaster hazard mitigation grant program (HMGP) were established.
Drought	A prolonged period with no rain. Limited winter precipitation accompanied by moderately dry periods during the spring and summer months can also lead to drought conditions.
Earthquakes	The sudden motion or trembling of the ground produced by abrupt displacement of rock masses, usually within the upper 10–20 miles of the earth's surface.
Enhanced Fujita Scale	National Weather Service's revised Fujita-scale, which is a complex, systematic approach to measuring the strength of a tornado.
Federal Emergency Management Agency (FEMA)	An independent federal agency (now part of the Department of Homeland Security) created in 1978 to provide a single point of accountability for all federal activities related to disaster mitigation and emergency preparedness, response, and recovery.
Flash Flooding	Caused by short-term, high-intensity rainfall that occurs in inland areas
Flood Insurance Rate Map (FIRM)	The official map of a community for which FEMA has delineated the special flood hazard area (SFHA) and the risk premium zones applicable to the community.
Floodplain	Any land area that becomes inundated with water during a flood

Floods	A general and temporary condition of partial or complete inundation on normally dry land. Flooding can be categorized as coastal, riverine, or flash.
Fujita Scale (F-Scale)	Standard measurement for rating the strength of a tornado.
Geographic Information Systems (GIS)	A computer software application that relates data regarding physical and other features on the earth to a database for mapping and analysis.
Goal	A general guideline that explains what is to be achieved. Goals are usually broad-based, long-term, policy-type statements and represent global visions. Goals help define the benefits that a plan is trying to

Ground Acceleration	Shaking of the ground resulting from seismic waves caused by an earthquake.
Hailstorms	Shower-like precipitation in the form of irregular pellets, or balls of ice more than five millimeters in diameter, falling from a cumulonimbus
Hazard	A source of potential danger or adverse condition that could harm people and/or cause property damage.
Hazard Mitigation	Reduction or alleviation of the loss of life, personal injury, and property damage that could result from a disaster through long- and short-term strategies. Hazard mitigation involves strategies such as planning, policy changes, programs, projects, and other activities that could mitigate the impacts of hazards.
Hazard Mitigation Grant Program (HMGP)	Authorized under Section 202 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, the HMGP is administered by FEMA and provides grants to states, tribes, and local governments to implement hazard mitigation actions after a major disaster declaration. The purpose of the program is to reduce the loss of life and property due to disasters and to enable mitigation activities to be implemented as a community recovers from a disaster.
Hazard Mitigation Plan (HMP)	A collaborative document that identifies hazards that could affect a community, assesses vulnerability to hazards, and represents consensus decisions reached on how to minimize or eliminate the
Hazards U.S. Multi-Hazard (HAZUS-MH)	A nationally applicable standardized methodology and software program, developed by FEMA, which is under contract with the National Institute of Building Sciences. The program estimates potential losses from earthquakes, hurricane winds, and floods. In HAZUS-MH, current scientific and engineering knowledge is coupled with Geographic Information Systems (GIS) technology to produce estimates of hazard-
Hurricane	A tropical storm with winds that have reached a constant speed of 74
Intensity (earthquakes)	Measures the effects of an earthquake at a particular place and is
Magnitude (earthquakes)	Measurement of the total amount of energy and is expressed in terms of the Richter scale
Mitigation Actions	Specific projects, plans, or policies that achieve goals and objectives that minimize the effects from a disaster and reduce the loss of life and
Mitigation Strategy	A systematic process for analyzing, prioritizing, and implementing the identified mitigation actions in the Hazard Mitigation Plan.
Modified Mercalli Intensity	A scale used for measuring the intensity of an earthquake. The scale quantifies the effects of an earthquake on the Earth's surface, humans, objects of nature, and man-made structures on a scale of I through XII

National Flood Insurance Program (NFIP)	The three components of the NFIP are flood insurance, floodplain management, and flood hazard mapping. Nearly 20,000 communities across the United States and its territories participate in the NFIP by adopting and enforcing floodplain management ordinances to reduce future flood damage. In exchange, the NFIP makes Federally backed flood insurance available to homeowners, renters, and business owners in these communities. Community participation in the NFIP is voluntary
Objective	A short-term aim that, when combined with other objectives, forms a strategy or course of action to meet a goal. Unlike goals, objectives are specific and measurable.
Peak Ground Acceleration (PGA)	Measures the rate of change in motion of the earth's surface and expresses it as a percent of the established rate of acceleration due to
Preparedness	Actions that strengthen the capability of government, citizens, and communities to respond to disasters.
Presidential Disaster Declaration	Typically made for events that cause more damage than state and local governments and resources can handle without federal government assistance. Generally, no specific dollar loss threshold has been established for such declarations. A Presidential Disaster Declaration puts into motion long-term federal recovery programs, some of which are matched by state programs, designed to help disaster victims, businesses, and public entities.

Recovery	Recovery refers to actions taken by an individual or community after a catastrophic event to restore order and community lifelines.
Repetitive Loss Property	Any NFIP-insured property that, since 1978 and regardless of any change(s) of ownership during that period, has experienced any of the following:1) Four or more paid flood losses exceeding $1,000 each 2) Two paid flood losses exceeding $1,000 each within any 10-year period since 1978 3)Three or more paid losses that equal or exceed the current value of the insured property
Richter Scale	A logarithmic scale used to express the total amount of energy released by an earthquake. Its values typically fall between 0 and 9, with each increase of 1 representing a 10-fold increase in energy.
Risk	The estimated impact that a hazard would have on people, services, facilities, and structures in a community. Risk measures the likelihood of a hazard occurring and resulting in an adverse condition that causes injury or damage. Risk is often expressed in relative terms such as a high, moderate, or low hazard. Risk also can be expressed in terms of potential monetary losses associated with the intensity of likelihood of sustaining damage above a particular threshold due to occurrence of a specific type of the hazard.
Risk Assessment	The process of measuring potential loss of life, personal injury, economic injury, and property damage resulting from hazards. This process assesses the vulnerability of people, buildings, and

	infrastructure to hazards and focuses on 1) hazard description 2) severity 3) probability 4) location 5) historic occurrences 6) impact to NYC 7) structural vulnerability and 8) potential loss estimates.
River Flooding	Caused when rivers and streams overflow their banks.
Saffir-Simpson Scale	Use by the National Weather Service, this scale uses wind speed to determine the category strength of a hurricane on a scale of 1 to 5.
STAPLEE	A set of criteria used to examine the Social, Technical, Administrative, Political, Legal, Economic, and Environmental (STAPLEE) opportunities and constraints of implementing a particular mitigation measure using a consistent framework.
Storm Surge	An offshore rise of water associated with a low-pressure weather system, typically a tropical cyclone. Storm surge is caused primarily by high winds pushing on the ocean's surface. The wind causes the water to pile up higher than the ordinary sea level.
Tornadoes	A local atmospheric storm, generally of short duration, formed by winds rotating at very high speeds, usually in a counterclockwise direction. The vortex, up to several hundred yards wide, is visible to the observer as a whirlpool-like column of winds rotating about a hollow cavity or funnel.
Tropical Depression	An organized system of clouds and thunderstorms, with a defined surface circulation, and maximum sustained winds of 38 miles per hour or less.
Tropical Storms	An organized system of strong thunderstorms, with a defined surface circulation, and maximum sustained winds of 39 to 73 miles per hour.
Wildfires	Any instance of uncontrolled burning in grasslands, brush, or woodlands.
Windstorms	Short-duration events involving straight-line winds or gusts exceeding 50 mph. These gusts can produce winds of sufficient strength to cause property damage. Windstorms are especially dangerous in areas with significant tree stands, exposed property, poorly constructed buildings, mobile homes (manufactured housing units), major infrastructure, and aboveground utility lines. A windstorm can topple trees and power lines; cause damage to residential, commercial, critical facilities; and leave tons of debris in its wake.
Winter Storms	Includes ice storms and blizzards. Extreme cold often accompanies winter storms. The National Weather Service (NWS) characterizes blizzards as being combinations of winds in excess of 35 mph with considerable falling or blowing snow, which frequently reduces visibility.

Appendix C: Meetings, Notices, Sign-in Sheets

Aiken County
County Administrator's Office

Remembering the Past, Preparing for the Future

J Clay Killian
County Administrator

November 16, 2018

Ms. Amanda J. Sievers
Planning Manager
Lower Savannah Council of Governments
P.O. Box 850
Aiken, SC 29802

Dear Amanda,

Thank you for the information you provided on our conference call last week. It was very helpful for my understanding of the process.

Aiken County does hereby commit to providing the amount of $5,208.34 in matching funds for the Pre-Disaster Mitigation (PDM) Planning Grant being sought by Lower Savannah Council of Governments. We understand this grant will be used for the purpose of updating the Hazard Mitigation Plan for counties in the Lower Savannah Region. It is important to note, that should you not be successful in acquiring the grant for this work, Aiken County reserves the right to retain these funds and prepare our plan update using alternative methods.

Sincerely,

J. Clay Killian
County Administrator

Cc: Paul Matthews, Emergency Management Coordinator

1930 University Parkway • Suite 3100 • Aiken • South Carolina • 29801
803-642-2012 • www.aikencountysc.gov

LOWER SAVANNAH REGION
NATURAL HAZARD MITIGATION PLAN UPDATE

SIGN-IN SHEET

Date: October 7, 2019 **Place:** Lower Savannah Council of Governments

Time: 10:00 AM

	Name	Agency	Phone	Email
1.	Roger Riley	Barnwell EMA	803-541-1001	rriley@barnwellsc.com
2.	Paul Matthews	Aiken EMD	803 642-1620	Pmatthews@aikencountysc.gov
3.	Emory Langston	LSCOG	803-649-7981	elangston@lscog.org
4.	Deanna Coffey	SCEMD	803 429 0620	dcoffey@emd.sc.gov
5.	David Chojnacki	Calhoun EMA	803-874-3042	dchojnacki@calhouncounty.sc.gov
6.	Rocky Tucker	SCEMD	803-367-1845	Rtucker@emd.sc.gov
7.	Nathaniel Foutch	LSCOG	803-528-7069	nfoutch@lscog.org
8.	Lindsey McCoy	SCEMD	803 367 8045	lmccoy@emd.sc.gov
9.	Brittany Barnwell	Bamberg	803-596-2743	barnwellbm@bambergcounty.sc.gov
10.				
11.				
12.				

Emory Langston

From: Emory Langston
Sent: Tuesday, October 15, 2019 11:54 AM
To: Paul Matthews
Cc: David Myers
Subject: RE: Mitigation Contact List

Thanks Paul!

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981

From: Paul Matthews <PMatthews@aikencountysc.gov>
Sent: Friday, October 11, 2019 2:21 PM
To: Emory Langston <elangston@lscog.org>
Cc: David Myers <DMyers@aikencountysc.gov>; Paul Matthews <PMatthews@aikencountysc.gov>
Subject: FW: Mitigation Contact List

Hi Emory,

Please see the attached contact list for the hazard mitigation planning process.

If you have any questions please let me know.

Thank you,

Paul

From: David Myers <DMyers@aikencountysc.gov>
Sent: Friday, October 11, 2019 1:42 PM
To: Paul Matthews <PMatthews@aikencountysc.gov>
Subject: Mitigation Contact List

David Myers
Aiken County Emergency Management Planner

Office: 803-642-1630
Cell: 803-998-9980
Fax: 803-642-2556
dmyers@aikencountysc.gov

Emory Langston

From: Emory Langston
Sent: Monday, October 21, 2019 11:11 AM
To: Clay Killian (countyadministrator@aikencountysc.gov); Teresa Crain (tcrain@aikencountysc.gov); Dan McElroy (dmcelroy@aikencountysc.gov); Jonathan Dicks (mayor@burnettown.com); Jeff Key (jkey@burnettown.com); Rick Osbon (rosbon@cityofaikensc.gov); Stuart Bedenbaugh (sbedenbaugh@cityofaikensc.gov); Charles Barranco (cbarranco@cityofaikensc.gov); Mike Przybylowicz (mprzybylowicz@cityofaikensc.gov); Bob Pettit (pettit@northaugusta.net); Todd Glover (tglover@northaugusta.net); Rachel Moody (rmoody@northaugusta.net); John Thomas (jthomas@northaugusta.net); Thomas Zeaser (tzeaser@northaugusta.net); Todd Etherdge (tetheredge@jackson-sc.gov); Kevin Liles (kliles@jackson-sc.gov); Vernon Dunbar; Tommy Williams (top29137@pbtcomm.net); salley2@pbtcomm.net; Jarrod Goldman (salleypd@comporium.net); mayormikemiller@gmail.com; Jermey Hill (jermey@wagenersc.com); carsman_cardealer@yahoo.com; Frances Pennington (mizell324@yahoo.com)
Cc: Paul Matthews; Nora Sanders; McCoy, Lindsey; Rocky Tucker (ltucker@emd.sc.gov); Deanna Coffey (dcoffey@emd.sc.gov)
Subject: Aiken County Hazardous Mitigation Plan -Meeting

Good morning,

Lower Savannah Council of Governments is working with the Aiken County Department of Emergency Management on the Aiken County Hazard Mitigation Plan five-year updates. In order to develop the plan and fulfill the FEMA requirements, your input and participation is very important.

We have scheduled a meeting for **Thursday, November 14th at 10:00**. This meeting will be held in the Sandlapper Room of the Aiken County Government Center, 1930 University Parkway in Aiken. We will be discussing the timeline, update process and other relevant information.

Let me know if you have any questions or if I can provide additional information.

Best regards-

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981

Emory Langston

From: Emory Langston
Sent: Wednesday, November 13, 2019 8:19 AM
To: Clay Killian (countyadministrator@aikencountysc.gov); Teresa Crain (tcrain@aikencountysc.gov); Dan McElroy (dmcelroy@aikencountysc.gov); Jonathan Dicks (mayor@burnettown.com); Jeff Key (jkey@burnettown.com); Rick Osbon (rosbon@cityofaikensc.gov); Stuart Bedenbaugh (sbedenbaugh@cityofaikensc.gov); Charles Barranco (cbarranco@cityofaikensc.gov); Mike Przybylowicz (mprzybylowicz@cityofaikensc.gov); Bob Pettit (rpettit@northaugusta.net); Todd Glover (tglover@northaugusta.net); Rachel Moody (rmoody@northaugusta.net); John Thomas (jthomas@northaugusta.net); Thomas Zeaser (tzeaser@northaugusta.net); Todd Etherdge (tetheredge@jackson-sc.gov); Kevin Liles (kliles@jackson-sc.gov); Vernon Dunbar; Tommy Williams (top29137@pbtcomm.net); salley2@pbtcomm.net; Jarrod Goldman (salleypd@comporium.net); mayormikemiller@gmail.com; Jermey Hill (Jeremy@wagenersc.com); carsman_cardealer@yahoo.com; Frances Pennington (mizell324@yahoo.com)
Cc: Paul Matthews; McCoy, Lindsey; Rocky Tucker (ltucker@emd.sc.gov); Deanna Coffey (dcoffey@emd.sc.gov)
Subject: Aiken County Hazardous Mitigation Plan Meeting

Good morning,

This is a reminder for the Aiken County Hazardous Mitigation Plan meeting tomorrow morning (11-14-19) at 10:00 in the Sandlapper Room of the Aiken County Government Center. We will be discussing the timeline and update information that we will be working on over the next year.

Let me know if you have any questions or if I can provide any additional information.

Best regards-
Emory

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981

LOWER SAVANNAH Council of Governments

Aiken County Hazard Mitigation Plan Update Meeting

Thursday, November 14th, 2019

10:00 a.m.

Sandlapper Room –Aiken County Government Center

Agenda

Welcome and Introductions	*Emory Langston, PCED Administrator, LSCOG /All*
Hazardous Mitigation Plan Background	*Emory Langston, PCED Administrator, LSCOG Paul Matthews –Aiken County Emergency Management , Director*
Current Status and Timeframe for Plan	*Emory Langston, PCED Administrator, LSCOG*
Plan Update Process	*Emory Langston, PCED Administrator, LSCOG*
General Discussion	*All*
Adjourn	

LOWER SAVANNAH REGION
NATURAL HAZARD MITIGATION PLAN UPDATE
AIKEN COUNTY
SIGN-IN SHEET

Date: November 14, 2019 **Place:** Sandlapper Room – Aiken County Government

Time: 10:00 AM

Name	Agency	Phone	Email
1. Emory Langston	LSCOG	803-649-7981	elangston@lscog.org
2. Eric Carrier	LSCOG		ecarrier@lscog.org
3. Rachelle Moody	North Augusta		rmoody@northaugusta.net
4. Charles Williams	NAPS	803-441-4254	
5. Brian Brazier	Aiken DPS	803-293-7836	bbrazier@cityofaikensc.gov
6. Tom Reasor	City of North Augusta	803 442-5700	treasure.northaugusta.net
7. Jason Sikes	City of North Augusta	803-441-4245	JSikes@northaugusta.net
8. Aaron Dobbs	Aiken DPS	(803)644-1905	adobbs@cityofaikensc.gov
9. PAUL MATTHEWS	AIKEN CO. EMD	803 642-1620	pmatthews@aikencountysc.gov
10. Dave Myers	Aiken Co EMD	803-642-1633	Dmyers@aikencountysc.gov
11. Mike Przybylowicz	City of Aiken	803-574-0128	mprzybylowicz@cityofaikensc.gov
12. CLAY KILLIAN	AIKEN COUNTY	803-642-2012	ckillian@aikencountysc.gov

LOWER SAVANNAH COG
Council of Governments

LOWER SAVANNAH REGION
NATURAL HAZARD MITIGATION PLAN UPDATE
AIKEN COUNTY
SIGN-IN SHEET

Date: November 14, 2019 **Place:** Sandlapper Room – Aiken County Government

Time: 10:00 AM

	Name	Agency	Phone	Email
13.	James Sutlow	City of NA	803-441-4238	jsutlow@northaugusta.net
14.	Teresa Crain	Aiken County	803-642-1535	tcrain@aikencountysc.gov
15.	Cagney Truitt	Aiken County	803-642-1518	ctruitt@aikencountysc.gov
16.				
17.				
18.				
19.				
20.				
21.				

Emory Langston

From: Emory Langston
Sent: Monday, March 16, 2020 12:18 PM
To: Paul Matthews
Cc: David Myers; Matthew Abney
Subject: RE: LSCOG -Hazardous Mitigation Grant Update Meetings

Hi Paul,

Hope this finds you well; I know it finds you very busy! We have a Hazardous Mitigation update meeting scheduled for tomorrow. In light of all that is going on I would propose one of two things. One, postpone that meeting for a time to be determined in April. Two, send you the risk information that we have updated and a proposal of what we will need going forward and schedule a conference call in the next few weeks to review the information. Let me know what works best for you and Dave.

Thanks!
Emory

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981

From: Paul Matthews <PMatthews@aikencountysc.gov>
Sent: Wednesday, February 12, 2020 8:38 AM
To: Emory Langston <elangston@lscog.org>
Cc: David Myers <DMyers@aikencountysc.gov>; Matthew Abney <mabney@lscog.org>
Subject: RE: LSCOG -Hazardous Mitigation Grant Update Meetings

Hi Emory,

I have March 17 at 2p.m. in the EOC on the calendar.

Thank you,

Paul

From: Emory Langston <elangston@lscog.org>
Sent: Tuesday, February 11, 2020 12:09 PM
To: Paul Matthews <PMatthews@aikencountysc.gov>
Cc: David Myers <DMyers@aikencountysc.gov>; Matthew Abney <mabney@lscog.org>
Subject: RE: LSCOG -Hazardous Mitigation Grant Update Meetings

Paul,
That works great for us. Tuesday, March 17th at 2:00. We can come to the EOC.

Thanks!

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981

From: Paul Matthews <PMatthews@aikencountysc.gov>
Sent: Tuesday, February 11, 2020 12:05 PM
To: Emory Langston <elangston@lscog.org>
Cc: David Myers <DMyers@aikencountysc.gov>
Subject: RE: LSCOG -Hazardous Mitigation Grant Update Meetings

Hi Emory,

I am sorry; I was looking at Feb 17th!
However, March 17 at 2 p.m. is good. Do you want to come to the EOC?

Paul

From: Emory Langston <elangston@lscog.org>
Sent: Tuesday, February 11, 2020 11:57 AM
To: Paul Matthews <PMatthews@aikencountysc.gov>
Subject: RE: LSCOG -Hazardous Mitigation Grant Update Meetings

The 17th is good for me. Just let me know a good time for you and Dave.

Thanks!

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981

From: Paul Matthews <PMatthews@aikencountysc.gov>
Sent: Tuesday, February 11, 2020 11:17 AM
To: Emory Langston <elangston@lscog.org>
Subject: RE: LSCOG -Hazardous Mitigation Grant Update Meetings

Yes, most emergency managers attend the conference.

The week of the 16th is very busy for me as the Council Budget Retreat is March 21. However, I can make time on the afternoon of the 17th if that is good for you.

Paul

From: Emory Langston <elangston@lscog.org>
Sent: Tuesday, February 11, 2020 11:00 AM
To: Paul Matthews <PMatthews@aikencountysc.gov>
Subject: RE: LSCOG -Hazardous Mitigation Grant Update Meetings

Hi Paul –

We could do the week of March 16th. I am guessing means most EMD will be at the conference?

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981

From: Paul Matthews <PMatthews@aikencountysc.gov>
Sent: Tuesday, February 11, 2020 10:56 AM
To: Emory Langston <elangston@lscog.org>
Subject: RE: LSCOG -Hazardous Mitigation Grant Update Meetings

Hi Emory,

The first week in March is the Emergency Management conference.
Do you have any other dates?

Paul

From: Emory Langston <elangston@lscog.org>
Sent: Tuesday, February 11, 2020 10:51 AM

To: Roger Riley (rriley@barnwellsc.com) <rriley@barnwellsc.com>; Paul Matthews <PMatthews@aikencountysc.gov>; Chojnacki, David (dchojnacki@calhouncounty.sc.gov) <dchojnacki@calhouncounty.sc.gov>; Brittany M. Barnwell <barnwellbm@bambergcounty.sc.gov>; Gidget Stanley-Banks (gstanley@allendalecounty.com) <gstanley@allendalecounty.com>; David Myers <DMyers@aikencountysc.gov>
Cc: Matthew Abney <mabney@lscog.org>
Subject: LSCOG -Hazardous Mitigation Grant Update Meetings

Good morning,

Hope this finds everyone doing well☺. Since we last met, at your county meetings to kick-off the HMP, we have been busy working on the risk assessments for each plan. We should have these wrapped up by the end of the month. We would like to set up a meeting, with each of you individually, to go over this information, begin looking at what is involved with the mitigation strategies, and forming next steps for getting together with your county taskforces. Please let me know your availability to meet Wednesday, March 4, Thursday, March 5 or Friday, March 6. I anticipate the meeting lasting about an hour and we will be glad to come you in your county.

Please let me know your availability as soon as possible so we can schedule these meetings. Let me know if you have any questions.

Best regards-
Emory

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981

Emory Langston

From: Paul Matthews <PMatthews@aikencountysc.gov>
Sent: Thursday, October 01, 2020 4:45 PM
To: Emory Langston
Subject: RE: Hazardous Mitigation Plan

Thank you

From: Emory Langston <elangston@lscog.org>
Sent: Thursday, October 1, 2020 4:44 PM
To: Paul Matthews <PMatthews@aikencountysc.gov>
Subject: RE: Hazardous Mitigation Plan

Perfect. It is on my calendar. I will call you then 😊 Thanks!

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981

From: Paul Matthews <PMatthews@aikencountysc.gov>
Sent: Thursday, October 01, 2020 4:43 PM
To: Emory Langston <elangston@lscog.org>
Subject: RE: Hazardous Mitigation Plan

11 a.m.

From: Emory Langston <elangston@lscog.org>
Sent: Thursday, October 1, 2020 4:39 PM
To: Paul Matthews <PMatthews@aikencountysc.gov>
Subject: RE: Hazardous Mitigation Plan

Since I sent that email, I have a 10:00 that popped up. How about either 9:30 or 11:00?

To: Emory Langston <elangston@lscog.org>
Subject: RE: LSCOG -Hazardous Mitigation Grant Update Meetings

Hi Emory,

I hope all is well with you also.

I think it may be best if you send out an email with the documents attached. However, if the files are very large this may be an issue for some recipients.
I think we would need to conduct a follow up call.

I don't really see any way around online public meetings. We can discuss this in more detail as we get closer to that time.

Let me know what you think about these suggestions.

Thank you,

Paul

From: Emory Langston <elangston@lscog.org>
Sent: Monday, June 15, 2020 3:44 PM
To: Paul Matthews <PMatthews@aikencountysc.gov>
Subject: LSCOG -Hazardous Mitigation Grant Update Meetings

Hi Paul –

Hoping this finds you well ☺

We all have had some set-backs in our usual work load thanks to COVID 19. We have been working on the data set for the HMP in Sections 2 and 3 over the past few months. Slowly but surely.

Wanted to see how you wanted to tackle the next phase with the taskforce. At this point, staff at LSCOG is attending in-person meetings sparingly, especially as we are seeing a rise in COVID cases; however we do have some meetings scheduled at the month. We could try for an in-person meeting later part of June or mid-July or I can send out all the information via email, or we could try an email with documents and a follow up conference call. Those are just my suggestions. I am open to any ideas you may have.

We are running a little behind, per the timeline, and I have been in contact with SCEMD. At this point I think we are still doing fine, may push out a month or two.
As far as public comment goes for when the draft documents is ready, SCEMD has advised the following.

Public meetings/hearings can be held online. You can choose to host a conference call or WebEx type event, or simply post documents for review to social media and document any input received. As long as proof is provided for whichever you choose, the requirement will be met.

Emory Langston

From: Paul Matthews <PMatthews@aikencountysc.gov>
Sent: Wednesday, September 09, 2020 2:00 PM
To: Emory Langston
Subject: RE: LSCOG -Hazardous Mitigation Grant Update Meetings

HI Emory,
I hope you are doing well.

Currently I have the following open dates:

- September 29
- September 30
- October 1
- October 2

Thank you,

Paul

From: Emory Langston <elangston@lscog.org>
Sent: Wednesday, September 9, 2020 11:17 AM
To: Paul Matthews <PMatthews@aikencountysc.gov>
Subject: RE: LSCOG -Hazardous Mitigation Grant Update Meetings

---

Hi Paul,

Hope this finds you well. I would like to send out information to you(as the County) all the municipalities over the next few weeks and follow up with a conference call late September early October. Please let me know a few good dates for you in that timeframe.

Thanks!

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981

From: Paul Matthews <PMatthews@aikencountysc.gov>
Sent: Tuesday, June 16, 2020 3:35 PM

Paul

From: Emory Langston <elangston@lscog.org>
Sent: Wednesday, September 23, 2020 3:51 PM
To: Paul Matthews <PMatthews@aikencountysc.gov>
Subject: Hazardous Mitigation Plan

Hi Paul –

Just wanted to let you know that the only municipality who responded back to my email 2 weeks ago was New Ellenton. I am going to call each one to ensure they received. Please let me know if you have heard back from anyone. I know that everyone is busy and communication in this COVID world gets complicated or sometime lost.

Much thanks!
Emory

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981

I sent an email to Teresa requesting the dam information.

Please give me a call (cell 803-640-1429) to discuss feedback from other agencies.

Thank you,

Paul

From: Emory Langston <elangston@lscog.org>
Sent: Tuesday, September 29, 2020 1:49 PM
To: Paul Matthews <PMatthews@aikencountysc.gov>
Subject: RE: Hazardous Mitigation Plan

Hi Paul –

I am having a really hard time getting anyone to respond back, even after making call last week. I have not heard back from Teresa Crain as to the question on dams either. As you know, we are only as good as the information we have. Any help or ideas that you can provide in getting folks to respond is great! 😊 We still have time on these issues and are not at a danger or critical point, yet. I am just trying to maintain so that we don't get behind.

Thanks!

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981

From: Paul Matthews <PMatthews@aikencountysc.gov>
Sent: Monday, September 28, 2020 9:03 AM
To: Emory Langston <elangston@lscog.org>
Subject: RE: Hazardous Mitigation Plan

Hi Emory,

I hope all is well with you.

I did not have anyone reply to me directly.

Let me know what we can do to help.

Thank you,

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981

From: Paul Matthews <PMatthews@aikencountysc.gov>
Sent: Thursday, October 01, 2020 4:23 PM
To: Emory Langston <elangston@lscog.org>
Subject: RE: Hazardous Mitigation Plan

Emory,

How about 10 a.m. in the morning?

Paul

From: Emory Langston <elangston@lscog.org>
Sent: Thursday, October 1, 2020 2:32 PM
To: Paul Matthews <PMatthews@aikencountysc.gov>
Subject: RE: Hazardous Mitigation Plan

Hi Paul,

Would you have a few minutes tomorrow to chat? My Friday is flexible, if not let me know what works for you next week.

Thanks!

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981

From: Paul Matthews <PMatthews@aikencountysc.gov>
Sent: Wednesday, September 30, 2020 2:18 PM
To: Emory Langston <elangston@lscog.org>
Subject: RE: Hazardous Mitigation Plan

Hi Emory,

Emory Langston

From:	Emory Langston
Sent:	Monday, October 05, 2020 9:56 AM
To:	Rachel Moody (rmoody@northaugusta.net); Thomas Zeaser (tzeaser@northaugusta.net); John Thomas (jthomas@northaugusta.net); Bob Pettit (rpettit@northaugusta.net); Jim Clifford (jclifford@northaugust.net); Mike Przybylowicz (mprzybylowicz@cityofaikensc.gov); Aaron Dobbs (adobbs@cityofaikensc.gov); Stuart Bedenbaugh (sbedenbaugh@cityofaikensc.gov); 'burnettown@burnettown.com'; Jonathan Dicks (mayor@burnettown.com); Jeff Key (jkey@burnettown.com); 'townhallmon@comporium.net'; 'Bonnie Stikeleather'; Todd Etherdge (tetheredge@jackson-sc.gov); roger LeDuc; Vernon Dunbar; Zorayda El (zel@newellentonsc.com); Tommy Williams (top29137@pbtcomm.net); Salley Town Hall; 'mayormikemiller@gmail.com'; daryl@wagenersc.com; Michael Dunbar (Carsman_cardealer@yahoo.com); Frances Pennington (mizell324@yahoo.com); Clay Killian; Teresa Crain (tcrain@aikencountysc.gov)
Cc:	'Paul Matthews'
Subject:	Update to Aiken County Hazardous Mitigation Plan Meeting

Good morning,

I hope this email finds everyone doing well. I last reached out to each of your jurisdictions, by email, on September 10 with hazardous mitigation information that is specific to your municipality. I have tried to follow up with each, via a phone call, since that time as well. The information you received in September needs to be updated by each municipality in order to be included in the 2021 Aiken County Hazardous Mitigation Plan (HMP) updates. Your participation and inclusion into this plan are critical for potential funding, grants, and planning going forward.

We will be having a taskforce meeting on Monday, October 19th, 10:00 a.m. in the Sandlapper Room at the Aiken County Government Center to discuss updates to the Aiken County HMP. Proper social distancing and facemask protocols will be in place. Your participation is very important. Please let me know if you or your municipal designee/representative will not be able to attend. Please let me know if you have any questions, you can reach me at 803-508-7046 or elangston@lscog.org.

Best regards,
Emory

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981

Hazard Mitigation Planning Meeting

October 19, 2020

Name	Agency	Phone	e-mail
PAUL MATTHEWS	AIKEN CO.	803 642 1620	PMatthews@aikencountysc.gov
Dave Myers	Aiken Co.	803-998-9980	Dmyers@aikencountysc.gov
Emory Langston	LSCOG	803 649-7981	elangston@lscog.org
Bonnie Strickleather	TOJ	803 471-2221	bstrickleather@jacksonsc.gov
Emmalee Boring	TOJ	803-471-2225	eboring@jackson-sc.gov
LaDonna Hall	Salley	803-271-0042	MAYORLCHALL@GMAIL.COM
FRED WISCHMEYER	ACEMD	803 640 4347	FWISCHMEYER AIKENCOUNTYSC.GOV

LOWER SAVANNAH Council of Governments

Aiken County Hazard Mitigation Plan Update Meeting

Monday, October 19th, 2020

10:00 a.m.

Sandlapper Room –Aiken County Government Center

Agenda

Welcome /Update in the Process	*Emory Langston, PCED Administrator, LSCOG*
Hazardous Mitigation Plan Items for Review and Approval 1. Types of Risks 2. Risk Probability and Frequency 3. Mitigation Strategy	*Emory Langston, PCED Administrator, LSCOG*
Current Status and Timeframe for Plan	*Emory Langston, PCED Administrator, LSCOG*
	Emory Langston, PCED Administrator, LSCOG
General Discussion/Questions	*Emory Langston, PCED Administrator, LSCOG* *Paul Matthews, EMD, Aiken County*

Adjourn

Emory Langston

From: Paul Matthews <PMatthews@aikencountysc.gov>
Sent: Monday, December 14, 2020 11:48 AM
To: Emory Langston
Subject: RE: Aiken County HMP Draft statement/link

That looks good to me.
Per our conversation it will only be on LSCOG's website.

Thank you,

Paul

From: Emory Langston <elangston@lscog.org>
Sent: Monday, December 14, 2020 11:36 AM
To: Paul Matthews <PMatthews@aikencountysc.gov>
Subject: Aiken County HMP Draft statement/link

Paul –

Let me know if this will work for you.

Please visit https://www.lscog.org/planning to see the 2020 Aiken County Hazardous Mitigation Plan DRAFT for public comment. This document will be available for review from December 14-18, 2020. Please feel free to review the document and share any questions, concerns, or comments with Emory Langston – Planning, Community and Economic Development Administrator for LSCOG – elangston@lscog.org.

Thanks!
Emory

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981

Emory Langston

From: Paul Matthews <PMatthews@aikencountysc.gov>
Sent: Tuesday, December 08, 2020 1:57 PM
To: Emory Langston
Cc: Clay Killian
Subject: RE: Draft Aiken County HMP

Thank you

From: Emory Langston <elangston@lscog.org>
Sent: Tuesday, December 8, 2020 8:33 AM
To: Paul Matthews <PMatthews@aikencountysc.gov>
Subject: RE: Draft Aiken County HMP

Sounds great! We will do next week for public comment. I will send you the verbiage that we will use for our website that you can copy for the county. Our target will be to submit to SCEMD on the 21st.

Thanks!

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981

From: Paul Matthews <PMatthews@aikencountysc.gov>
Sent: Friday, December 04, 2020 10:05 AM
To: Emory Langston <elangston@lscog.org>
Subject: RE: Draft Aiken County HMP

Emory,

Thank you for getting this to me.
I am going to review it but I am would like to go ahead with the public comment period (December 14-18).

Let me know what I need to do to help.

Paul

Emory Langston

From: Paul Matthews <PMatthews@aikencountysc.gov>
Sent: Friday, December 04, 2020 10:05 AM
To: Emory Langston
Subject: RE: Draft Aiken County HMP

Emory,

Thank you for getting this to me.
I am going to review it but I am would like to go ahead with the public comment period (December 14-18).

Let me know what I need to do to help.

Paul

From: Emory Langston <elangston@lscog.org>
Sent: Thursday, December 3, 2020 12:30 PM
To: Paul Matthews <PMatthews@aikencountysc.gov>
Subject: Draft Aiken County HMP

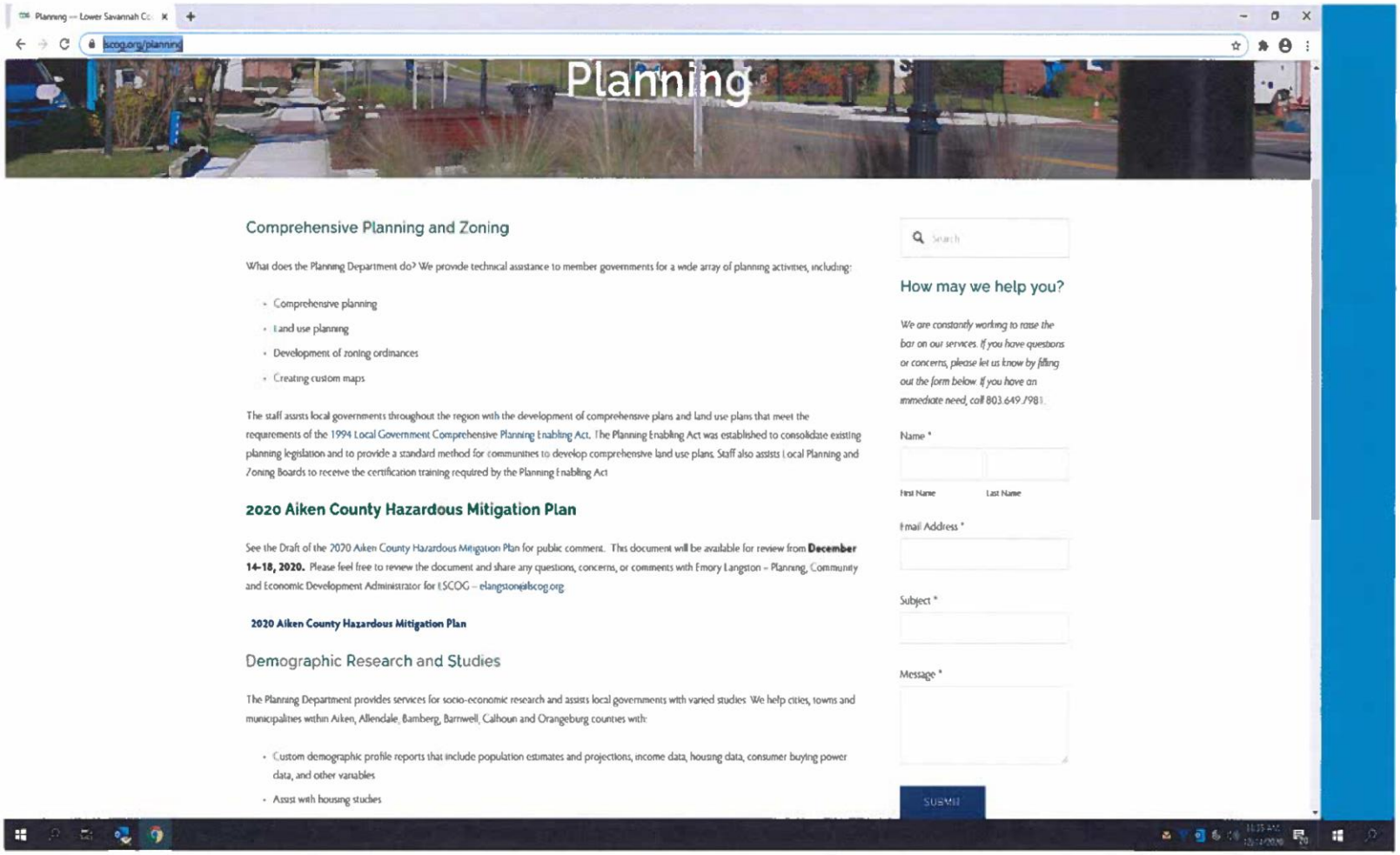
Hi Paul –

I am about a week behind on getting this to you . I had hope to get it to you before Thanksgiving. That being said, the is the draft for your review 😊. I can send in WORD if you like. I probably need to straighten out some formatting issues. Please review and let me know your thought. I would really like to do a public comment period the week of Dec. 14-18. We can put on our website and the County website and any social media you feel appropriate. We have done this with 2 other counties, and it has been approved by SCEMD. Once that is done, we can send to SCEMD.

Hope all is well with you and yours!

Best-Emory

Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802
803-649-7981


Planning — Lower Savannah Co
lscog.org/planning
Planning
Comprehensive Planning and Zoning
What does the Planning Department do? We provide technical assistance to member governments for a wide array of planning activities, including:
Comprehensive planning
Land use planning
Development of zoning ordinances
Creating custom maps
The staff assists local governments throughout the region with the development of comprehensive plans and land use plans that meet the requirements of the 1994 Local Government Comprehensive Planning Enabling Act. The Planning Enabling Act was established to consolidate existing planning legislation and to provide a standard method for communities to develop comprehensive land use plans. Staff also assists Local Planning and Zoning Boards to receive the certification training required by the Planning Enabling Act
2020 Aiken County Hazardous Mitigation Plan
See the Draft of the 2020 Aiken County Hazardous Mitigation Plan for public comment. This document will be available for review from December 14-18, 2020. Please feel free to review the document and share any questions, concerns, or comments with Emory Langston – Planning, Community and Economic Development Administrator for LSCOG – elangston@lscog.org
2020 Aiken County Hazardous Mitigation Plan
Demographic Research and Studies
The Planning Department provides services for socio-economic research and assists local governments with varied studies. We help cities, towns and municipalities within Aiken, Allendale, Bamberg, Barnwell, Calhoun and Orangeburg counties with:
Custom demographic profile reports that include population estimates and projections, income data, housing data, consumer buying power data, and other variables
Assist with housing studies
Search
How may we help you?
We are constantly working to raise the bar on our services. If you have questions or concerns, please let us know by filling out the form below. If you have an immediate need, call 803.649.7981.
Name *
First Name
Last Name
Email Address *
Subject *
Message *
SUBMIT

Emory Langston

From: McCoy, Lindsey <lmccoy@emd.sc.gov>
Sent: Monday, December 21, 2020 1:46 PM
To: Emory Langston
Cc: Matthews, Paul
Subject: RE: Aiken County HMP Draft

Hi Emory,

Received! We have added it to our review queue and will begin the review shortly after the new year. As soon as we have an update, I'll let you know.

Also, we have received revisions back for the Calhoun and Barnwell plans from FEMA. Would you like for me to send those along now, or would it be best to schedule a time to talk after the holidays?

Thank you so much!

Lindsey McCoy
Hazard Mitigation Planning Coordinator
South Carolina Emergency Management Division

2779 Fish Hatchery Road
West Columbia, SC 29172
Mobile: (803) 367-8095
lmccoy@emd.sc.gov

From: Emory Langston <elangston@lscog.org>
Sent: Monday, December 21, 2020 11:18 AM
To: McCoy, Lindsey <lmccoy@emd.sc.gov>
Cc: Matthews, Paul <pmatthews@aikencountysc.gov>
Subject: Aiken County HMP Draft

Hi Lindsey,

Please see the Aiken County HMP draft for your review. Public comment period was December 14-18, 2020. We did not receive any comments. Please let me if you need any additional information.

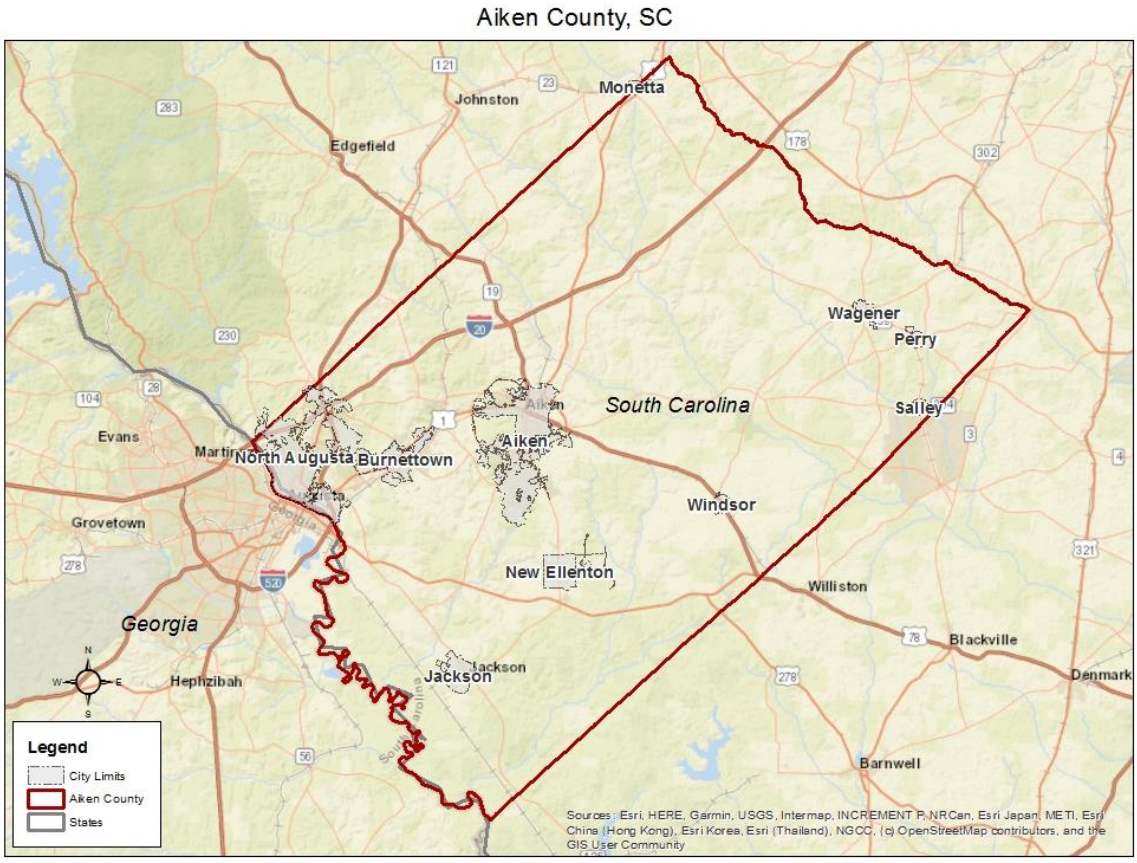
Wishing you the merriest of holidays! Stay healthy and safe!

Thanks!

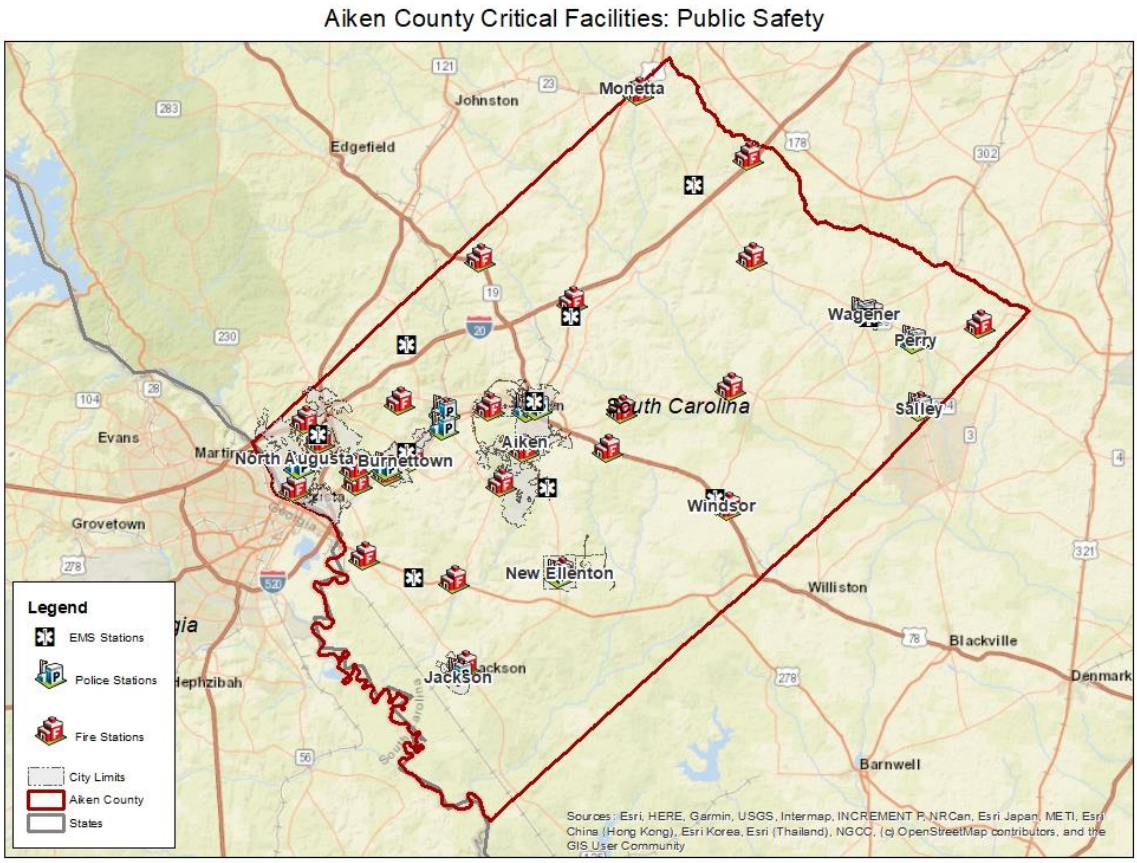
Emory M. Langston
Planning, Community and Economic Development Administrator
Lower Savannah Council of Governments
2748 Wagener Rd.
Aiken, SC 29802

Appendix E: Maps

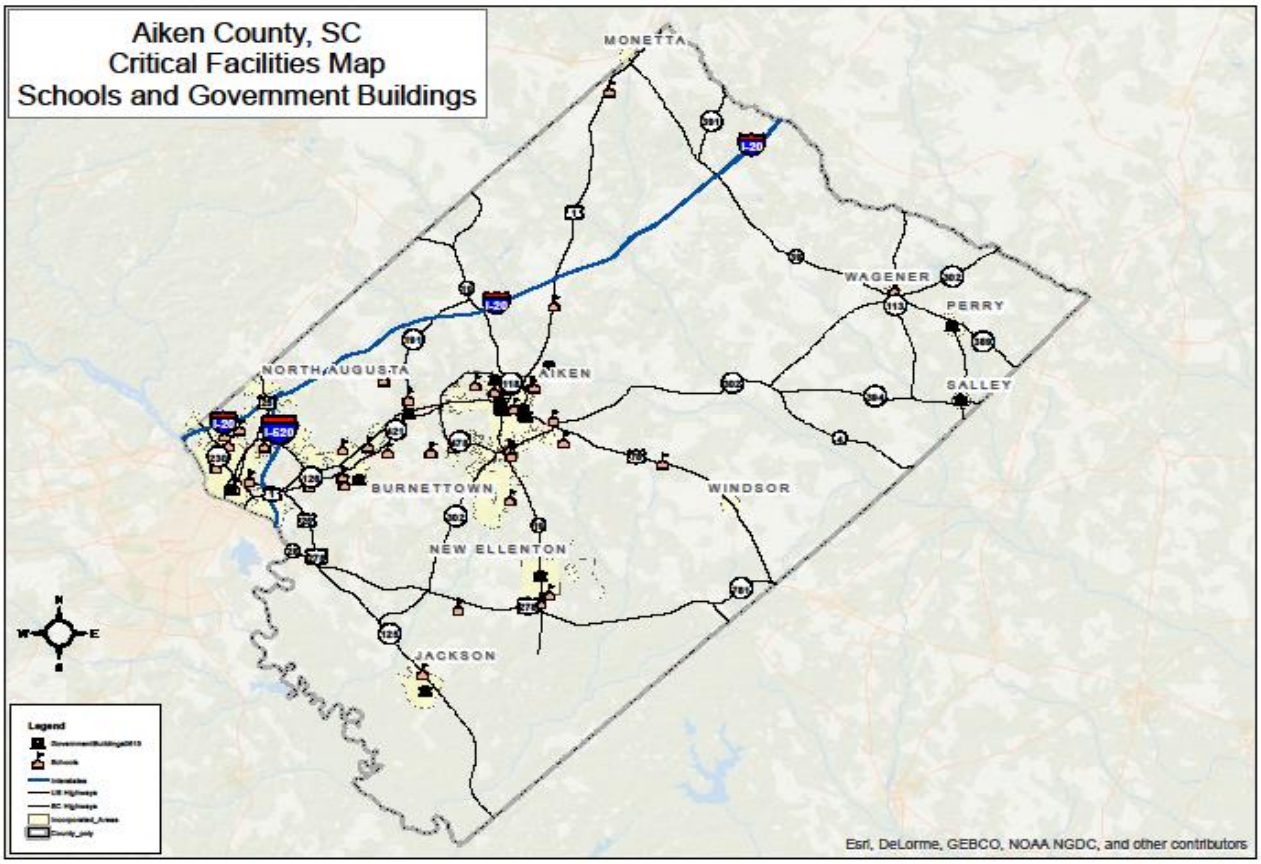
Map 1. Location Map



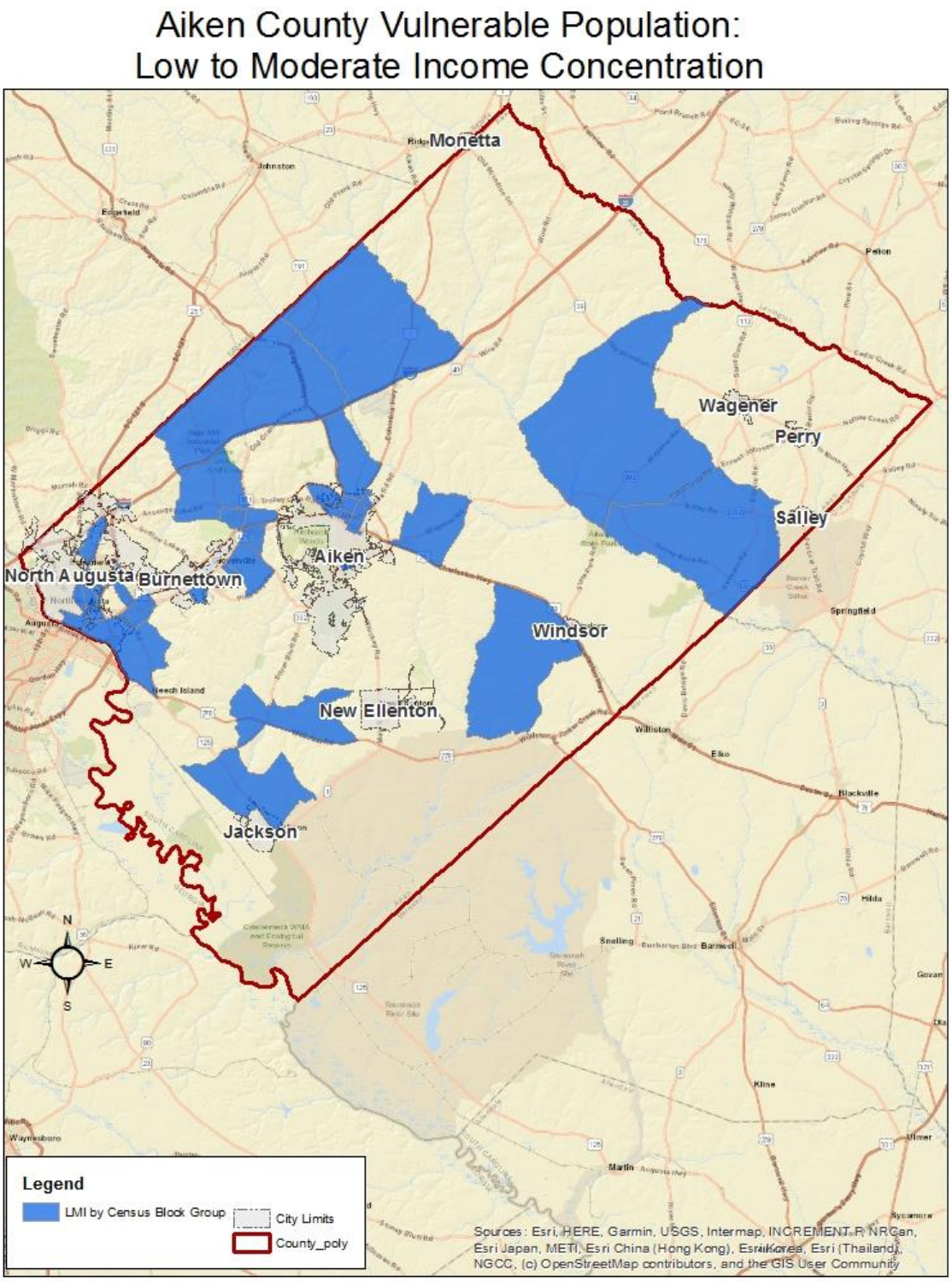
Map 2: Critical Facilities: Public Safety



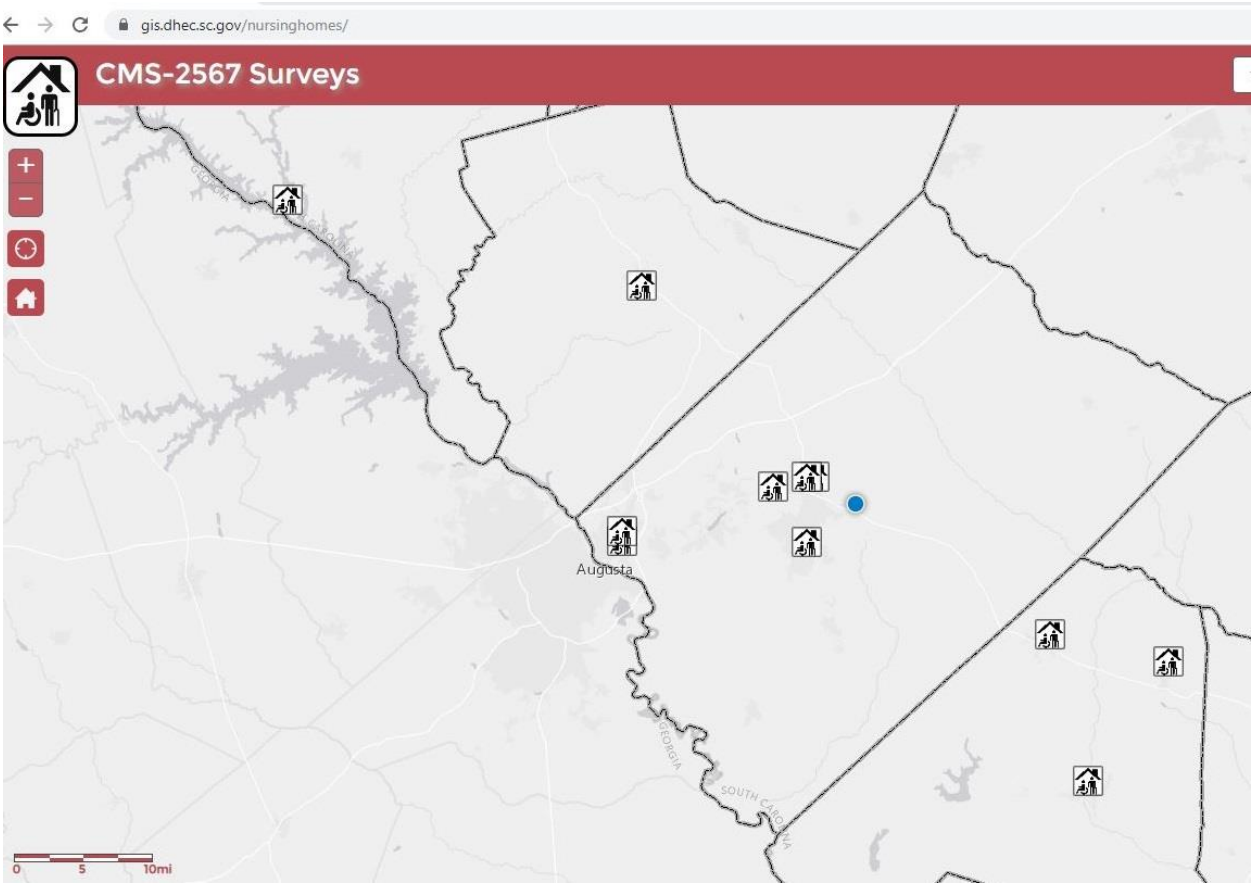
Map 3: Critical Facilities: Schools and Government Buildings



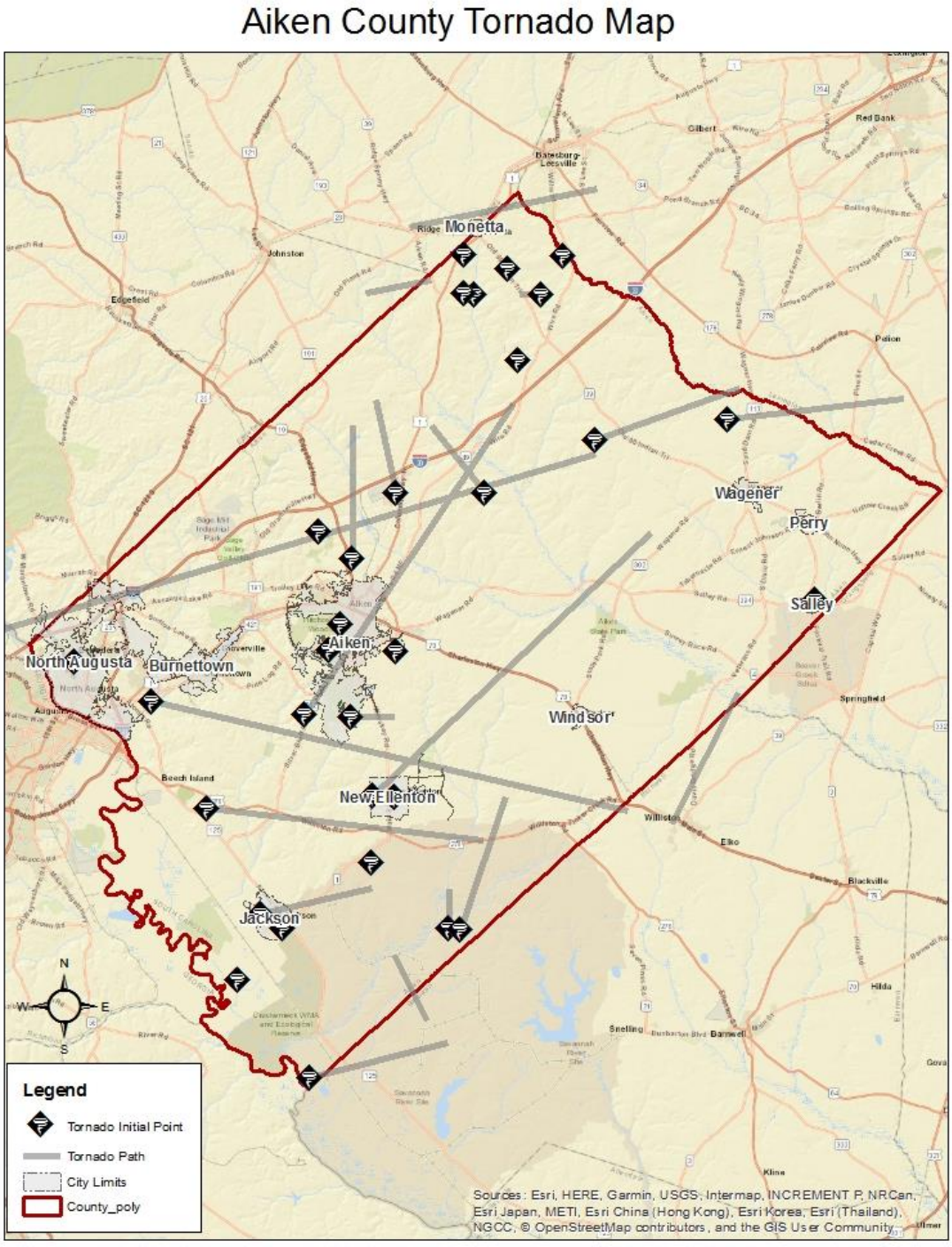
Map 4: Low to Moderate Income Concentration



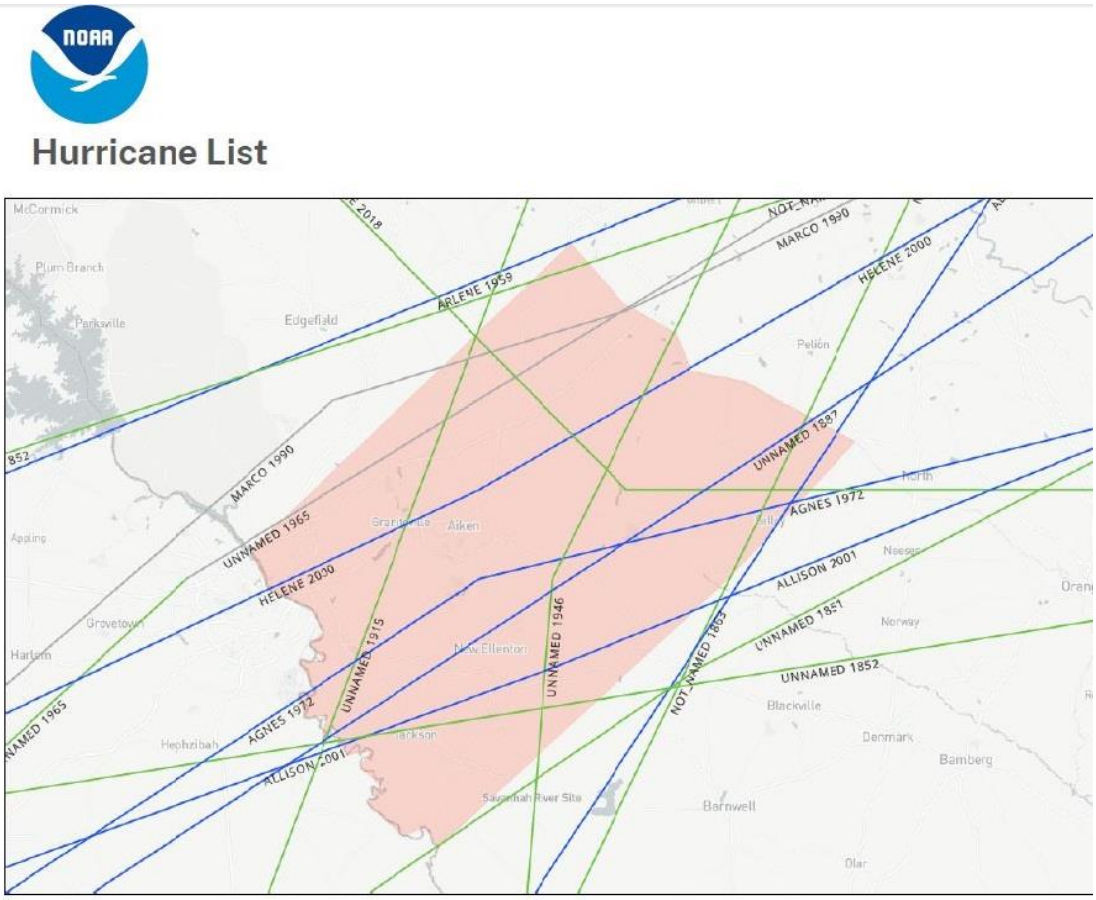
Map 5: Vulnerable Population: Nursing Facilities



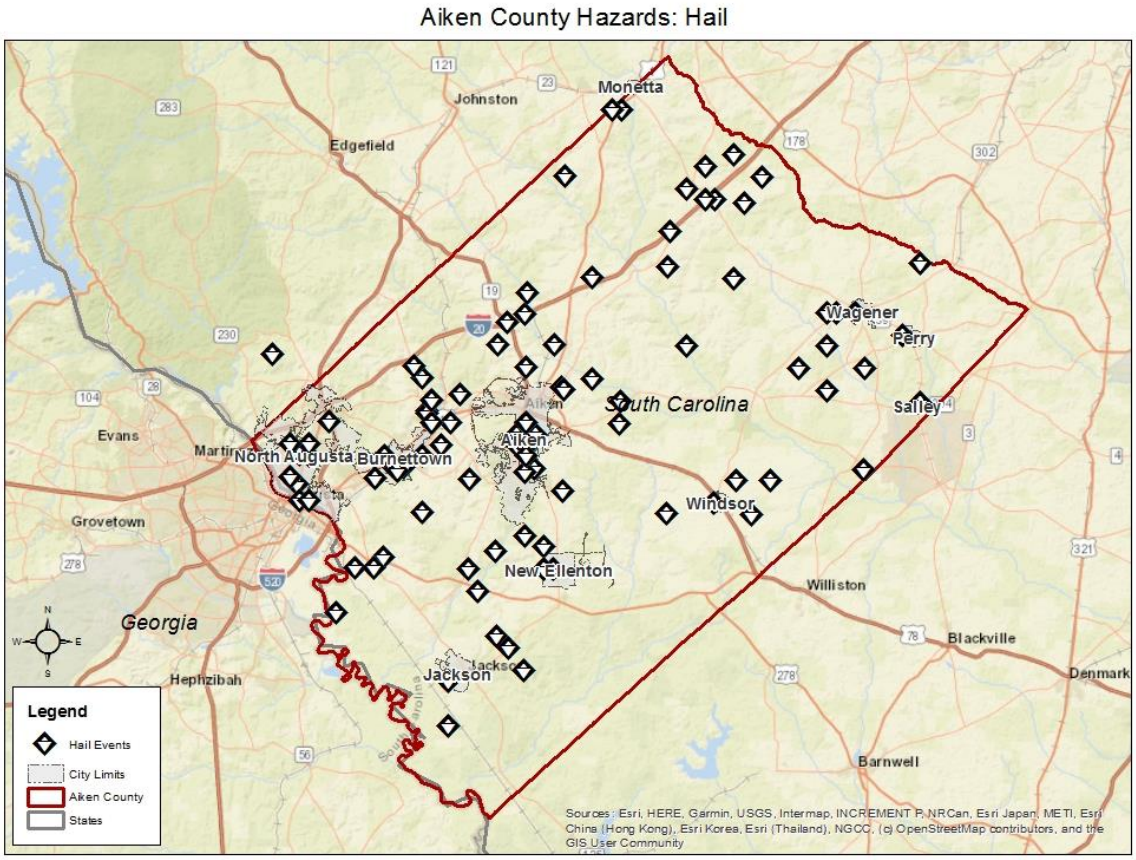
Map 6: Hazards – Tornado



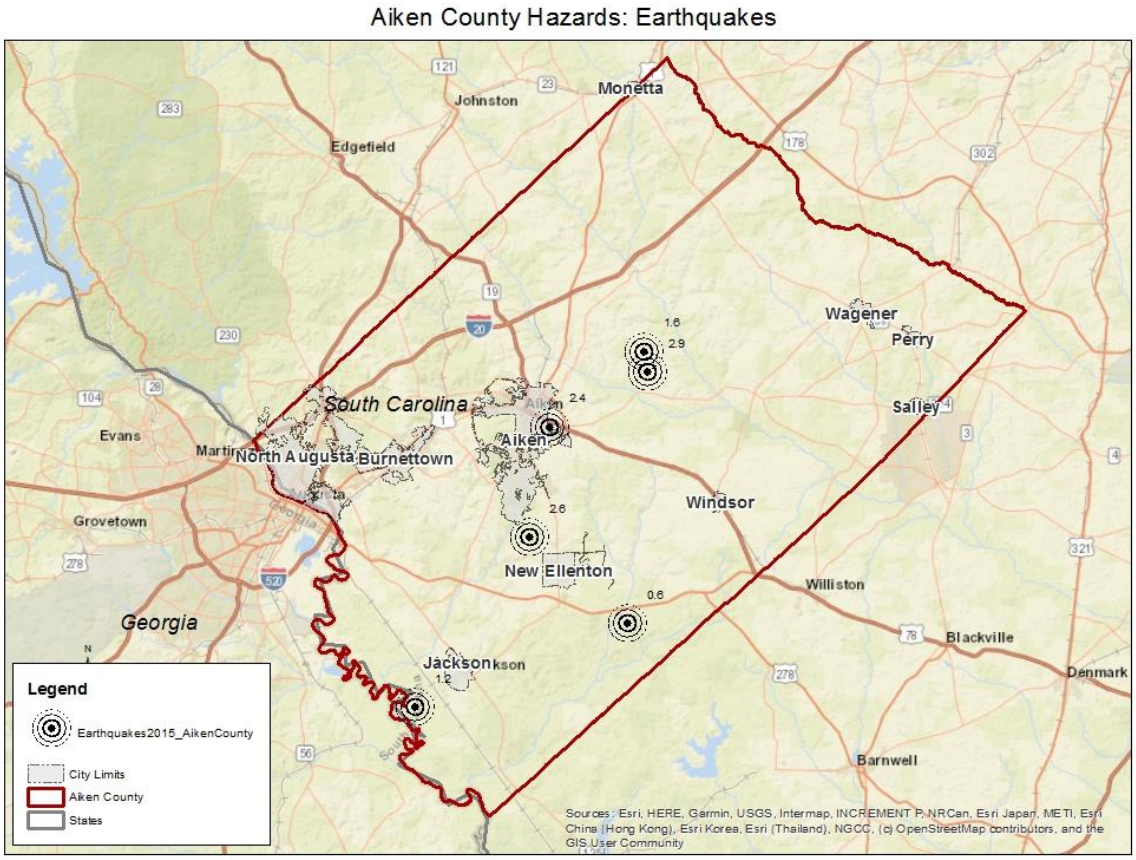
Map 7: Hazards – Hurricane



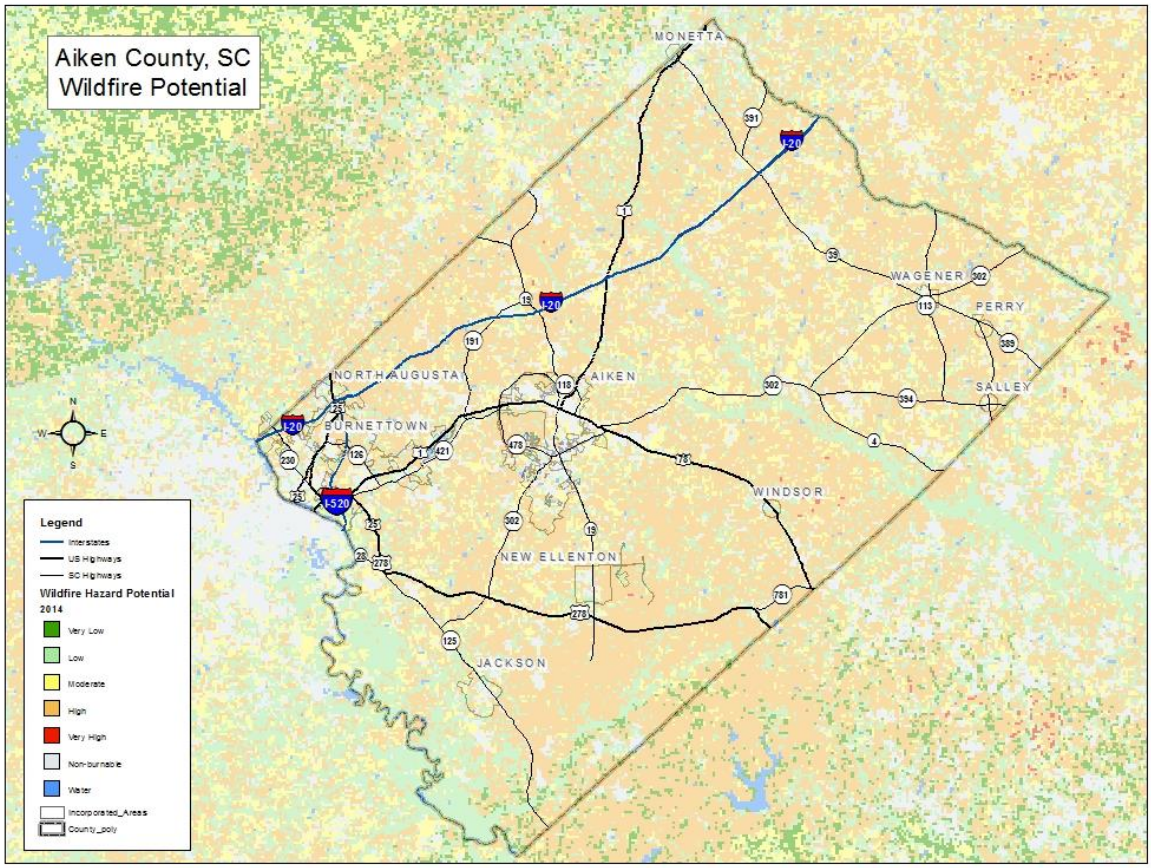
Map 8: Hazards – Hail



Map 9: Hazards – Earthquake

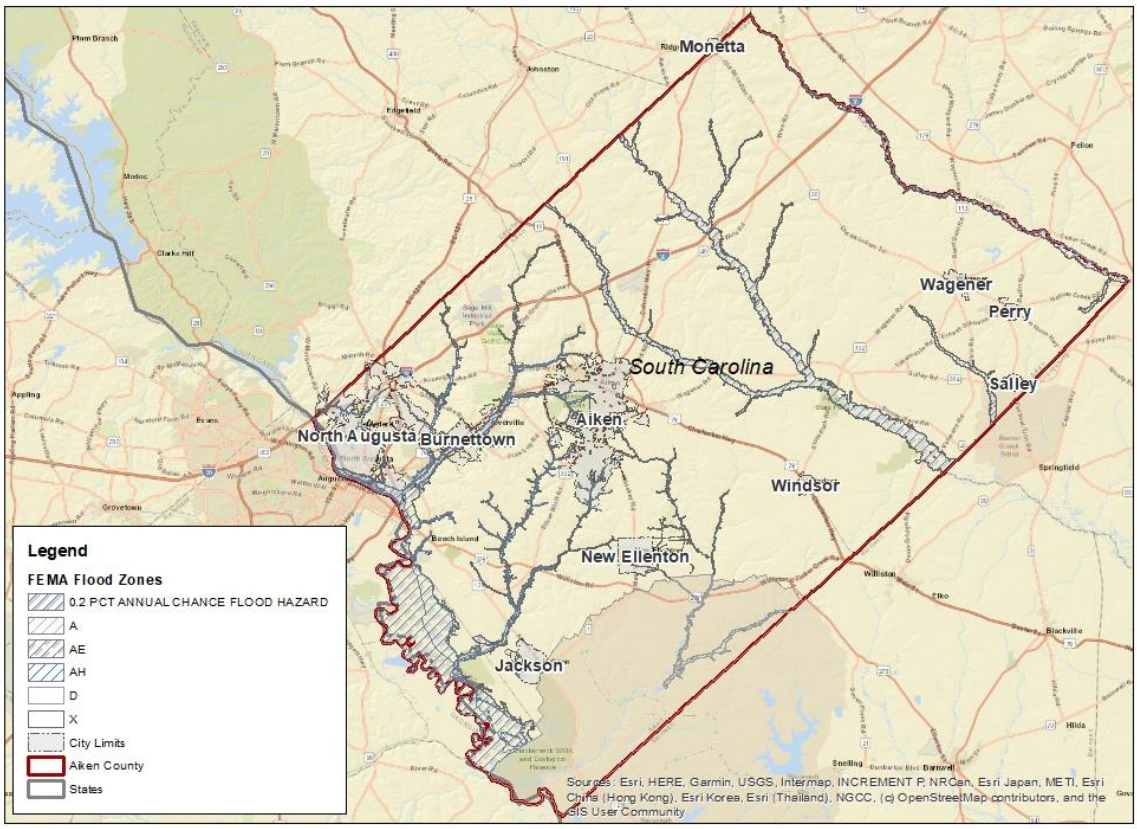


Map 10: Hazards – Wildfire



Map 11: Hazards – Flood

Aiken County FEMA Flood Zones



Map 12 Hazards – All Storm Events