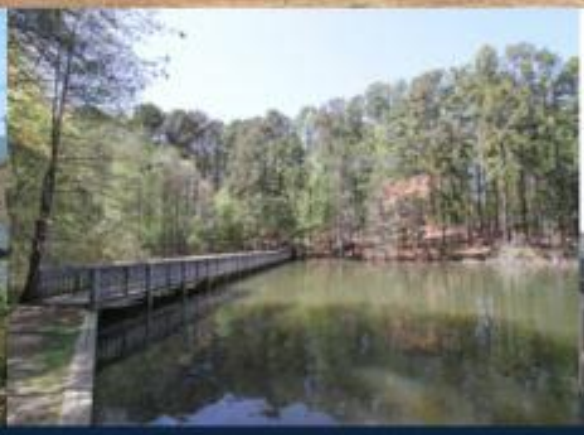

Claiborne

PARISH HAZARD MITIGATION UPDATE – 2016

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CLAIBORNE PARISH

HAZARD MITIGATION PLAN UPDATE

Prepared for:

Claiborne Parish

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February 24, 2017

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ACKNOWLEDGMENTS

This 2016 Claiborne Parish Hazard Mitigation Plan Update was coordinated by the Claiborne Parish Hazard Mitigation Plan Update Steering Committee, in collaboration with the participating jurisdictions as well as community stakeholders and the general public. The participating jurisdictions are made up of the following communities:

Claiborne Parish
Village of Athens
Town of Haynesville
Town of Homer
Village of Lisbon

Special thanks is directed to all of those who assisted in contributing feedback and expertise on this document, especially the Claiborne Parish Office of Homeland Security and Emergency Management. These combined efforts have made this project possible. The Claiborne Parish Steering Committee consists of the following individuals, who are credited in the creation of this document:

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Jennifer Atkins Hay	Mayor	Village of Athens
Beverlee G. Killgore	Mayor	Town of Haynesville
Danny "Roy" Lewis	Mayor	Town of Homer
Wayne Tanner	Mayor	Village of Lisbon
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Contents

1. Introduction

Hazard Mitigation is defined as sustained actions taken to reduce or eliminate long-term risk from hazards and their effects. Hazard Mitigation Planning is the process through which natural hazards that threaten communities are identified, likely impacts of those hazards are determined, mitigation goals are set, and appropriate strategies that would lessen the impacts are determined, prioritized, and implemented.

In that regard, this plan (a) documents the Claiborne Parish Hazard Mitigation Plan Update process; (b) identifies natural hazards and risks within the parish; and (c) identifies the parish's hazard mitigation strategy to make Claiborne Parish less vulnerable and more disaster resistant. It also includes mitigation project scoping to further identify the extent of work, estimated costs, and implementation timing requirements of proposed selected mitigation projects. Information in the plan will be used to help guide and coordinate mitigation activities and local policy decisions affecting future land use.

The Claiborne Parish Hazard Mitigation Plan is a multi-jurisdictional plan that includes the following jurisdictions which participated in the planning process:

- Village of Athens
- Town of Haynesville
- Town of Homer
- Village of Lisbon

The Federal Emergency Management Agency (FEMA), now under the Department of Homeland Security, has made reducing losses from natural disasters one of its primary goals. The Hazard Mitigation Plan (HMP) and subsequent implementation of recommended projects, measures, and policies is the primary means to achieving these goals. Mitigation planning and project implementation has become even more significant in a post-Katrina and Rita environment in south Louisiana.

This Hazard Mitigation Plan is a comprehensive plan for disaster resiliency in Claiborne Parish. The parish is subject to natural hazards that threaten life and health and have caused extensive property damage. To better understand these hazards and their impacts on people and property, and to identify ways to reduce those impacts, the parish's Office of Homeland Security and Emergency Preparedness undertook this Natural Hazards Mitigation Plan.

"Hazard mitigation" does not mean that all hazards are stopped or prevented. It does not suggest complete elimination of the damage or disruption caused by such incidents. Natural forces are powerful and most natural hazards are well beyond our ability to control. Mitigation does not mean quick fixes. It is a long term approach to reduce hazard vulnerability. As defined by FEMA, "hazard mitigation" means any sustained action taken to reduce or eliminate the long-term risk to life and property from a hazard event.

Why this plan? Every community faces different hazards and every community has different resources and interests to bring to bear on its problems. Because there are many ways to deal with natural hazards and many agencies that can help, there is no one solution or cookbook for managing or mitigating their effects.

Planning is one of the best ways to correct these shortcomings and produce a program of activities that will best mitigate the impact of local hazards and meet other local needs. A well-prepared plan will ensure that all possible activities are reviewed and implemented so that the problem is addressed by the most appropriate and efficient solutions. It can also ensure that activities are coordinated with each other and

with other goals and programs, preventing conflicts and reducing the costs of implementing each individual activity.

Mitigation activities need funding. Under the Disaster Mitigation Act of 2000 (42 USC 5165), a mitigation plan is a requirement for federal mitigation funds. Therefore, a mitigation plan will both guide the best use of mitigation funding and meet the prerequisite for obtaining such funds from FEMA. FEMA also recognizes plans through its Community Rating System, a program that reduces flood insurance premiums in participating communities. This program is described at the end of this chapter.

This plan identifies activities that can be undertaken by both the public and the private sectors to reduce safety hazards, health hazards, and property damage caused by natural hazards. It fulfills the federal mitigation planning requirements, qualifies for Community Rating System credit, and provides the parish and its municipalities with a blueprint for reducing the impacts of these natural hazards on people and property.

Location, Demography, and Economy

Location

Known as the "Banner Parish" of North Louisiana, Claiborne Parish is located in northwestern Louisiana and covers approximately 770 square miles, including roughly 13 square miles of water. It has elevations ranging from a low of approximately 100 feet above sea level to a high of approximately 500 feet above sea level. Claiborne Parish is bounded by Columbia County, Arkansas to the northwest, Union County, Arkansas to the northeast, Union Parish to the east, Lincoln Parish to the southeast, Bienville Parish to the south, and Webster Parish to the west.

Figure 1-1: Location of Claiborne Parish within the State of Louisiana

Claiborne Parish is nestled amongst the most scenic hill country in Louisiana. Beautiful flowering plants and trees or colorful autumn foliage greet visitors. Extensive forests, fields, streams, Corney Lake, and Lake Claiborne create a sportsman's haven. .Communities in Claiborne Parish offer small town charm and a relaxed qualify of life, while still within easy reach of two major metropolitan hubs: Shreveport-Bossier to the west and Monroe-West Monroe to the east.

The main transportation arteries through Claiborne Parish are U. S. Highway79 and State Highways 2, 2 Alternate, and 9. U. S. Highway 79 enters from the southwest portion of the parish and travels to Homer, where it turns to the northwest and travels to Haynesville and onward into Arkansas. State Highway 2 enters from the western side of the parish and travels through Homer and Lisbon before exiting the parish to the east. State Highway 2 Alternate runs fairly parallel to State Highway 2 to the north. State Highway 9 enters from the southern boundary of the parish and runs north to Homer, where it then turns and heads to the northeast to Junction City. Some of these roadways are significant evacuation routes for Claiborne Parish, as well as for surrounding parishes during emergencies.

Claiborne Parish is located in Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) Region 7.

As noted above, Claiborne Parish is located in the northwestern region of Louisiana.

Figure 1-2: Louisiana Homeland Security Regions

Table 1-1: Claiborne Parish Population
(Source: U.S. Census Bureau)

	2010 Census	2014 Census	Current Year (If Available)	Percent Change 2010 - 2014
Total Population	17,195	16,412	____	-4.60%
Population Density (Pop/Sq Mi)	22.8	____	____	____
Total Households	7,761	7,759	____	____

Economy

Known as the "Banner Parish" of North Louisiana, Claiborne Parish boasts a 2016 estimated population of 16,083 residents, earning a median household income of $34,309. With easy access to Interstate 20 and U.S. Highway 79, businesses will find an eager and qualified civilian labor force, three industrial parks in Homer, Haynesville, and Claiborne Parish, and access to both rail and air service.

Claiborne Parish's economy has historically been based on agriculture, primarily the harvesting timber. Over the years, Claiborne Parish has strived to diversify its industries, adding agribusiness, healthcare, and retail businesses. Oil and natural gas production has also recently become an important part of the Claiborne

Parish economy. As more people discover Claiborne Parish and the recreational opportunities that it provides, tourism will also increase in terms of contributions to the parish economy. Industry data for business patterns in Claiborne Parish can be found in the table below:

Table 1-2: Business Patterns in Claiborne Parish
(Source: http://censtats.census.gov/cgi-bin/cbpnaic/cbpsect.pl)

Business Description	Number of Employees	Number of Establishments	Annual Payroll ($1,000)
Retail Trade	359	51	8,219
Manufacturing	199	9	8,099
Health Care and Social Assistance	853	23	20,636
Mining, Quarrying, Oil and Gas Extraction	318	16	18,402
Transportation and Warehousing	183	15	11,491
Construction	100-249	16	___
Administration and Support and Waste Management and Remediation Services	0-19	6	373
Real Estate and Rental and Leasing	20-99	4	___
Wholesale Trade	149	12	6,663
Other Services (except Public Administration)	88	25	1,586
Accommodation and Food Services	177	18	2,032
Financial and Insurance	89	23	2,876
Professional, Scientific, and Technical Services	20-99	11	___
Information	0-19	5	___
Educational Services	20-99	1	___
Arts, Entertainment, and Recreation	0-19	1	___
Management of Companies and Enterprises	0-19	1	___
Agriculture, Forestry, Fishing and Hunting	20-99	11	1,162
Utilities	20-99	6	___

While nature has presented the parish with a variety of hazards, the parish has the human resources that can face those hazards and manage the impact they have on people and property. This plan will discuss hazards affecting Claiborne Parish. Hazard Profiles (see Section Two) contain detailed information on the likelihood of occurrence, possible magnitude or intensity, areas of the parish that could be affected, and conditions that could influence the manifestation of the hazard.

Hazard Mitigation

To fully understand hazard mitigation efforts in Claiborne Parish and throughout Louisiana, it is first crucial to understand how hazard mitigation relates to the broader concept of emergency management. In the early 1980s, the newly-created Federal Emergency Management Agency (FEMA) was charged with developing a structure for how the federal, state, and local governments would respond to disasters. FEMA developed the *four phases of emergency management*, an approach which can be applied to all disasters. The four phases are as follows:

- **Hazard Mitigation**—described by FEMA and the Disaster Mitigation Act of 2000 (DMA 2000) as "any sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event." The goal of mitigation is to save lives and reduce property damage. Besides significantly

aiding in the obviously desirous goal of saving human lives, mitigation can reduce the enormous cost of disasters to property owners and all levels of government. In addition, mitigation can protect critical community facilities and minimize community disruption, helping communities return to usual daily living in the aftermath of disaster. Examples of mitigation involve a range of activities and actions including the following: land-use planning, adoption and enforcement of building codes, and construction projects (e.g., flood proofing homes through elevation, or acquisition or relocation away from floodplains).

- **Emergency Preparedness**—includes plans and preparations made to save lives and property and to facilitate response operations before a disaster event.
- **Disaster Response**—includes actions taken to provide emergency assistance, save lives, minimize property damage, and speed recovery immediately following a disaster.
- **Disaster Recovery**—includes actions taken to return to a normal or improved operating condition following a disaster.

Figure 1-3 illustrates the basic relationship between these phases of emergency management. While hazard mitigation may occur both before and after a disaster event, it is significantly more effective when implemented before an event occurs. This is one of the key elements of this plan and its overall strategy: reduce risk before disaster strikes in order to minimize the need for post-disaster response and recovery.

As *Figure 1-3* demonstrates, mitigation relies on updating in the wake of disaster. This can give the appearance that mitigation is only reactive rather than proactive. In reality, however, post-disaster revision is a vital component of improving mitigation. Each hazardous event affords an opportunity to reduce the consequences of future occurrences.

Figure 1-3: The Four Phases of Emergency Management and their Relation to Future Hazard Mitigation
(Source: Louisiana State Hazard Mitigation Plan 2014)

Unfortunately, this cycle can be painful for a community. For instance, the risks of disasters that could create catastrophic incidents in Louisiana were thought to be relatively well-understood prior to 2005. However, the impact of the 2005 hurricane season on the Gulf Coast region of the United States prompted a new level of planning and engagement related to disaster response, recovery, and hazard mitigation. Hurricanes Katrina and Rita hit three weeks apart and together caused astonishing damage to human life and to property. The two storms highlighted a hurricane season that spawned 28 storms—unparalleled in American history. The 2005 hurricane season confirmed Louisiana's extreme exposure to natural disasters and both the positive effects and the concerns resulting from engineered flood-protection solutions.

The catastrophic events of 2005 had profound impacts on emergency management and hazard mitigation throughout Louisiana. As detailed later in this document, significant funding has been made available to the State of Louisiana and its parishes for the purpose of hazard mitigation planning. The storms also raised awareness of the importance of hazard mitigation among decision-makers and the general population, which

has been particularly important since natural hazards will likely be increasing in frequency, magnitude, and impact in the coming years due to climate change.

General Strategy

During the last update to the Louisiana State Hazard Mitigation Plan, the State Hazard Mitigation Team (SHMT) began a long-term effort to better integrate key components of all plans with hazard mitigation implications in Louisiana to ensure that the programs, policies, recommendations, and implementation strategies are internally consistent. As each of these documents has been adopted by various agencies within the state, the SHMT has worked to incorporate this information into the decision process.

Part of the ongoing integration process is that GOHSEP encourages the parishes and the local municipalities with independent hazard mitigation plans to utilize the same plan format and methodologies as the State Hazard Mitigation Plan in order to create continuity of information from local to state mitigation plans and programs.

The 2016 Claiborne Parish Hazard Mitigation Plan maintains much of the information from the 2006 and 2011 plan versions, but it now reflects the order and methodologies of the 2011 Louisiana State Hazard Mitigation Plan. The sections in the 2011 Claiborne Hazard Mitigation Plan were as follows:

- Section One Prerequisites
- Section Two Planning Process
- Section Three Risk Assessment
- Section Four Mitigation Strategy
- Section Five Plan Maintenance
- Appendices

This plan update now also coheres with the Plain Writing Act of 2010, which requires federal agencies to use clear communication that is accessible, consistent, understandable, and useful to the public. While the state of Louisiana and its political subdivisions are not required to meet such standards, the Act aligns with best practices in hazard mitigation. Since successful hazard mitigation relies on full implementation and cooperation at all levels of government and community, a successful hazard mitigation plan must also be easily used at all of these levels. Nevertheless, the Claiborne Parish Hazard Mitigation Steering Committee was not ignorant or dismissive of the successful analysis and mitigation planning executed in previous plan updates. This plan update remains coherent with those documents, retaining language and content when needed, deleting it when appropriate, and augmenting it when constructive.

2016 Plan Update

This 2016 plan update proceeds with the previous goals of the Claiborne Parish Hazard Mitigation Plan. The current goals are as follows:

- Mitigate both critical and non-critical structures and infrastructure around Claiborne Parish to reduce the impact of hazards
- Pursue opportunities to educate the public on the hazards that can impact Claiborne Parish
- Maintain a continuity of government before, during, and after a disaster

This plan update makes a number of textual changes throughout, but the most obvious changes are data related and structural edits. First, the Spatial Hazard Events and Losses Database for the United States (SHELDUS) was used as a data source for hazard identification because it incorporates all storm event data from the National Climatic Data Center (NCDC) Storm Events Database used in previous plans, as well as

storm event data from other sources including the NOAA Storm Prediction Center, National Hurricane Center, and U.S. Fire Administration. Furthermore, all of the sections were updated to reflect the most current information and the most current vision of the plan update. Second, instead of eleven, separate sections for numerous tables, maps, and appendices, the present plan update has four sections and five appendices. The most significant changes are the newly developed hazard profiles and risk assessments, as well as the removal of repetition between sections from the previous plan updates. The 2016 plan update is organized generally as follows:

- Section One Introduction
- Section Two Hazard Identification and Parish-Wide Risk Assessment
- Section Three Capability Assessment
- Section Four Mitigation Strategy
- Appendix A Planning Process
- Appendix B Plan Maintenance
- Appendix C Essential Facilities
- Appendix D Plan Adoption
- Appendix E State Required Worksheets

Table 1-4: Plan Crosswalk

2011 Plan	Revised Plan (2016)
Section 1: Prerequisites	Section 1: Introduction
Section 2: Planning Process	Appendix A: Planning Process
Section 3: Risk Assessment	Section 2: Hazard Identification and Risk Assessment, Section 3: Capability Assessment
Section 4: Mitigation Strategy	Section 4: Mitigation Strategy
Section 5: Plan Maintenance	Appendix B: Plan Maintenance
Appendices	Appendices

Despite changes in this plan update, the plan remains consistent in its emphasis on the few types of hazards that pose the most risk to loss of life, injury, and property in Claiborne Parish and its municipalities. The extent of this risk is dictated primarily by its geographic location. Most significantly, Claiborne Parish remains at high risk of water inundation from various sources, including flooding, tornadoes, and tropical cyclone activity. All of the parish is also at high risk of damages from high winds and wind-borne debris caused by various meteorological phenomena. Other hazards threaten the parish and/or its municipalities, although not to such great degrees and not in such widespread ways. In all cases, the relative social vulnerability of areas threatened and affected plays a significant role in how governmental agencies and their partners (local, parish, state, and federal) prepare for and respond to disasters.

Mitigation efforts related to particular hazards are highly individualized by jurisdiction. Flexibility in response and planning is essential. The most important step forward to improve hazard management capability is to improve coordination and information sharing between the various levels of government regarding hazards.

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2. Hazard Identification and Parish-Wide Risk Assessment

This section assesses the various hazard risks that Claiborne Parish faces in order to identify a strategy for mitigation. Having identified the categories of hazards, emergencies, disasters, and catastrophes, this section details the major climatological and natural/human-influenced hazards by (1) defining them, (2) explaining how they are measured, (3) describing their geographic extent, (4) surveying their previous occurrences, and (5) evaluating their future likelihood of occurrences.

The table below provides an overview of the hazards that had been previously profiled in the Claiborne Parish Hazard Mitigation Plan published in 2011, as well as the hazards that were identified in the State's 2014 Hazard Mitigation Plan that were considered to be of high or medium risk for the parish by the State. Those hazards identified as high or medium risk by the State or previously identified as a risk by the parish, have been determined to provide a risk to the parish and will be profiled in this section.

Table 2-1: Hazard Profile Summary

Hazard	Profiled in Last Plan	Considered Medium or High Risk in the State's HM Plan	Profiled in the 2016 Update
Subsidence/Coastal Land Loss		X	
Drought	X		X
Earthquakes	X		*
Expansive Soils			
Fog			
Flooding	X	X	X
Extreme Heat	X		X
Sinkholes		X	
Thunderstorms (Hail, Lightning, & Wind)	X	X	X
Tornadoes	X	X	X
Tropical Cyclones	X	X	X
Tsunamis			
Wildfires	X		X
Winter Storms	X		X
Dam Failure	X		+
Levee Failure	X		+

* Hazard was profiled but discounted

+ Data deficiency

Prevalent Hazards to the Community

While many of the hazards identified in *Table 2-1* occur in the parish, their occurrence was not merited for further study by the planning committee. The determination was made to focus attention and resources on the most prevalent hazards, which include the hazards previously profiled. The hazards of dam and levee failure claim a data deficiency, while the hazard of earthquakes is discounted due to having no impact on the parish.

The following hazards have been selected to be included in this risk assessment:

a) Drought
b) Earthquakes
c) Extreme Heat
d) Flooding (backwater, riverine, localized stormwater event)
e) Thunderstorms (hail, lightning, wind)
f) Tornadoes
g) Tropical Cyclones (flooding and high winds)
h) Wildfires
i) Winter Storms
j) Dam Failure
k) Levee Failure

For analysis purposes, the impact of the critical and prevalent hazards is summarized as follows:

- Flooding from rivers and waterways, rain storms, tropical cyclones, and hurricanes in the following forms:
  a) Riverine
  b) Stormwater
  c) Surge
  d) Backwater flooding (as the result of river flooding and surge)
- High wind damage most commonly resulting from hurricanes, thunderstorms, and tornadoes
- Property and crop damage resulting from drought, extreme heat, and wildfires

The potential destructive power of tropical cyclones and flooding were determined to be the most prevalent hazards to the parish. Nine of the fourteen Presidential Declarations Claiborne Parish has received resulted from either tropical cyclones (4 declarations) or flooding (5 declarations), which validates these as the most significant hazards. Therefore, the issues of hurricanes and floods will both serve as the main focus during the mitigation planning process. Hurricanes present risks from the potential for flooding, primarily resulting from storm surge, and high wind speeds. While storm surge is considered the hazard with the most destructive potential, the risk assessment will also asses non-storm surge flooding as well. Flooding can also occur from non-hurricane events, as flash floods are a common occurrence due to heavy rainfall.

Hurricanes, tropical storms, and heavy storms are fairly common occurrences, and resultant wind damage is of utmost concern. Damage from high winds can include roof damage, destruction of homes and commercial buildings, downed trees and power lines, and damage and disruption to services caused by heavy debris. A wind map for Claiborne Parish is included in the hurricane risk assessment.

Claiborne Parish is also susceptible to tornadoes. Tornadoes can spawn from tropical cyclones or severe weather systems that pass through Claiborne Parish. High winds produced by tornadoes have the potential to destroy residential and commercial buildings, as well as create wind-borne objects from the debris produced by the destruction of the natural and human environment, such as building materials and trees.

Previous Occurrences

Table 2-2 summarizes federal disaster declarations for Claiborne Parish since 1965. Information includes names, dates, and types of disaster.

Table 2-2: Claiborne Parish Major Disaster Declarations

Disaster Declaration Number	Date	Type of Disaster
3031	2/22/1977	Drought and Freezing
829	5/20/1989	Severe Storms and Flooding
902	4/23/1991	Severe Storms and Flooding
904	5/3/1991	Severe Storms, Tornadoes, and Flooding
1012	2/28/1994	Severe Winter Ice Storm
1264	1/21/1999	Severe Ice Storm
1269	4/9/1999	Severe Storms, Tornadoes, and Flooding
1314	2/15/2000	Severe Winter Storm
1357	1/12/2001	Severe Winter Ice Storm
1603	8/29/2005	Tropical Cyclone – Hurricane Katrina
1607	9/24/2005	Tropical Cyclone – Hurricane Rita
1786	9/2/2008	Tropical Cyclone – Hurricane Gustav
1863	12/10/2009	Severe Storms, Tornadoes, and Flooding
4080	8/29/2012	Tropical Cyclone – Hurricane Isaac

Probability of Future Hazard Events

The probability of a hazard event occurring in Claiborne Parish is estimated in the table on the following page. The percent chance of an event happening during any given year was calculated by posting past events and dividing by the time period. Unless otherwise indicated, the time period used to access probability followed the method used in the State of Louisiana's most current Hazard Mitigation Plan. The primary source for historical data used throughout the plan is the Spatial Hazards Events and Losses Database (SHELDUS), which provides historical hazard data from 1960 to 2014. In staying consistent with the state plan, the SHELDUS database was evaluated for the last twenty-five years (1990 – 2015) in order to determine future probability of a hazard occurring. While the 25-year record used by the State was adopted for the purpose of determining the overall probability, in order to assist with determining estimated losses, unless otherwise stated, the full 54-year record was used when Hazus-Multi-Hazard (MH) wasn't available to determine losses. This full record was used to provide a more extensive record to determine losses. All assessed damages were adjusted for inflation in order to reflect the equivalent amount of damages with the value of the U.S. dollar today. In addition, the National Climatic Data Center (NCDC) was also used to help identify hazard data specific to the municipalities. This was used due to it containing specific data for cities, whereas the data within SHELDUS is limited to parishes.

The following table shows the annual probability for each hazard occurring across the parish and in separate jurisdictions:

Table 2-3: Probability of Future Hazard Reoccurrence

Hazard	Probability				
	Claiborne Parish (Unincorporated)	Athens	Haynesville	Homer	Lisbon
Drought	4%	4%	4%	4%	4%
Earthquakes	<1%	<1%	<1%	<1%	<1%
Extreme Heat	4%	4%	4%	4%	4%
Flooding	24%	4%	8%	56%	<1%
Thunderstorms (Hail)	100%	100%	100%	100%	100%
Thunderstorms (Lightning)	24%	24%	24%	24%	24%
Thunderstorms (Wind)	100%	100%	100%	100%	100%
Tornadoes	24%	24%	24%	24%	24%
Tropical Cyclones	12%	12%	12%	12%	12%
Wildfires	<1%	<1%	<1%	<1%	<1%
Winter Storms	72%	72%	72%	72%	72%
Dam Failure	<1%	<1%	<1%	<1%	<1%
Levee Failure	<1%	<1%	<1%	<1%	<1%

As shown in *Table 2-3*, thunderstorm winds and hailstorms for the entire planning area, have the highest annual chance of occurrence in the parish (100%). Winter storms have a 72% annual chance of reoccurrence, followed by flooding for the incorporated area of Homer (56%). Flood events in the remaining incorporated and unincorporated areas have a slightly lower chance of occurring annually. Lightning and tornadoes have a 24% annual chance of reoccurrence, followed by tropical cyclones (12%), drought and extreme heat (4%), and wildfires (<1%). Earthquakes were discounted since the annual chance of occurrence was calculated at less than 1% and the hazard has no impact on Claiborne Parish. Dam and levee failure claim a data deficiency.

Inventory of Assets for the Entire Parish

As part of the Risk Assessment, the planning team identified essential facilities throughout the parish. Several methods were used to assist in identifying all essential facilities, including field data collected by the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) on critical infrastructure from a previous hazard mitigation project.

Within the entire planning area, there is an estimated value of $2,346,525,000 in structures throughout the parish. The tables on the following page provide the total estimated value for each type of structure by occupancy.

Table 2-4: Estimated Total of Potential Losses throughout Claiborne Parish

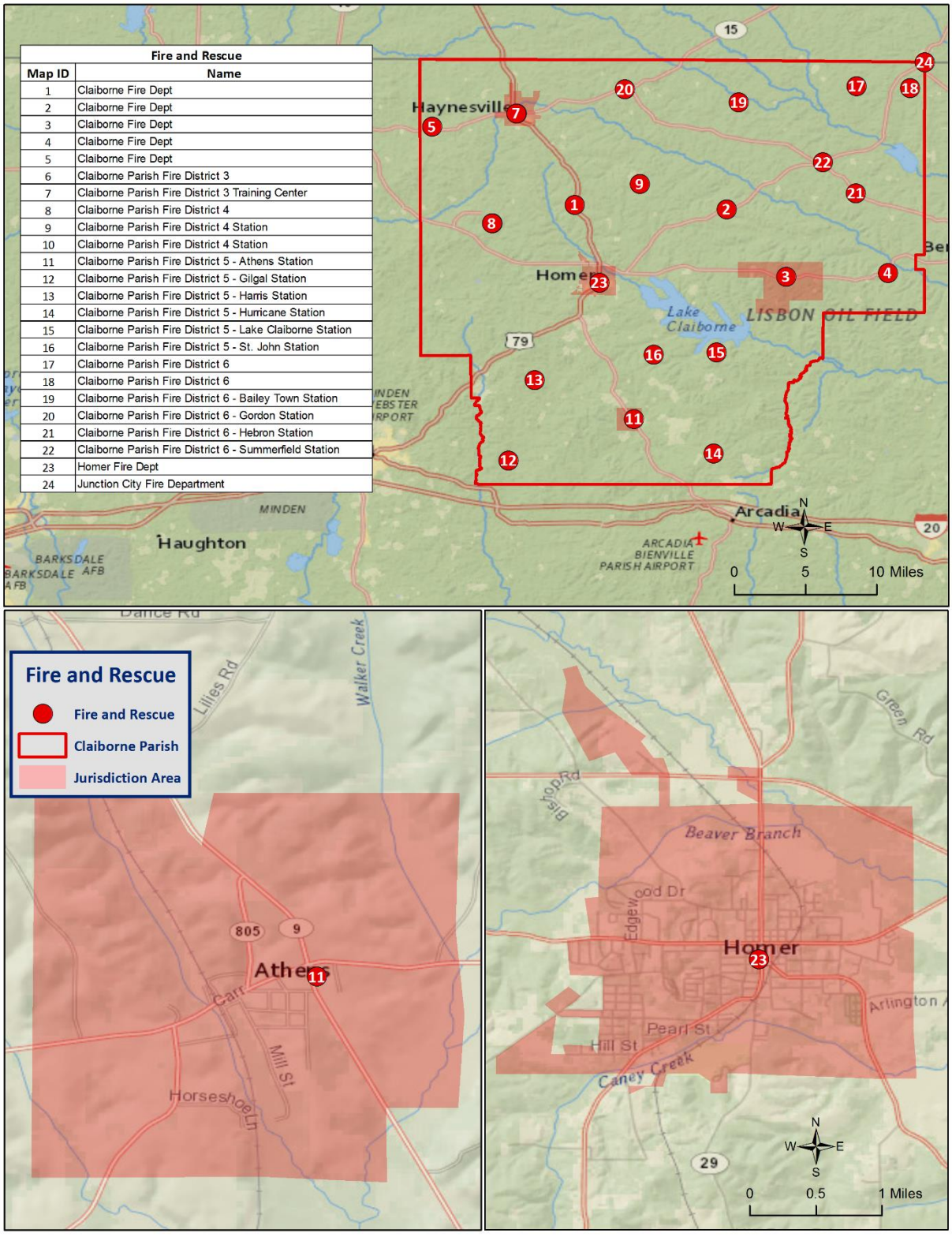
Occupancy	Claiborne Parish	Unincorporated Claiborne	Athens
Agricultural	$15,940,000	$15,940,000	$0
Commercial	$260,701,000	$92,145,000	$928,000
Government	$34,833,000	$2,410,000	$0
Industrial	$144,964,000	$127,377,000	$1,714,000
Religion	$105,118,000	$65,580,000	$882,000
Residential	$1,737,295,000	$986,599,000	$30,785,000
Education	$47,674,000	$20,638,000	$0
Total	$2,346,525,000	$1,310,689,000	$34,309,000

Table 2-4: Estimated Total of Potential Losses throughout Claiborne Parish (Continued)

Occupancy	Haynesville	Homer	Lisbon
Agricultural	$0	$0	$0
Commercial	$30,925,000	$136,363,000	$340,000
Government	$7,495,000	$24,928,000	$0
Industrial	$8,422,000	$7,039,000	$412,000
Religion	$13,544,000	$25,112,000	$0
Residential	$291,206,000	$399,536,000	$29,169,000
Education	$4,944,000	$18,736,000	$3,356,000
Total	$356,536,000	$611,714,000	$33,277,000

Essential Facilities of the Parish

The following figures show the locations and names of the essential facilities within the parish:



Fire and Rescue	
Map ID	Name
1	Claiborne Fire Dept
2	Claiborne Fire Dept
3	Claiborne Fire Dept
4	Claiborne Fire Dept
5	Claiborne Fire Dept
6	Claiborne Parish Fire District 3
7	Claiborne Parish Fire District 3 Training Center
8	Claiborne Parish Fire District 4
9	Claiborne Parish Fire District 4 Station
10	Claiborne Parish Fire District 4 Station
11	Claiborne Parish Fire District 5 - Athens Station
12	Claiborne Parish Fire District 5 - Gilgal Station
13	Claiborne Parish Fire District 5 - Harris Station
14	Claiborne Parish Fire District 5 - Hurricane Station
15	Claiborne Parish Fire District 5 - Lake Claiborne Station
16	Claiborne Parish Fire District 5 - St. John Station
17	Claiborne Parish Fire District 6
18	Claiborne Parish Fire District 6
19	Claiborne Parish Fire District 6 - Bailey Town Station
20	Claiborne Parish Fire District 6 - Gordon Station
21	Claiborne Parish Fire District 6 - Hebron Station
22	Claiborne Parish Fire District 6 - Summerfield Station
23	Homer Fire Dept
24	Junction City Fire Department

Figure 2-1: Fire and Rescue Buildings in Claiborne Parish

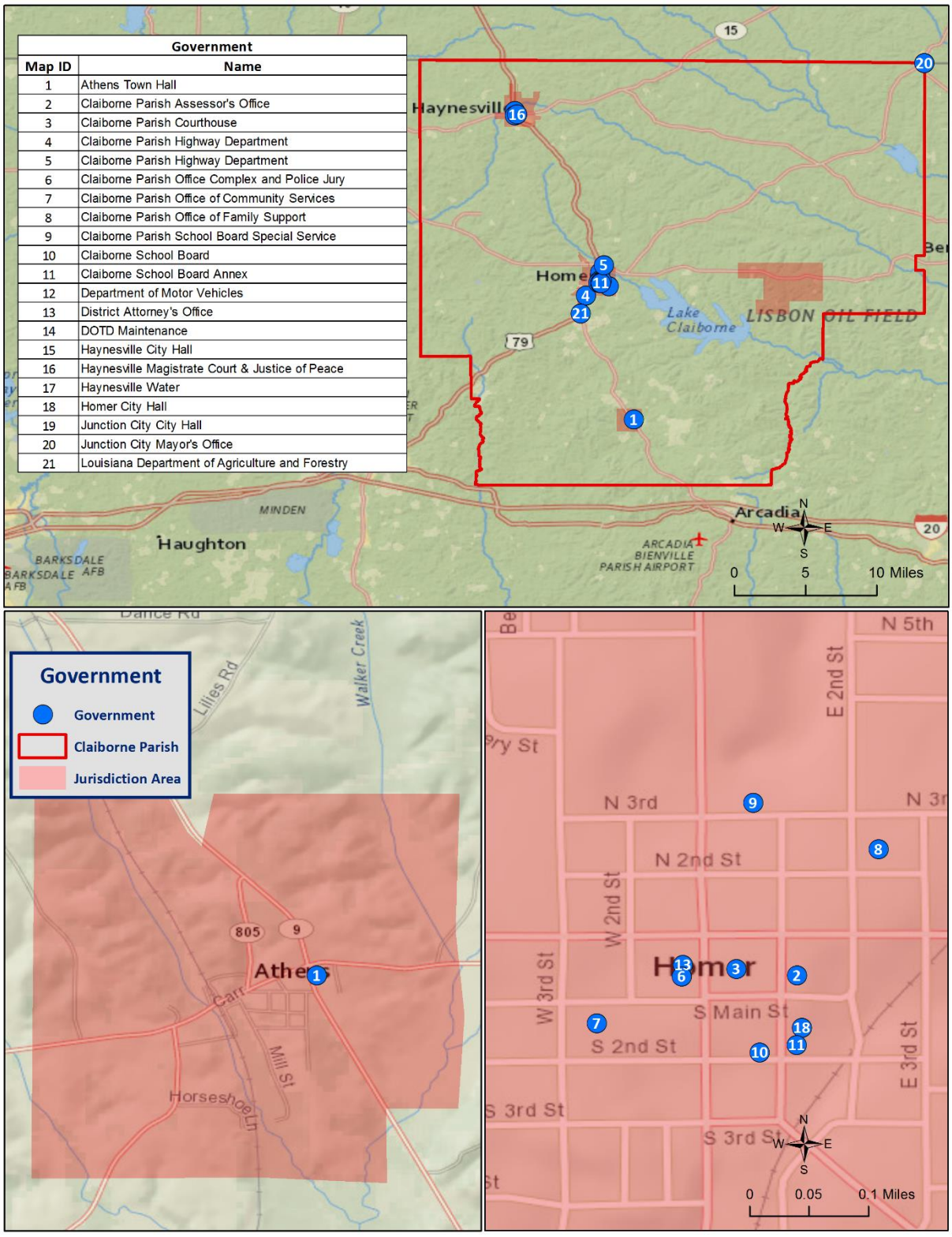


Figure 2-2: Government Buildings in Claiborne Parish

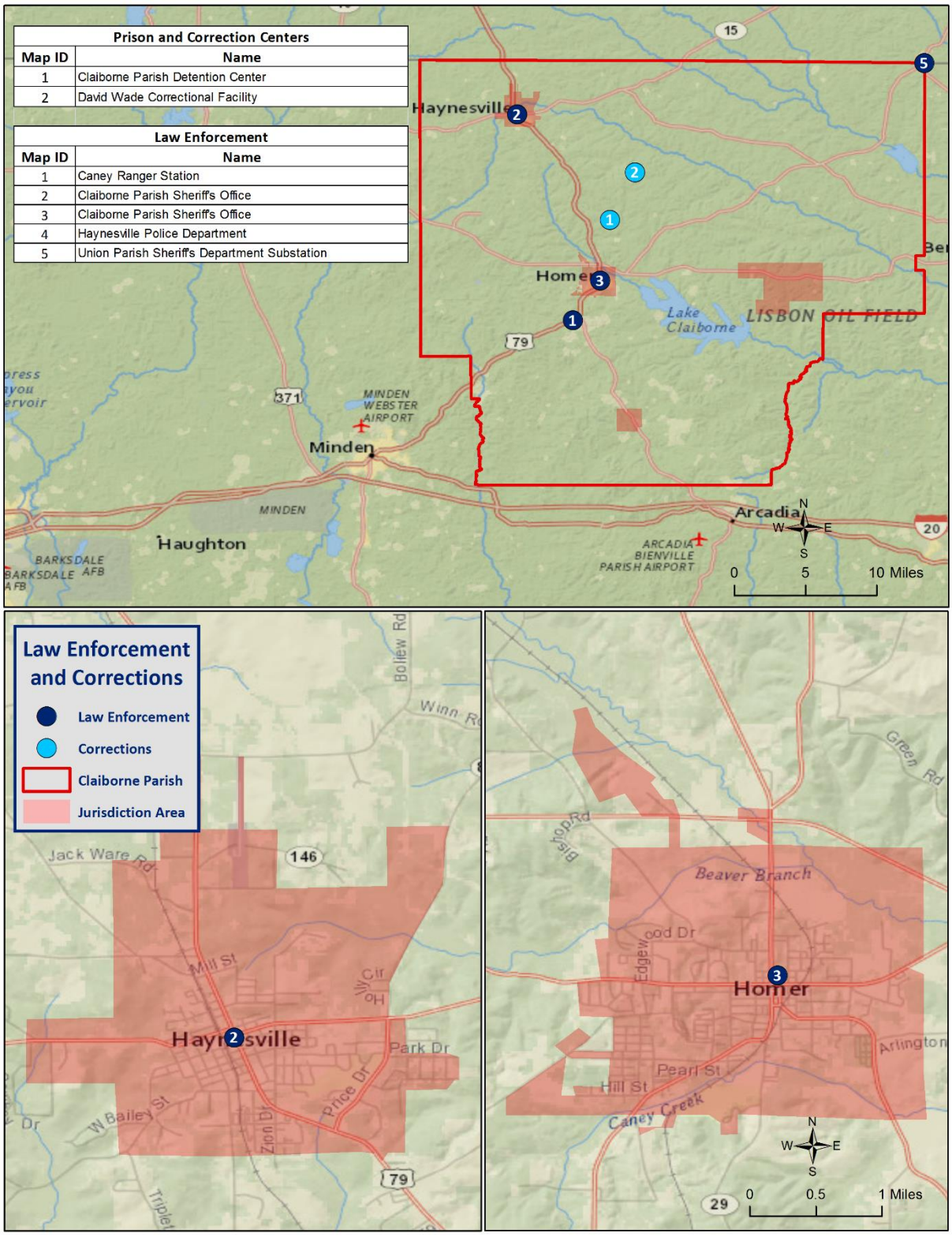


Figure 2-3: Law Enforcement and Corrections Buildings in Claiborne Parish

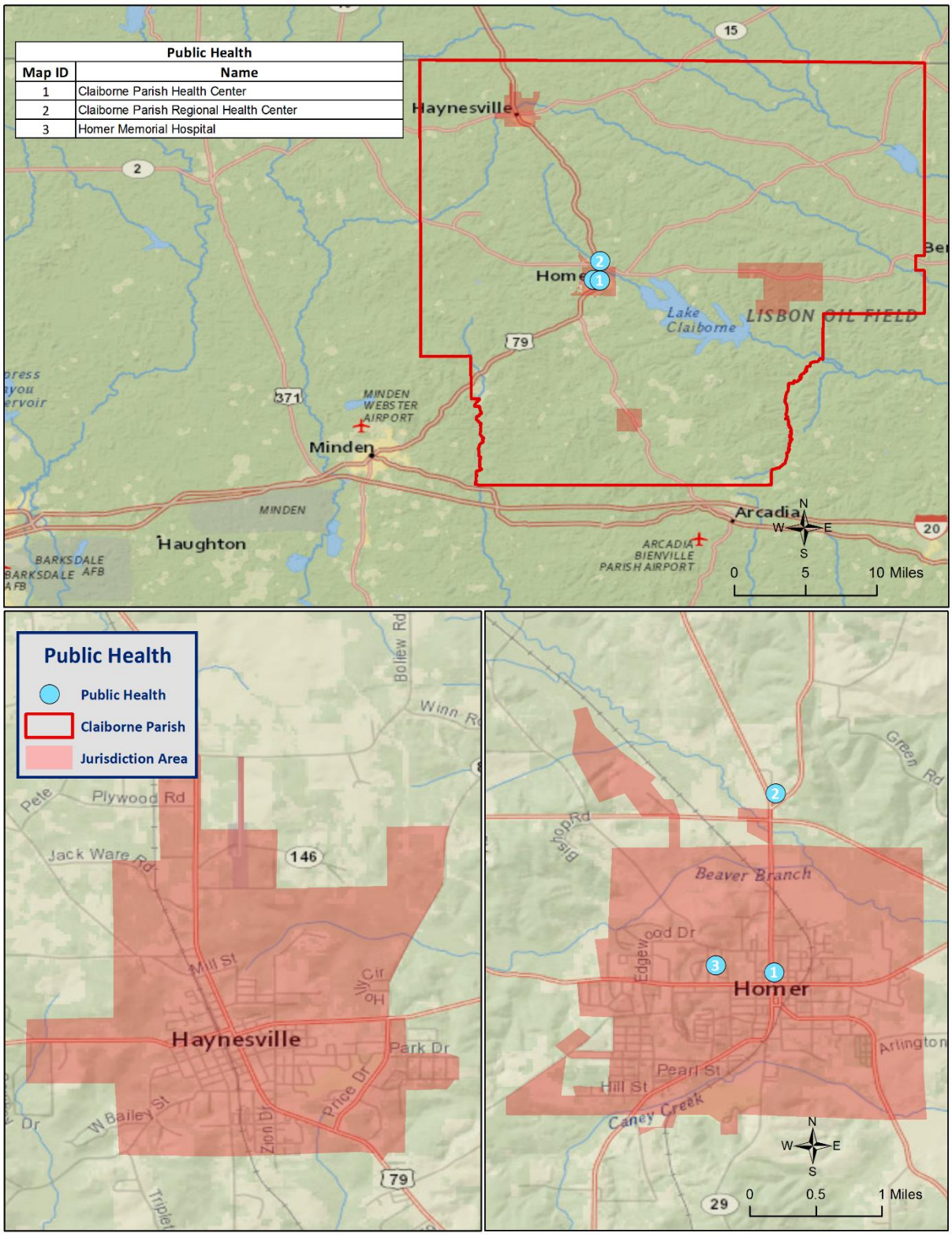


Figure 2-4: Public Health Buildings in Claiborne Parish

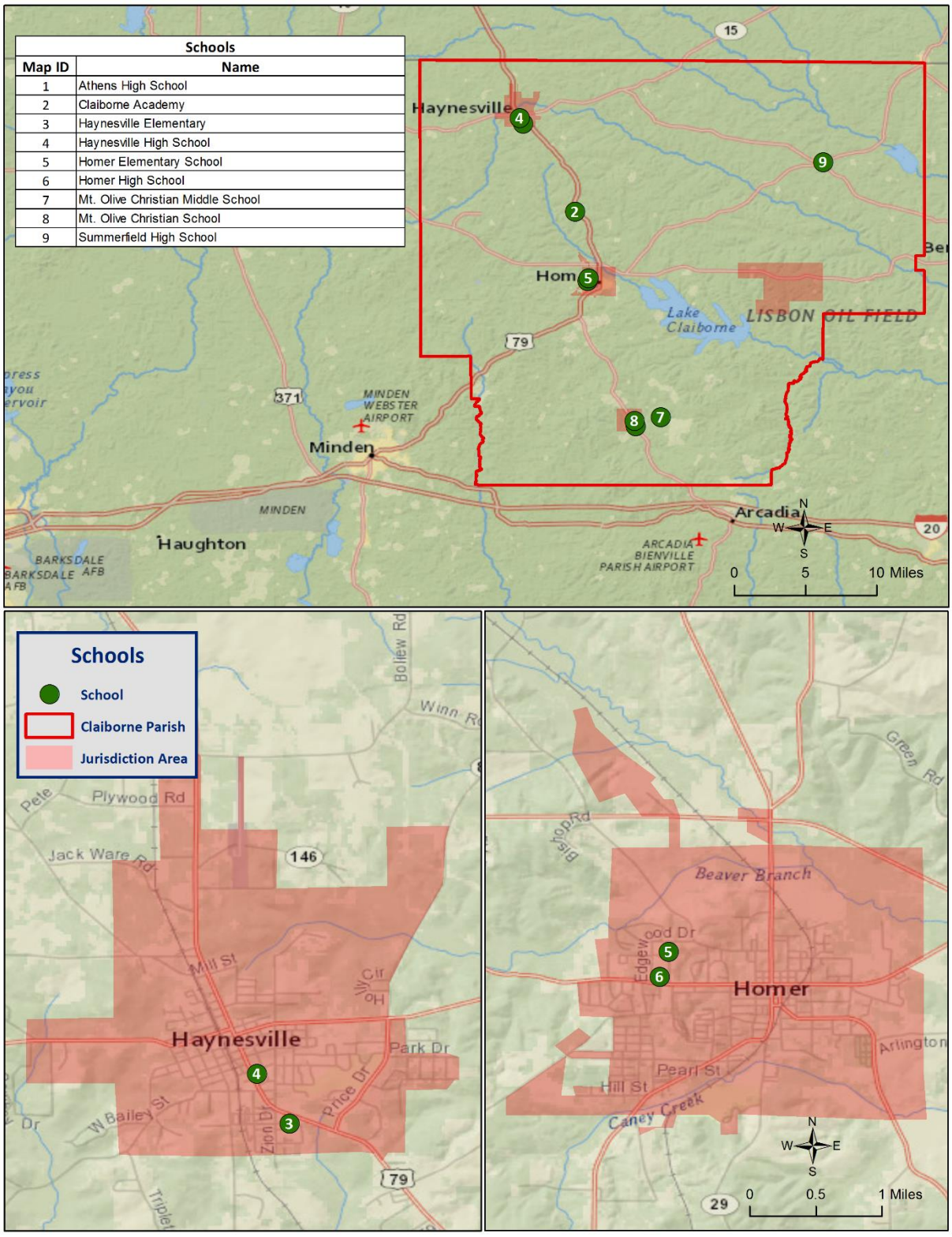


Figure 2-5: School Buildings in Claiborne Parish

Future Development Trends

Claiborne Parish experienced a small growth in population and a decline in housing between the years of 2000 and 2014, growing from a population of 16,811 with 7,815 housing units in 2000 to a population of 16,817 with 7,773 housing units in 2014. This population growth was largely in the unincorporated areas of Claiborne Parish, and in the incorporated area of Lisbon from the years 2000 to 2010, and in the incorporated areas of Athens and Lisbon from 2010 to 2014. The future population and number of buildings can be estimated using U.S. Census Bureau housing and population data. The following tables show population and housing unit estimates from 2000 to 2014:

Table 2-5: Population Growth Rate for Claiborne Parish

Total Population	Claiborne Parish	Claiborne (Unincorporated)	Athens	Haynesville	Homer	Lisbon
1-Apr-00	16,811	9,995	268	2,670	3,713	165
1-Apr-10	17,141	11,166	248	2,318	3,225	184
1-Jul-14	16,817	10,598	280	2,548	3,129	262
Population Growth between 2000 – 2010	2.0%	11.7%	-7.5%	-13.2%	-13.1%	11.5%
Average Annual Growth Rate between 2000 – 2010	0.2%	1.2%	-0.7%	-1.3%	-1.3%	1.2%
Population Growth between 2010 – 2014	-1.9%	-5.1%	12.9%	9.9%	-3.0%	42.4%
Average Annual Growth Rate between 2010 – 2014	-0.47%	-1.27%	3.23%	2.48%	-0.74%	10.60%

Table 2-6: Housing Growth Rate for Claiborne Parish

Total Housing Units	Claiborne Parish	Claiborne (Unincorporated)	Athens	Haynesville	Homer	Lisbon
1-Apr-00	7,815	4,635	137	1,247	1,709	87
1-Apr-10	7,761	4,708	140	1,188	1,619	106
1-Jul-14	7,773	4,629	182	1,282	1,557	123
Housing Growth between 2000 – 2010	-0.7%	1.6%	2.2%	-4.7%	-5.3%	21.8%
Average Annual Growth Rate between 2000 – 2010	-0.1%	0.2%	0.2%	-0.5%	-0.5%	2.2%
Housing Growth between 2010 – 2014	0.2%	-1.7%	30.0%	7.9%	-3.8%	16.0%
Average Annual Growth Rate between 2010 – 2014	0.0%	-0.4%	7.5%	2.0%	-1.0%	4.0%

As shown in the previous tables, Claiborne Parish has experienced slight growth in population and a decline in housing units. Housing rates fell at -0.1% annually from 2000 to 2010, and were stagnant from 2010 to 2014. Population grew at an annual rate of 0.2% from 2000 to 2010, and fell at a rate of -0.47% annually from 2010 to 2014. From 2000 to 2010, the unincorporated area of Claiborne Parish had the largest increase in population rate at 11.7%, followed by the incorporated area of Lisbon at 11.5%. From 2010 to 2014, Lisbon experienced the largest growth in population at 42.4%, followed by Athens at 12.9%.

The incorporated area of Lisbon experienced the largest increase in housing units from 2000 to 2010 at 21.8%, followed by the incorporated area of Athens at 2.2%. From 2010 to 2014, the incorporated area of Athens experienced the largest increase in housing units at 30%, followed by Lisbon at 16%.

Future Hazard Impacts

Hazard impacts were estimated for five years and ten years in the future (2019 and 2024). Yearly population and housing growth rates were applied to parish inventory assets for composite flood and tropical cyclones. Based on a review of available information, it is assumed that population and housing units will grow slightly within Claiborne Parish from the present until 2024. A summary of estimated future impacts is shown in the table below. Dollar values are expressed in future costs and assume an annual rate of inflation of 1.02%. No changes in development have impacted the community's vulnerability since the plans last update.

Table 2-7: Estimated Future Impacts, 2019-2024
(Source: Hazus, US Census Bureau)

Hazard / Impact	Total in Parish (2014)	Hazard Area (2014)	Hazard Area (2019)	Hazard Area (2024)
Flood Damage				
Structures	7,770	160	160	160
Value of Structures	$2,369,549,590	$48,920,623	$51,368,284	$53,414,298
# of People	16,817	347	347	347
Tropical Cyclone				
Structures	7,773	7,773	7,773	7,774
Value of Structures	$2,370,483,260	$2,370,483,260	$2,493,994,137	$2,597,420,456
# of People	16,817	16,817	16,820	16,821

Land Use

The Claiborne Parish Land Use table is provided on the following page. Residential, commercial, and industrial areas account for only 6% of the parish's land use. Forest land is the largest category at 333,475 acres, accounting for 68% of parish land. At 67,511 acres, agricultural land accounts for 14% of parish lands, while 51,121 acres of wetland areas account for 10% of parish lands. The parish also consists of 8,345 acres of water areas, accounting for 2% of all parish lands.

Table 2-8: Claiborne Parish Land Use
(Source: USGS Land Use Map)

Land Use	Acres	Percentage
Agricultural Land, Cropland, and Pasture	67,511	14%
Wetlands	51,121	10%
Forest Land (not including forested wetlands)	333,475	68%
Urban/Development	29,869	6%
Water	8,345	2%

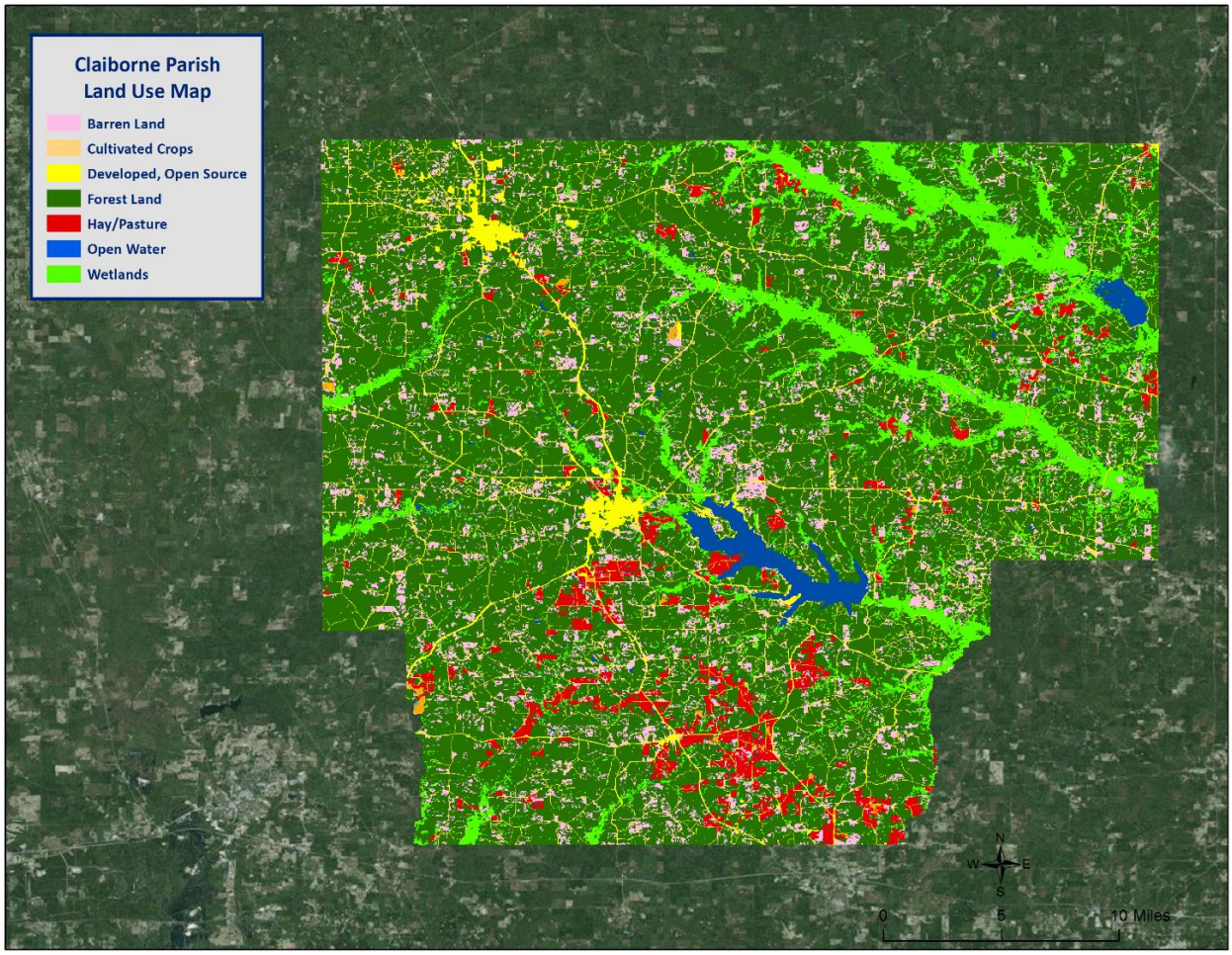


Figure 2-6: Claiborne Parish Land Use Map
(Source: USGS Land Use Map)

Hazard Identification

Drought

A drought is a deficiency in water availability over an extended period of time, caused by precipitation totals and soil water storages that do not satisfy the environmental demand for water, either by evaporation or transpiration through plant leaves. It is important to note that the lack of precipitation alone does not constitute drought; the season during which the precipitation is lacking has a major impact on whether drought occurs. For example, a week of no precipitation in July, when the solar energy to evaporate water and vegetation's need for water to carry on photosynthesis are both high, may trigger a drought, while a week of no precipitation in January may not initiate a drought.

Drought is a unique and insidious hazard. Unlike other natural hazards, no specific threshold of "dryness" exists for declaring a drought. In addition, the definition of drought depends on stakeholder needs. For instance, the onset (and demise) of agricultural drought is quick, as crops need water every few days; once they get rainfall, they improve. But hydrologic drought sets in (and is alleviated) only over longer time periods. A few dry days will not drain a reservoir, but a few rain showers cannot replenish it either. Moreover, different geographical regions define drought differently based on the deviation from local, normal precipitation. Drought can occur anywhere, triggered by changes in the local-to-regional-scale atmospheric circulation over an area, or by broader-scale circulation variations such as the expansion of semi-permanent oceanic high-pressure systems or the stalling of an upper-level atmospheric ridge in place over a region. The severity of a drought depends upon the degree and duration of moisture deficiency, as well as the size of the affected area. Periods of drought also tend to be associated with other hazards, such as wildfires and/or heat waves. Lastly, drought is a slow onset event, causing less direct—but tremendous indirect—damage. Depletion of aquifers, crop loss, and livestock and wildlife mortality rates are examples of direct impacts. Since the groundwater found in aquifers is the source of about 38% of all county and city water supplied to households (and comprises 97% of the water for all rural populations that are not already supplied by cities and counties), droughts can potentially have direct, disastrous effects on human populations. The indirect consequences of drought, such as unemployment, reduced tax revenues, increased food prices, reduced outdoor recreation opportunities, higher energy costs as water levels in reservoirs decrease and consumption increases, and water rationing, are not often fully known. This complex web of impacts causes drought to affect people and economies well beyond the area physically experiencing the drought.

This hazard is often measured using the Palmer Drought Severity Index (PDSI, also known operationally as the Palmer Drought Index). The PDSI, first developed by Wayne Palmer in a 1965 paper for the U.S. Weather Bureau, measures drought through recent precipitation and temperature data with regard to a basic supply-and-demand model of soil moisture. It is most effective in long-term calculations. Three other indices used to measure drought are the Palmer Hydrologic Drought Index (PHDI), the Crop Moisture Index (CMI), which is derived from the PDSI, and the Keetch-Byram Drought Index (KBDI), created by John Keetch and George Byram in 1968 for the U.S. Forest Service. The KBDI is used mainly for predicting the likelihood of wildfire outbreaks. As a compromise, the PDSI is used most often for droughts since it is a medium-response drought indicator. The objective of the PDSI is to provide measurements of moisture conditions that are standardized so that comparisons using the index can be made between locations and between months. *Table 2-9* displays the range and Palmer classifications of the PDSI index. *Figure 2-7* displays the current drought monitor for the state of Louisiana and its parishes.

Table 2-9: Palmer Drought Severity Index Classification and Range

Range	Palmer Classifications
4.0 or more	Extremely Wet
3.0 to 3.9	Very Wet
2.0 to 2.9	Moderately Wet
1.0 to 1.99	Slightly Wet
0.5 to 0.99	Incipient Wet Spell
0.49 to -0.49	Near Normal
-0.5 to -0.99	Incipient Dry Spell
-1.0 to -1.99	Mild Drought
-2.0 to -2.99	Moderate Drought
-3.0 to -3.99	Severe Drought
-4.0 or less	Extreme Drought

The PDSI best measures the duration and intensity of drought-inducing circulation patterns at a somewhat long-term time scale, although not as long-term as the PHDI. Long-term drought is cumulative, so the intensity of drought during the current month is dependent on the current weather patterns in addition to the effects of cumulative patterns of previous months. Although weather patterns can change almost overnight from a long-term drought pattern to a long-term wet pattern, as a medium-response indicator, the PDSI responds relatively rapidly. Data compiled by the National Drought Mitigation Center indicates normal conditions exist in Claiborne Parish at the time this plan went to publication (*Figure 2-7*).

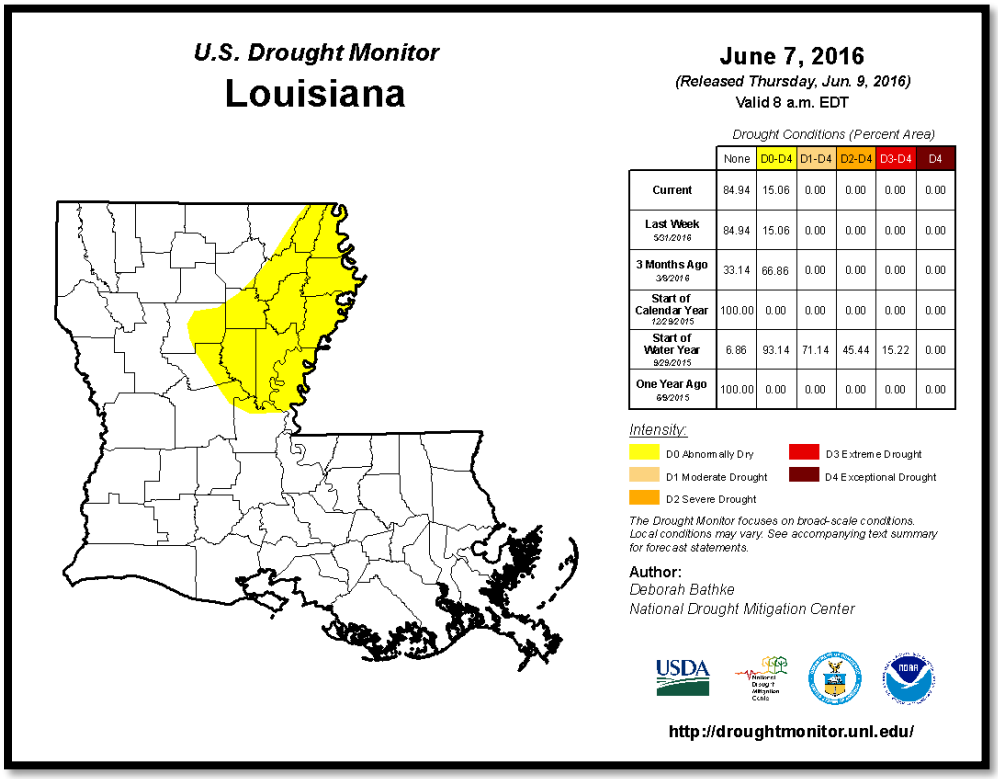


Figure 2-7: United States Drought Monitor for the State of Louisiana and its Parishes (Source: The National Drought Mitigation Center)

Location

Drought typically impacts a region and not one specific parish or jurisdiction. While the entire planning area can experience drought, the major impact of a drought event in Claiborne Parish is on the agricultural community.

Previous Occurrences / Extents

The SHELDUS database reports one drought event occurring within the boundaries of Claiborne Parish between the years of 1990 to 2015. *Table 2-10* identifies the date of occurrence, estimated crop damage, and severity of the event that occurred in Claiborne Parish. Based on previous occurrences, and in accordance with the Palmer Drought Index, the worst case scenario for drought in Claiborne Parish would be a severe drought event.

Table 2-10: Drought Events with Crop Damage Totals for Claiborne Parish (Source: SHELDUS)

Date	Crop Damage	Palmer Classification
June 1998	$1,281,496.99	Severe Drought

Frequency / Probability

Based on previous occurrences of three drought events in 25 years, the probability of drought occurrence in the planning area in any given year is 4%.

Estimated Potential Losses

According to the SHELDUS database, there has been one drought event that has caused some level of crop damage. The total agricultural damage from these events is $1,281,497, with an average cost of $1,281,497 per drought event. When annualizing the total cost over the 25-year record, total annual losses based on drought is estimated to be $51,260. *Table 2-11* presents an analysis of agricultural exposure that is susceptible to drought by major crop type for Claiborne Parish.

Table 2-11: Agricultural Exposure by Crop Type for Droughts in Claiborne Parish (Source: LSU Ag Center 2014 Parish Totals)

Agricultural Exposure by Type for Drought						
Forestry	Hay	Tomatoes	Sweet Corn	Southern Peas	Collards	Total
$43,535,309	$3,712,800	$551,250	$216,625	$150,800	$55,180	$48,221,964

There have been no reported injuries or deaths as a direct result to drought in Claiborne Parish.

Earthquakes

An earthquake is a sudden motion or trembling of the Earth caused by an abrupt release of stored energy in the rocks beneath the Earth's surface. The energy released results in vibrations which are known as seismic waves. Ground motion from seismic waves is expressed as peak ground acceleration (PGA), the fastest measured change in speed for a particle at ground level that is moving because of an earthquake. PGA is commonly measured as a percentage of acceleration due to Earth's gravity (%g). This measurement is relied upon to determine seismic load engineering design and construction requirements. Earthquakes are typically described in terms of magnitude and intensity. Magnitude is the measure of the amplitude of the seismic wave and is often expressed by the Richter scale, and intensity is a measure of how strong the shock was felt at a particular location, indexed by the Modified Mercalli Intensity (MMI) scale. The Richter scale is a logarithmic measurement whereby an increase in the scale by one whole number represents a tenfold increase in measured ground motion of the earthquake (and an increase in energy released of more than 30 times). An increase by two whole numbers represents a 102 (or 100-fold) increase in ground motion, and thus more than 302 (or 900) times the energy released. *Table 2-12* shows the rough correlation between the Richter scale, PGA, and the MMI. The relationship between these is approximate and depends upon such specifics as the depth of the focus (the location of the actual rock movement) and distance from the epicenter (the location on the Earth's surface above the earthquake focus) of the earthquake.

Table 2-12: Comparison of Earthquake Magnitudes for PGA, Richter, and MMI
(Source: USGS Earthquake Hazards Program)

Comparison of Earthquake Metrics			
PGA (%g)	Magnitude (Richter)	Intensity (MMI)	Description (MMI)
<0.17	1.0 - 3.0	I	**I**. Not felt except by a very few under especially favorable conditions.
0.17 - 1.4	3.0 - 3.9	II - III	**II**. Felt only by a few persons at rest, especially on upper floors of buildings. **III**. Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motorcars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
1.4 - 9.2	4.0 - 4.9	IV - V	**IV**. Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motorcars rock noticeably. **V**. Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
9.2 - 34	5.0 - 5.9	VI - VII	**VI**. Felt by all. Some heavy furniture moved; a few instances of fallen plaster. Damage slight. **VII**. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.

Comparison of Earthquake Metrics			
PGA (%g)	Magnitude (Richter)	Intensity (MMI)	Description (MMI)
34 - 124	6.0 - 6.9	VII - IX	**VIII**. Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, and walls. Heavy furniture overturned. **IX**. Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
>124	7.0 and higher	**VIII** or higher	**X**. Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent. **XI**. Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly. **XII**. Damage total. Lines of sight and level are distorted. Objects thrown into the air.

The system of subsidence faults in southern Louisiana developed due to accelerated land subsidence and rapid sediment deposition from the Mississippi River. The system stretches across the southern portion of the state from Beauregard Parish in the west to West Baton Rouge Parish in the east and it includes every parish south of this line. This system is thought to be responsible for many of the recorded earthquakes from 1843 to the present. All of the earthquakes that occurred over this period of time were of low magnitude, resulting mostly in limited property damage (such as broken windows, damaged chimneys, and cracked plaster). While faults throughout the northwestern parishes are thought to be inactive, the New Madrid seismic zone lies just to the north of Louisiana and originates in the region of New Madrid, Missouri. The magnitude of historic earthquakes originating in the New Madrid seismic zone is far greater than that generated by the subsidence fault system in coastal Louisiana. A significant seismic event from the New Madrid seismic zone is more likely to have a greater impact on Louisiana than a seismic event from the subsidence fault system.

Location

An earthquake event is a geological hazard that occurs along fault lines. Claiborne Parish has three fault lines with one running through the southern border of the incorporated area of Athens. A second fault line runs from the western border of the parish south of Haynesville to the eastern border north of Lisbon. The final fault line runs from the eastern border to the northern border of the parish. (*Figure 2-8*). Effects of an earthquake may be felt throughout the parish.

Previous Occurrences / Extents

Both the SHELDUS and National Climatic Data Center report no earthquake events occurring within the boundaries of Claiborne Parish between the years of 1990 to 2015. The National Oceanic and Atmospheric Administration's National Geophysical Data Center reports no earthquake event occurring within the boundaries of Claiborne Parish between the years 1811 – 2015. *Figure 2-8* displays the location of each fault line in Claiborne Parish and surrounding parishes. Based on the previous earthquake events in the surrounding parishes, an earthquake with an intensity level of MMI 1 could occur within the planning area. This intensity of an earthquake would only be felt by a very few people.

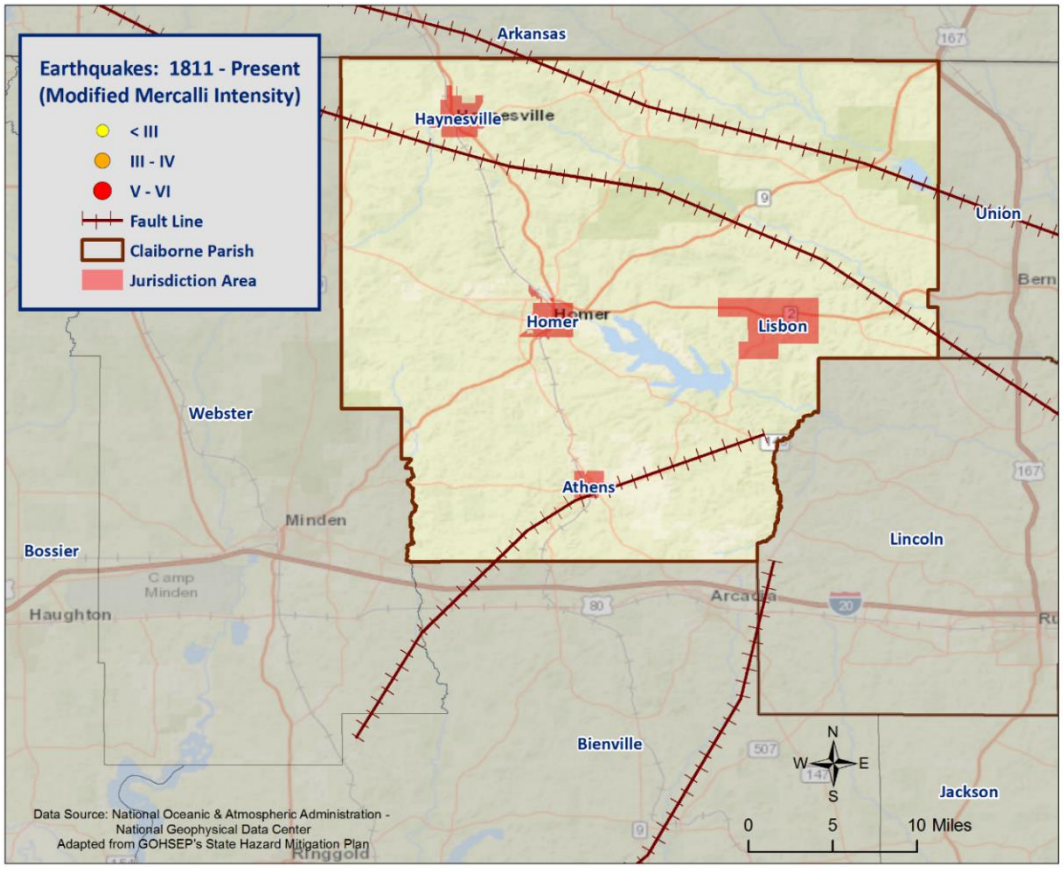


Figure 2-8: Location and Intensity (MMI) of Earthquakes in Claiborne Parish

Frequency / Probability

Earthquakes are an extremely rare occurrence in the State of Louisiana and Claiborne Parish, with no occurrence of an earthquake event within the boundaries of the parish from the years 1811 – 2014. Based on this historical record and Louisiana's State Hazard Mitigation Plan, it is determined that an earthquake event has less than a 1% annual chance of occurrence in the Claiborne Parish planning area, and it has no impact on the parish. As a result, earthquakes are not carried forward into risk assessment and are discounted.

Extreme Heat

There is no operational definition for defining heat or a heat wave. Heat waves are the consequence of the same weather pattern as drought, and therefore both hazards often occur concurrently. A heat wave is an extended period of oppressive and above normal temperatures over a given period of time. The World Meteorological Organization recommends the declaration of a heat wave when the daily maximum temperature exceeds the average maximum temperatures by 9 °F and lasts for a period of at least five days.

However, temperature alone is insufficient to describe the stress placed on humans (as well as flora and fauna) in hot weather. It is crucial to consider the effect of relative humidity since it is essential to the body's ability to perspire and cool. Once air temperature reaches 95 °F, perspiration becomes a very significant biophysical mechanism to ensure heat loss. Perspiration is ineffective as a cooling mechanism if the water cannot evaporate (i.e., sweating in high relative humidity is reduced as compared to during dry conditions). To communicate this relationship between temperature and humidity, the National Weather Service (NWS) developed the Heat Index (HI), which provides a warning system based on a combination of air temperature and relative humidity. The HI is presented in *Table 2-13* and *Table 2-14* summarizes the HI risk levels and protective measures. The NWS devised the index for shady, light wind conditions, and thus advises that the HI value can be increased by as much as 15 °F if a person is in direct sunlight with strong, hot winds present.

Most heat disorders (e.g., sunburn, heat cramps, heat exhaustion, and heat stroke) occur because the victim has been overexposed to heat, or has over-exercised in relation to their age and physical condition. Other circumstances that can induce heat-related illnesses include stagnant atmospheric conditions and poor air quality. Seniors and children are most at risk from adverse heat effects.

Extreme heat can also damage roads, bridges, utilities, and railroads. Extreme heat can cause pavement to soften, creating the buckling of roads and highways, which can result in potholes and rutting. These damaged roads can create hazardous conditions, causing motorists to find alternate transportation routes. Old water and sewer lines can deteriorate, increasing the likelihood of line ruptures during extreme heat. The demands on water supplies can result in water rationing, shortages, and restrictions. Extreme heat can also cause strain on several power grids, causing people to minimize the consumption of power during the hottest parts of the day due to overheating. The overwhelming demand of excess electrical power usage can also cause a strain on power capacities, resulting in blackout and /or brown outs. vehicles can overheat, and tires will deteriorate. High temperatures can be partially responsible for the expansion, buckling, or deflection of rails requiring track repairs or speed restrictions to avoid derailments.

Extreme heat can also be detrimental to the agricultural community. Extreme heat stress can reduce plant photosynthetic and transpiration efficiencies and negatively impact plant root development, which collectively can negatively impact yield. Heat injury in plants includes scalding and scorching of leaves and stems, sunburn on fruits and stems, leaf drop, rapid leaf death, and reduction in growth and yield. Extreme heat is particularly impactful when extreme heat is accompanied by drought conditions. The reduced moisture in the soil further exacerbates the effects of extreme temperatures.

The agrarian issues associated with extreme heat are relevant throughout the state, but are particularly significant in rural and agricultural parishes. A reduction of crop yield will diminish the incomes of farmers and producers in the area. If the reduced crop yield lasts over an extended period of time, the resulting reduction in disposable income could have a negative impact on businesses in the affected communities. People wouldn't have any extra money to spend at local establishments, and businesses would be forced to close for good.

Table 2-13 : Heat Index Advisor based on Air Temperature (°F) and Relative Humidity (Source: National Weather Service)

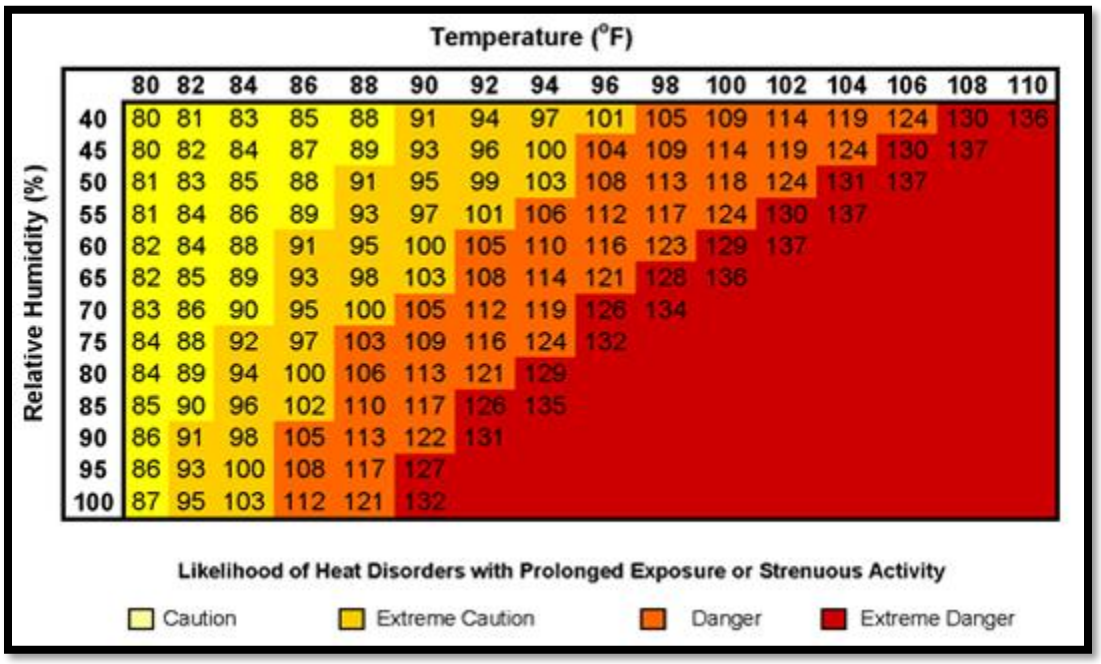


Table 2-14: Summary of Heat Index Risk Levels with Protective Measures (Source: National Weather Service)

Heat Index	Risk Level	Protective Measures
Less than 91°F	Lower (Caution)	Basic heat safety and planning.
91°F to 103°F	Moderate	Implement precautions and heighten awareness.
103°F to 115°F	High	Additional precautions to protect workers.
Greater than 115°F	Very High to Extreme	Triggers even more aggressive protective measures.

Location

Extreme heat typically impacts a region and not one specific parish or jurisdiction. Because extreme heat is a climatological based hazard and has the same probability of occurring in Claiborne Parish as all of the adjacent parishes, the entire planning area for Claiborne Parish is equally at risk for extreme heat.

Previous Occurrences / Extents

The SHELDUS database reports a total of one significant extreme heat event occurring within the boundaries of Claiborne Parish between the years of 1990 to 2015. *Table 2-15* provides an overview of extreme heat events that have impacted the Claiborne Parish planning area since 1990. Based on historical data, the worst case scenario for Claiborne Parish involving extreme heat would be a high risk level event on the HI scale with temperatures ranging from 103 °F to 115 °F.

Table 2-15: Previous Occurrences of Extreme Heat in Claiborne Parish (Source: NOAA)

Date	Temperature (°F)
August 15, 2010	103
July 1980	$22,087

Frequency / Probability

Based on the geographical location of the State of Louisiana, and Claiborne Parish in particular, extreme heat events occur frequently. The probability of occurrence is estimated at approximately 4%.

Estimated Potential Losses

According to the SHELDUS database, crop damage due to extreme heat in Claiborne Parish has totaled approximately $7,813 since 1990. To estimate the potential losses of an extreme heat event on an annual basis, the total damages recorded for an extreme event is divided by the total number of years of available extreme heat data in SHELDUS (1990 – 2015). This provides an annual estimated potential loss of $313. The following table, based on the 2010 Census data, provides an estimate of potential crop losses for Claiborne Parish:

Table 2-16: Estimated Annual Crop Losses in Claiborne Parish for Extreme Heat

Estimated Annual Potential Losses from Extreme Heat for Claiborne Parish				
Unincorporated Claiborne (65.1% of Population)	Athens (1.4% of Population)	Haynesville (13.5% of Population)	Homer (18.8% of Population)	Lisbon (1.1% of Population)
$204	$5	$42	$59	$3

There has been one fatality due to extreme heat in Claiborne Parish. On August 15, 2010, a 64-year-old male was found deceased in his home. There was no air conditioner in his home at the time he was found. It was determined that he died as a result of the extreme heat.

Vulnerability

See Appendix C for parish and municipality agricultural exposure to extreme heat hazards.

Flooding

A flood is the overflow of water onto land that is usually not inundated. The National Flood Insurance Program defines a flood as:

> A general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties from overflow of inland or tidal waves, unusual and rapid accumulation or runoff of surface waters from any source, mudflow, or collapse or subsidence of land along the shore of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood as defined above.

Factors influencing the type and severity of flooding include natural variables such as precipitation, topography, vegetation, soil texture, and seasonality, as well as anthropogenic factors such as urbanization (extent of impervious surfaces), land use (agricultural and forestry tend to remove native vegetation and accelerate soil erosion), and the presence of flood-control structures such as levees and dams.

Excess precipitation, produced from thunderstorms or hurricanes, is often the major initiating condition for flooding, and Louisiana can have high rainfall totals at any time of day or year. During the cooler months, slow-moving frontal weather systems produce heavy rainfalls, while the summer and autumn seasons produce major precipitation in isolated thunderstorm events (often on warm afternoons) that may lead to localized flooding. During these warmer seasons, floods are overwhelmingly of the flash flood variety, as opposed to the slower-developing river floods caused by heavy stream flow during the cooler months.

In cooler months, particularly in the spring, Louisiana is in peak season for severe thunderstorms. The fronts that cause these thunderstorms often stall while passing over the state, occasionally producing rainfall totals exceeding ten inches within a period of a few days. Since soil tends to be nearly saturated at this time (due to relatively low overall evaporation rates), spring typically becomes the period of maximum stream flow across the state. Together, these characteristics increase the potential for high water, with low-lying, poorly drained areas being particularly susceptible to flooding during these months.

In Louisiana, six specific types of flooding are of main concern: riverine, flash, ponding, backwater, urban, and coastal.

- **Riverine flooding** occurs along a river or smaller stream. It is the result of runoff from heavy rainfall or intensive snow or ice melt. The speed with which riverine flood levels rise and fall depends not only on the amount of rainfall, but even more on the capacity of the river itself, as well as the shape and land cover of its drainage basin. The smaller the river, the faster that water levels rise and fall. Thus, the Mississippi River levels rise and fall slowly due to its large capacity. Generally, elongated and intensely-developed drainage basins will reach faster peak discharges and faster falls than circular-shaped and forested basins of the same area.
- **Flash flooding** occurs when locally intense precipitation inundates an area in a short amount of time, resulting in local stream flow and drainage capacity being overwhelmed.
- **Ponding** occurs when concave areas (e.g., parking lots, roads, and clay-lined natural low areas) collect water and are unable to drain.
- **Backwater flooding** occurs when water slowly rises from a normally unexpected direction where protection has not been provided. A model example is the flooding that occurred in LaPlace during Hurricane Isaac in 2012. Although the town was protected by a levee on the side facing the

Mississippi River, floodwaters from Lake Maurepas and Lake Pontchartrain crept into the community on the side of town opposite the Mississippi River.

- **Urban flooding** is similar to flash flooding but is specific to urbanized areas. It takes place when storm water drainage systems cannot keep pace with heavy precipitation, and water accumulates on the surface. Most urban flooding is caused by slow-moving thunderstorms or torrential rainfall.
- **Coastal flooding** can appear similar to any of the other flood types, depending on its cause. It occurs when normally dry coastal land is flooded by seawater, but may be caused by direct inundation (when the sea level exceeds the elevation of the land), overtopping of a natural or artificial barrier, or the breaching of a natural or artificial barrier (i.e., when the barrier is broken down by the sea water). Coastal flooding is typically caused by storm surge, tsunamis, or gradual sea level rise.

For purposes of this assessment, ponding, flash flood, and urban flooding are considered to be flooding as a result of storm water from heavy precipitation thunderstorms

Based on stream gauge levels and precipitation forecasts, the National Weather Service (NWS) posts flood statements, watches, and warnings. The NWS issues the following weather statements with regard to flooding:

- **Flood Categories**
  - Minor Flooding: Minimal or no property damage, but possibly some public threat.
  - Moderate Flooding: Some inundation of structures and roads near streams. Some evacuations of people and/or transfer of property to higher elevations.
  - Major Flooding: Extensive inundation of structures and roads. Significant evacuations of people and/or transfer of property to higher elevations.
  - Record Flooding: Flooding which equals or exceeds the highest stage or discharge at a given site during the period of record keeping.

- **Flood Warning**
  - Issued along larger streams when there is a serious threat to life or property.

- **Flood Watch**
  - Issued when current and developing hydrometeorological conditions are such that there is a threat of flooding, but the occurrence is neither certain nor imminent.

Floods are measured mainly by probability of occurrence. A 10-year flood event, for example, is an event of small magnitude (in terms of stream flow or precipitation) but with a relatively high annual probability of recurrence (10%). A 100-year flood event is larger in magnitude, but it has a smaller chance of recurrence (1%). A 500-year flood is significantly larger than both a 100-year event and a 10-year event, but it has a lower probability than both to occur in any given year (0.2%). It is important to understand that an X-year flood event does not mean an event of that magnitude occurs only once in X years. Instead, it means that on average, we can expect a flood event of that magnitude to occur once every X years. Given that such statistical probability terms are inherently difficult for the general population to understand, the Association of State Floodplain Managers (ASFPM) promotes the use of more tangible expressions of flood probability. As such, the ASFPM also expresses the 100-year flood event as having a 25% chance of occurring over the life of a 30-year mortgage.

It is essential to understand that the magnitude of an X-year flood event for a particular area depends on the source of flooding and the area's location. The size of a specific flood event is defined through historic data of precipitation, flow, and discharge rates. Consequently, different 100-year flood events can have very different impacts. The 100-year flood event in two separate locations have the same likelihood to occur, but they do not necessarily have the same magnitude. For example, a 100-year event for the Mississippi River means something completely different in terms of discharge values (ft^3/s) than for the Amite River. Not only are the magnitudes of 100-year events different between rivers, they can be different along any given river. A 100-year event upstream is different from one downstream due to the variation of river characteristics (volume, discharge, and topography). As a result, the definition of what constitutes a 100-year flood event is specific to each location, river, and time, since floodplain and river characteristics temporally fluctuate. Finally, it is important to note that each flood event is unique. Two hypothetical events at the same location, given the same magnitude of stream flow, may still produce substantially different impacts if there were different antecedent moisture characteristics, different times of day of occurrence (which indicates the population's probable activities at the flood's onset), or other characteristic differences.

The 100-year flood event is of particular significance since it is the regulatory standard that determines the obligation (or lack thereof) to purchase flood insurance. Flood insurance premiums are set depending on the flood zone, as modeled by National Flood Insurance Program (NFIP) Rate Maps. The NFIP and FEMA suggest insurance rates based on Special Flood Hazard Areas (SFHAs), as diagrammed in *Figure 2-9*.

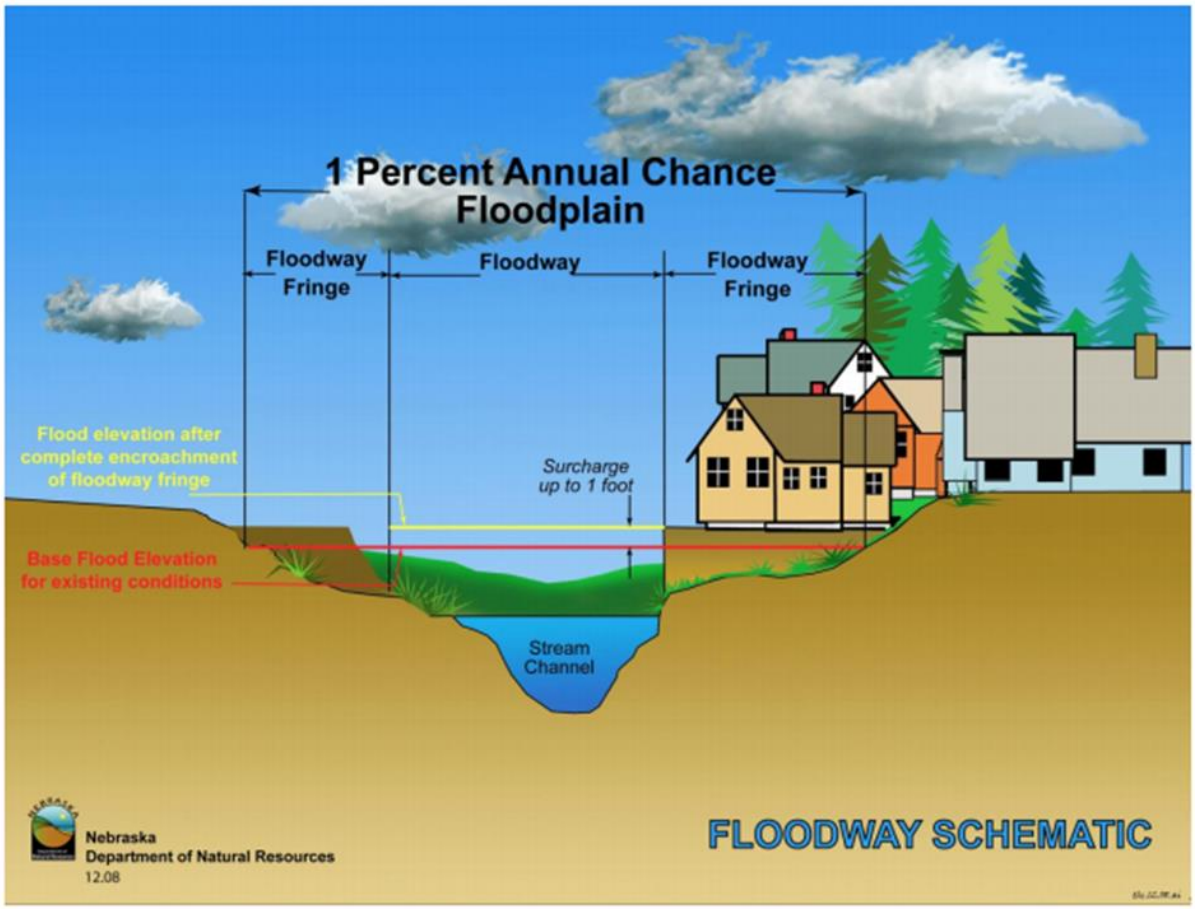


Figure 2-9: Schematic of 100-Year Floodplain. The Special Flood Hazard Area (SFHA) extends to the end of the floodway fringe.
(Source: Nebraska Department of Natural Resources)

A SFHA is the land area covered by the floodwaters of the base flood (red line in *Figure 2-9*), where the NFIP's floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies.

Property Damage

The depth and velocity of flood waters are the major variables in determining property damage. Flood velocity is important because the faster water moves, the more pressure it puts on a structure and the more it will erode stream banks and scour the earth around a building's foundation. In some situations, deep and fast moving waters can push a building off its foundation. Structural damage can also be caused by the weight of standing water (hydrostatic pressure).

Another threat to property from a flood is called "soaking". When soaked, many materials change their composition or shape. Wet wood will swell, and if dried too quickly, will crack, split, or warp. Plywood can come apart and gypsum wallboard can deteriorate if it is bumped before it has time to completely dry. The longer these materials are saturated, the more moisture, sediment, and pollutants they absorb.

Soaking can also cause extensive damage to household goods. Wooden furniture may become warped, making it unusable, while other furnishings such as books, carpeting, mattresses, and upholstery are usually not salvageable. Electrical appliances and gasoline engines will flood, making them worthless until they are professionally dried and cleaned.

Many buildings that have succumbed to flood waters may look sound and unharmed after a flood, but water has the potential to cause severe property damage. Any structure that experiences a flood should be stripped, cleaned, and allowed to dry before being reconstructed. This can be an extremely expensive and time consuming effort.

Repetitive Loss Properties

Repetitive loss structures are structures covered by a contract for flood insurance made available under the NFIP that:

a. Have incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event; and
b. At the time of the second incidence of flood-related damage, the contract for flood insurance contains increased cost of compliance coverage.

Severe repetitive loss (SRL) is defined by the Flood Insurance Reform Act of 2004 and updated in the Biggert-Waters Flood Insurance Reform Act of 2012. For a property to be designated SRL, the following criteria must be met:

a. It is covered under a contract for flood insurance made available under the NFIP; and
b. It has incurred flood related damage –
    1) For which four or more separate claims payments have been made under flood insurance coverage with the amount of each claim exceeding $5,000 and with the cumulative amount of such claims payments exceeding $20,000; or
    2) For which at least two separate claims payments have been made under such coverage, with the cumulative amount of such claims exceeding the market value of the insured structure.

Figures regarding repetitive loss structures for Claiborne Parish are provided in the table below:

Table 2-17: Repetitive Loss Structures for Claiborne Parish

Jurisdiction	Number of Structures	Residential	Commercial	Government	Total Claims	Total Claims Paid	Average Claim Paid
Claiborne Parish (Unincorporated)	0	0	0	0	0	0	$0
Athens	0	0	0	0	0	$0	$0
Haynesville	0	0	0	0	0	$0	$0
Homer	1	1	0	0	2	$91,153	$45,576
Lisbon	0	0	0	0	0	$0	$0
Total	1	1	0	0	2	$91,153	$45,576

The one repetitive loss structure was able to be geocoded in order to provide an overview of where the repetitive loss structures were located throughout the parish. *Figure 2-10* shows the approximate location of the structure, while *Figure 2-11* shows where the highest concentration of repetitive loss structures are located. Through the repetitive loss map, it is clear that the primary concentrated area of repetitive loss structures is focused in the incorporated area of Homer.

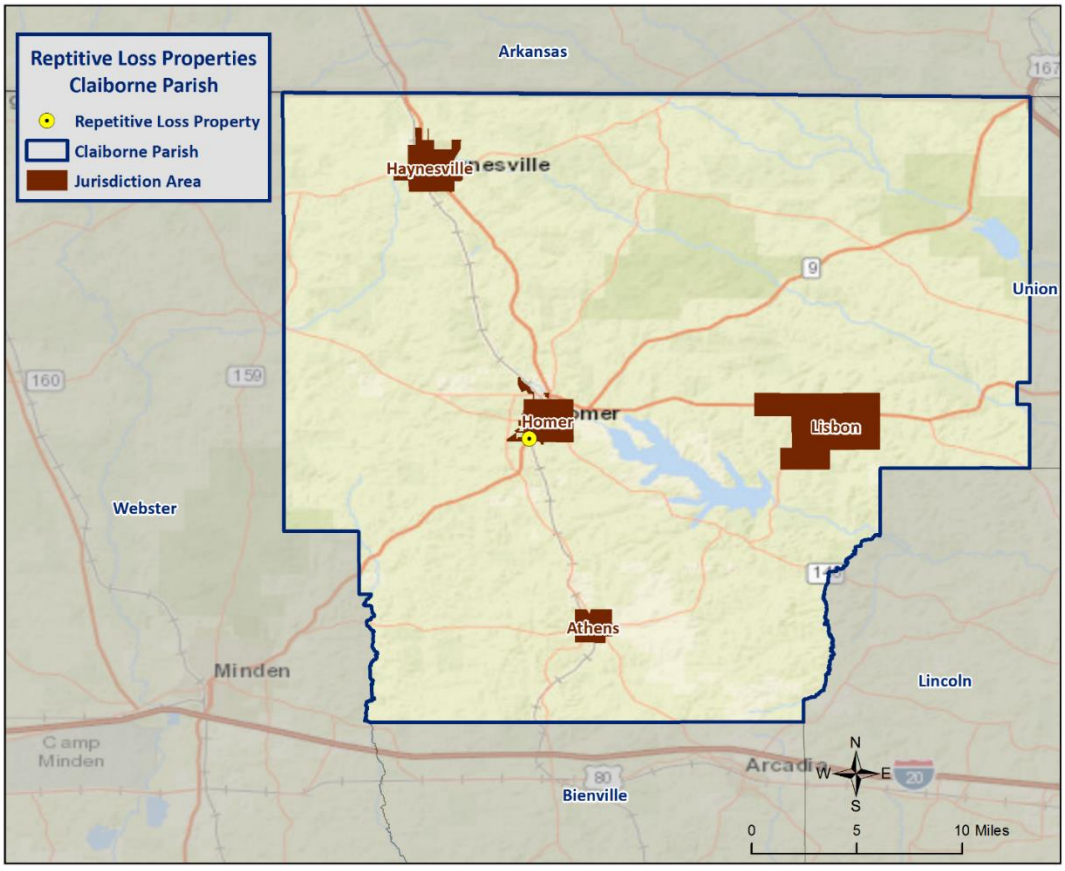


Figure 2-10: Repetitive Loss Properties in Claiborne Parish

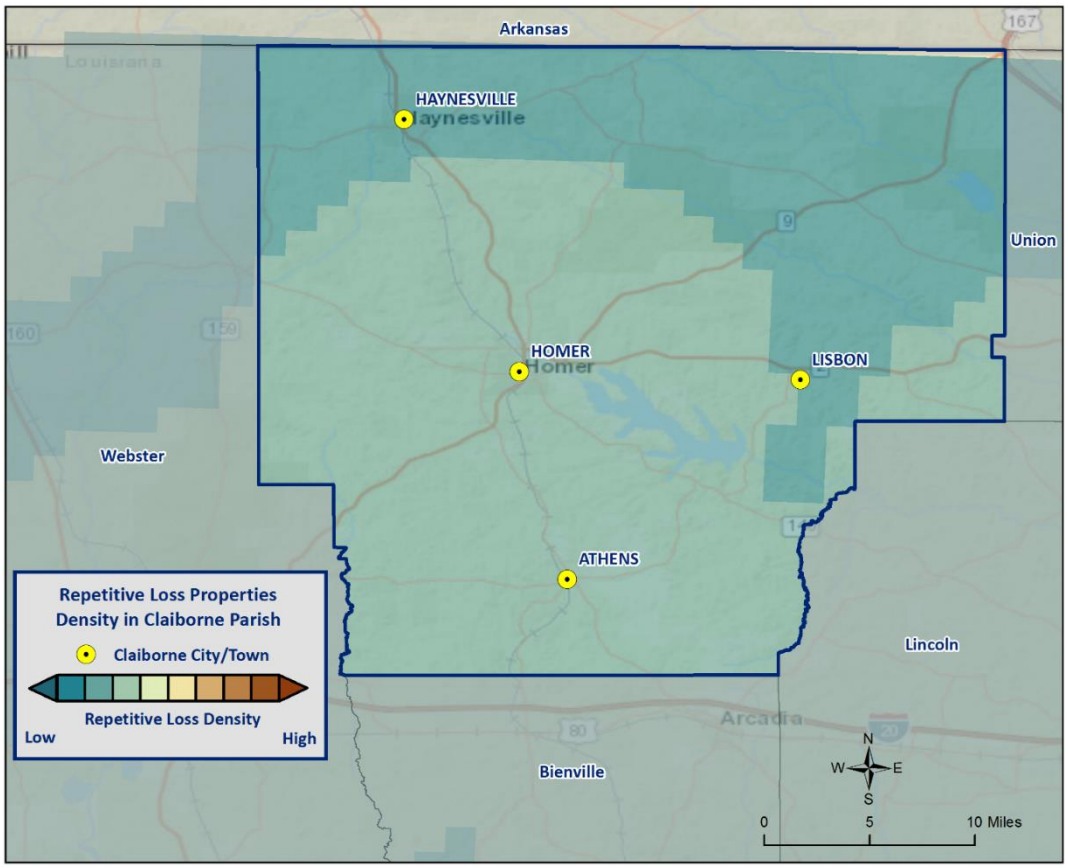


Figure 2-11: Repetitive Loss Property Densities in Claiborne Parish

National Flood Insurance Program

Flood insurance statistics indicate that Claiborne Parish has 96 flood insurance policies with the NFIP, with total annual premiums of $90,475. Claiborne Parish, Haynesville, and Homer are all participants in the NFIP. The incorporated areas of Athens and Lisbon do not participate in NFIP. While the jurisdiction of Athens has previously adopted flood maps, the jurisdiction is very limited when it comes to personnel, funding, and resources needed to administer the NFIP program. The jurisdiction has determined that participation in the NFIP has little or no large benefit or impact for the residents or the town's economy. Claiborne Parish and each of the incorporated jurisdictions will continue to adopt and enforce floodplain management requirements, including regulating new construction Special Flood Hazard Areas, and will continue to monitor activities including local requests for new map updates. Flood insurance statistics and additional NFIP participation details for Claiborne Parish are provided in the tables to follow.

Claiborne Parish and the communities listed above will continue their active participation in the NFIP through various education and outreach activities. These activities will include community outreach on the availability of flood insurance within the parish and incorporated municipalities, as well as flood safe building initiatives throughout the parish. The Parish Floodplain Manager will continue to work in coordination with each community to ensure floodplain management regulations are adopted and enforced. The Parish Floodplain Manager and will continue to seek and attend floodplain management and NFIP continuing education.

Table 2-18: Summary of NFIP Policies for Claiborne Parish

Location	No. of Insured Structures	Total Insurance Coverage Value	Annual Premiums Paid	No. of Insurance Claims Filed Since 1978	Total Loss Payments
Claiborne Parish (Unincorporated)	87	$15,694,800	$65,387	45	$770,912
Athens	0	$0	$0	0	$0
Haynesville	2	$700,000	$740	5	$96,981
Homer	7	$2,212,900	$24,348	16	$192,006
Lisbon	0	$0	$0	0	$0
Total	96	$18,607,700	$90,475	66	$1,059,898

*While the Villages of Athens and Lisbon do not participate in the NFIP, the parish will continue to promote NFIP participation through education and outreach.

Table 2-19: Summary of Community Flood Maps for Claiborne Parish

CID	Community Name	Initial FHBM Identified	Initial FIRM Identified	Current Effective Map Date	Date Joined the NFIP	Tribal
220362#	Claiborne Parish	7/18/1985	1/1/1992	1/1/92(L)	1/1/1992	No
220051#	Haynesville	3/8/1974	3/30/1982	3/30/82(L)	3/30/1982	No
220052#	Homer	12/21/1973	9/3/1980	9/3/1980	9/3/1980	No
220354	Athens	2/21/1975	-	2/21/1975	Not in NFIP	No
-	Lisbon	-	-	-	Not in NFIP	No

According to the Community Rating System (CRS) list of eligible communities dated June 1, 2014, Claiborne Parish and the incorporated areas of the parish do not participate in the CRS.

Threat to People

Just as with property damage, depth and velocity are major factors in determining the threat posed to people by flooding. It takes very little depth or velocity for flood waters to become dangerous. A car will float in less than two feet of moving water, and can be swept downstream into deeper waters, trapping passengers within the vehicle. Victims of flooding have often put themselves in perilous situations by entering flood waters that they believe to be safe, or by ignoring travel advisories.

Major health concerns are also associated with floods. Flood waters can transport materials such as dirt, oil, animal waste, and chemicals (e.g., farm, lawn, and industrial) that may cause illnesses of various degrees when coming in contact with humans. Flood waters can also infiltrate sewer lines and inundate wastewater treatment plants, causing sewage to backup and creating a breeding ground for dangerous bacteria. This infiltration may also cause water supplies to become contaminated and undrinkable.

Flooding in Claiborne Parish

By definition, flooding is caused when an area receives more water than the drainage system can convey. The following is a synopsis of the types of flooding that Claiborne Parish experiences.

Flash Flooding: Flash flooding is characterized by a rapid rise in water level, high velocity, and large amounts of debris. It is capable of uprooting trees, undermining buildings and bridges, and scouring new channels. Major factors in flash flooding are the high intensity and short duration of rainfall, as well as the steepness of watershed and stream gradients.

Local Drainage or High Groundwater Levels: Locally heavy precipitation may produce flooding in areas other than delineated floodplains or along recognizable drainage channels. If local conditions cannot accommodate intense precipitation through a combination of infiltration and surface runoff, water may accumulate and cause flooding problems.

Backwater Flooding: Backwater flooding is normally associated with riverine flooding and connotes minimal velocity. All low lying areas are at risk. A heavy rainfall event coupled with a swollen river, canal, bayou, or marsh hinders drainage outflow, causing backwater flooding to the same areas susceptible to storm surge.

Riverine Flooding: Riverine flooding is, by definition, river-based. Most of the riverine flooding problems occur when the Bayou D'Arbonne crests at flood stage levels, causing extensive flooding in low-lying areas.

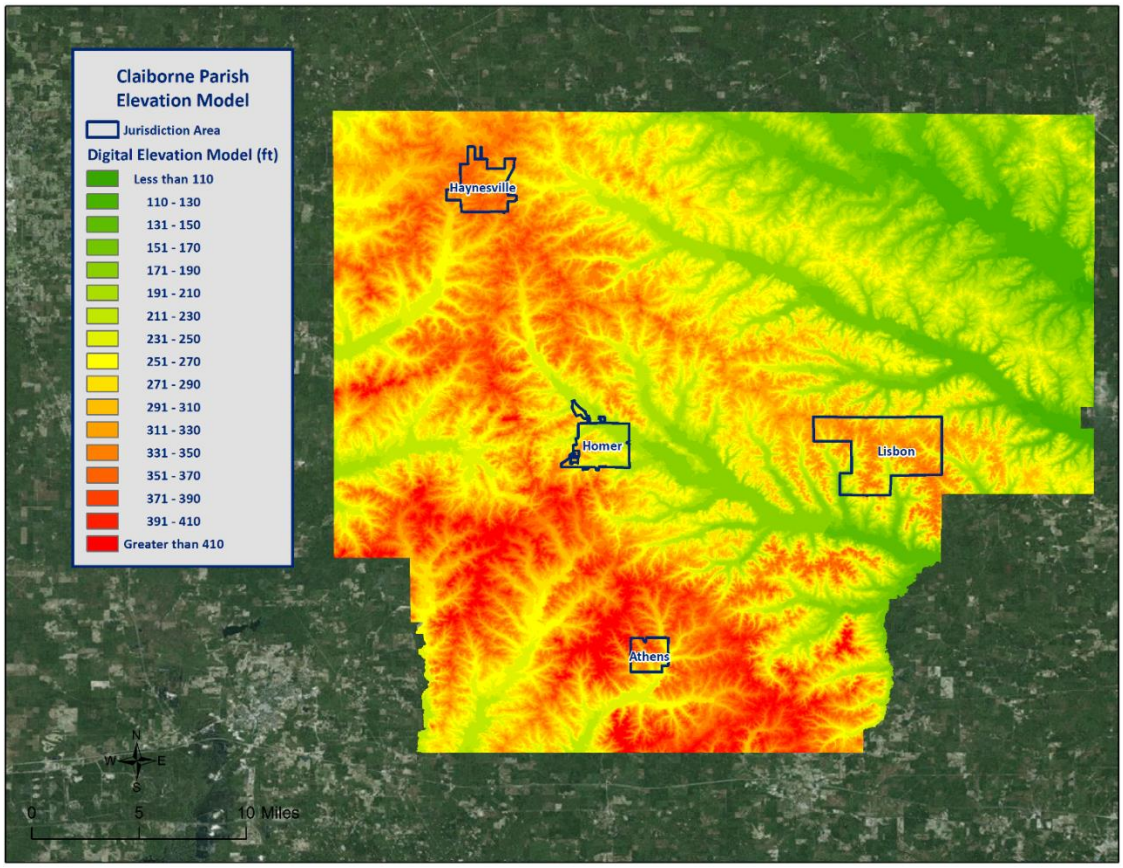


Figure 2-12: Elevation throughout Claiborne Parish

Looking at the digital elevation model (DEM) in the figure above for Claiborne Parish is instructive in visualizing where the low lying and high risk areas are for the parish. Elevations in the parish range from less than 110 feet to approximately 410 feet. The highest elevations in the parish are approximately 410 feet, located in the western portions of the parish. The incorporated areas range in elevation from 282 feet to 367 feet, Homer averaging 282 feet, Athens averaging 302 feet, Lisbon averaging 331 feet, and Haynesville averaging 367 feet.

Location

Claiborne Parish has experienced significant flooding in its history and can expect more in the future. A flooding event of one type or another can occur almost anywhere in Claiborne Parish. There are portions of three watersheds within Claiborne Parish: Bayou D'Arbonne, Black Lake Bayou, and Loggy Bayou. The primary flooding sources in Claiborne Parish are the Bayou D'Arbonne and its various tributaries, Corney Bayou, Black Bayou, Bear Creek, Flat Lick Bayou, and Leatherman Creek. The two largest lakes are Lake Claiborne with its flooding sources the Bayou D'Arbonne and Corney Lake with its flooding source Corney Bayou. While jurisdictions within Claiborne Parish might not have flood hazard boundaries within their municipal boundaries, recent events throughout the state have demonstrated that even areas outside of flood hazard boundaries can be susceptible to flooding. For example, the jurisdiction of Haynesville does not have any flood hazard areas within its boundaries; however, localized street flooding can be expected in the area north of Park Drive and south of State Route 2, resulting in area streets becoming impassible by many vehicles.

The following are enlarged maps of the incorporated areas showing the areas within each jurisdiction that are at risk of flooding:

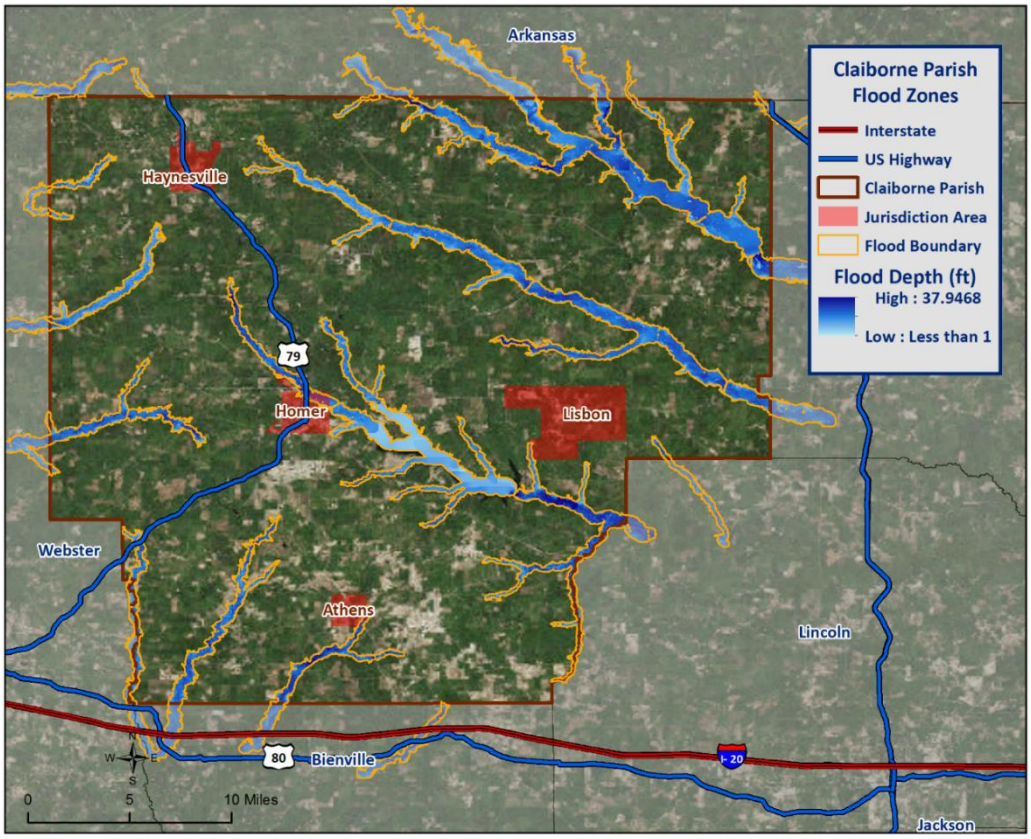


Figure 2-13: Claiborne Parish Areas within the Flood Zones

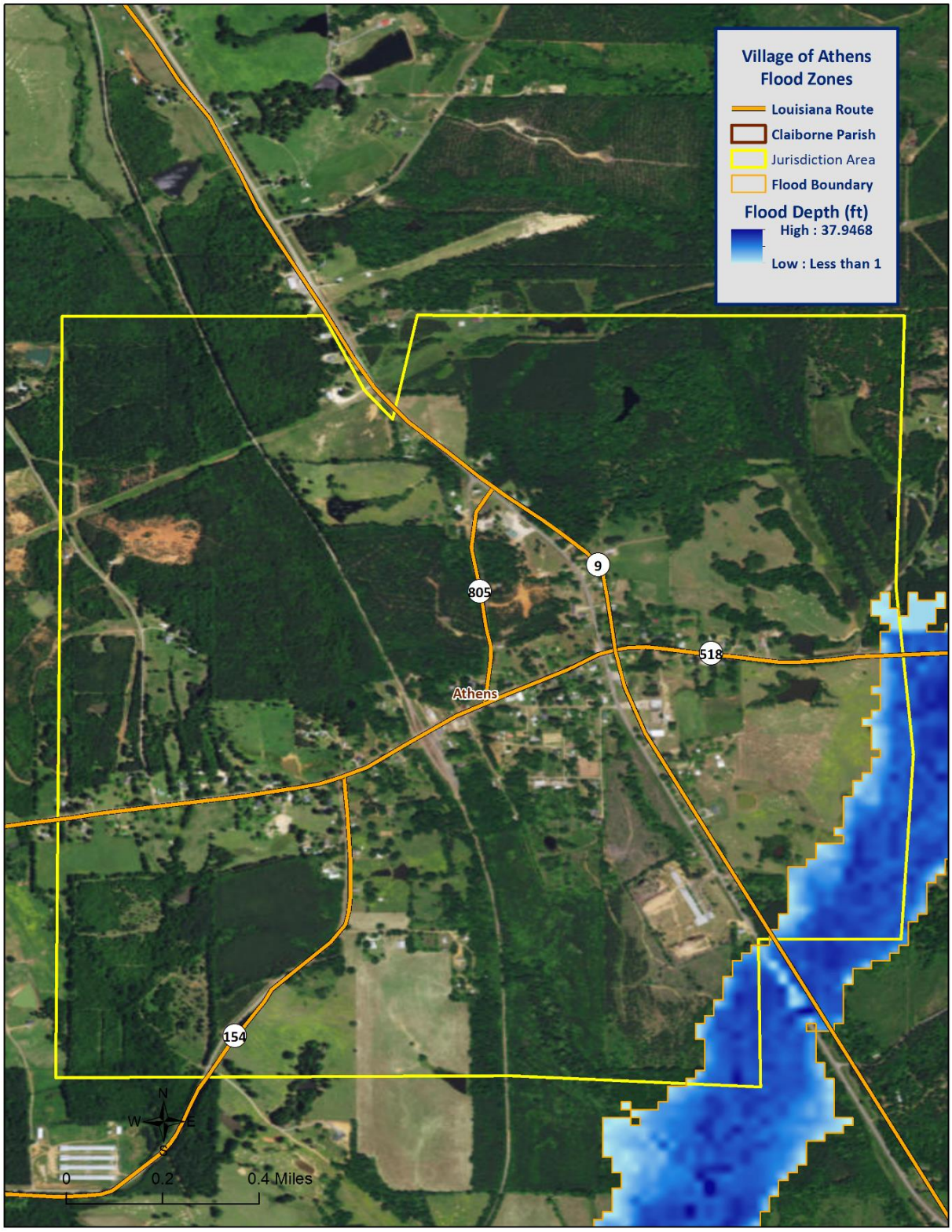


Figure 2-14: Village of Athens Areas within the Flood Zones

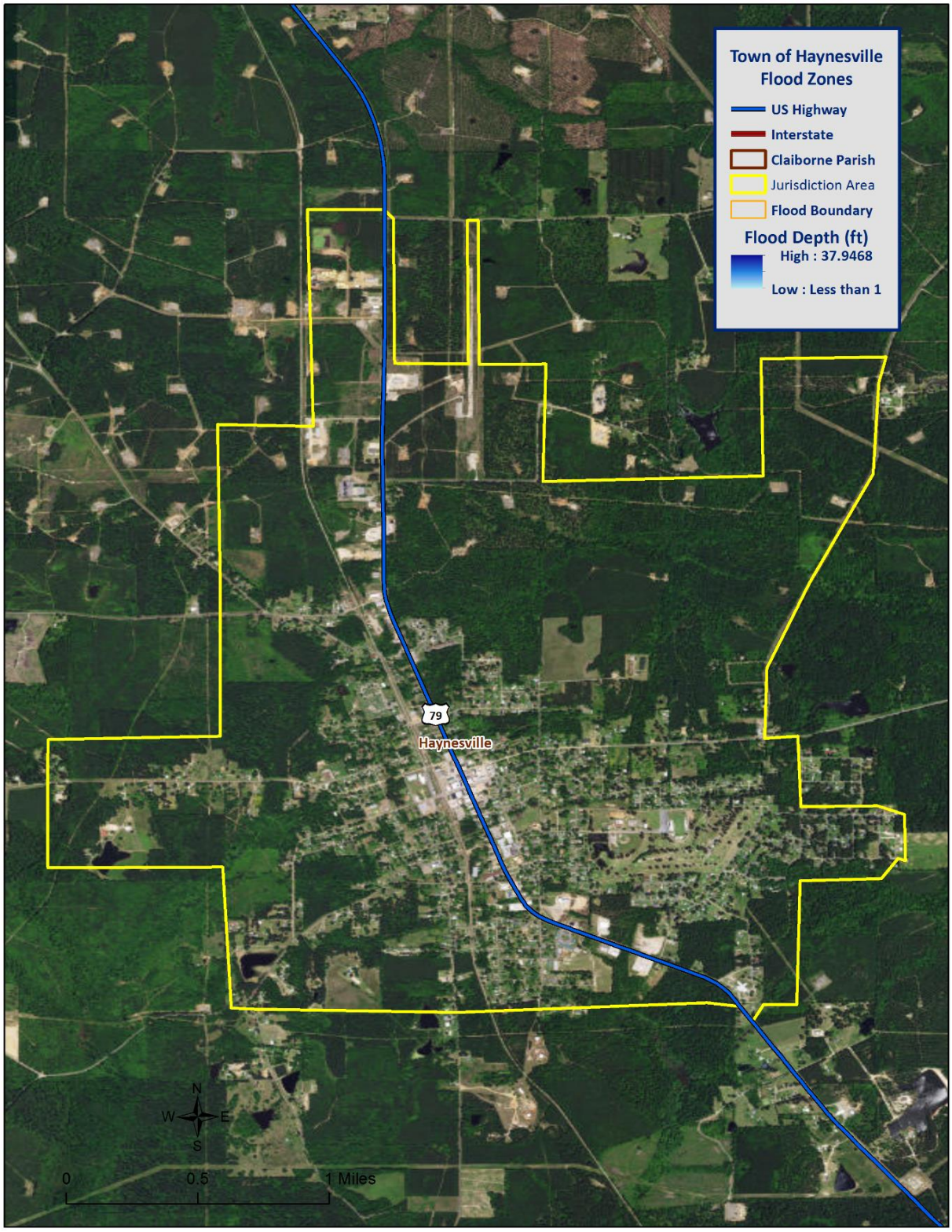


Figure 2-15: Town of Haynesville Areas within the Flood Zones

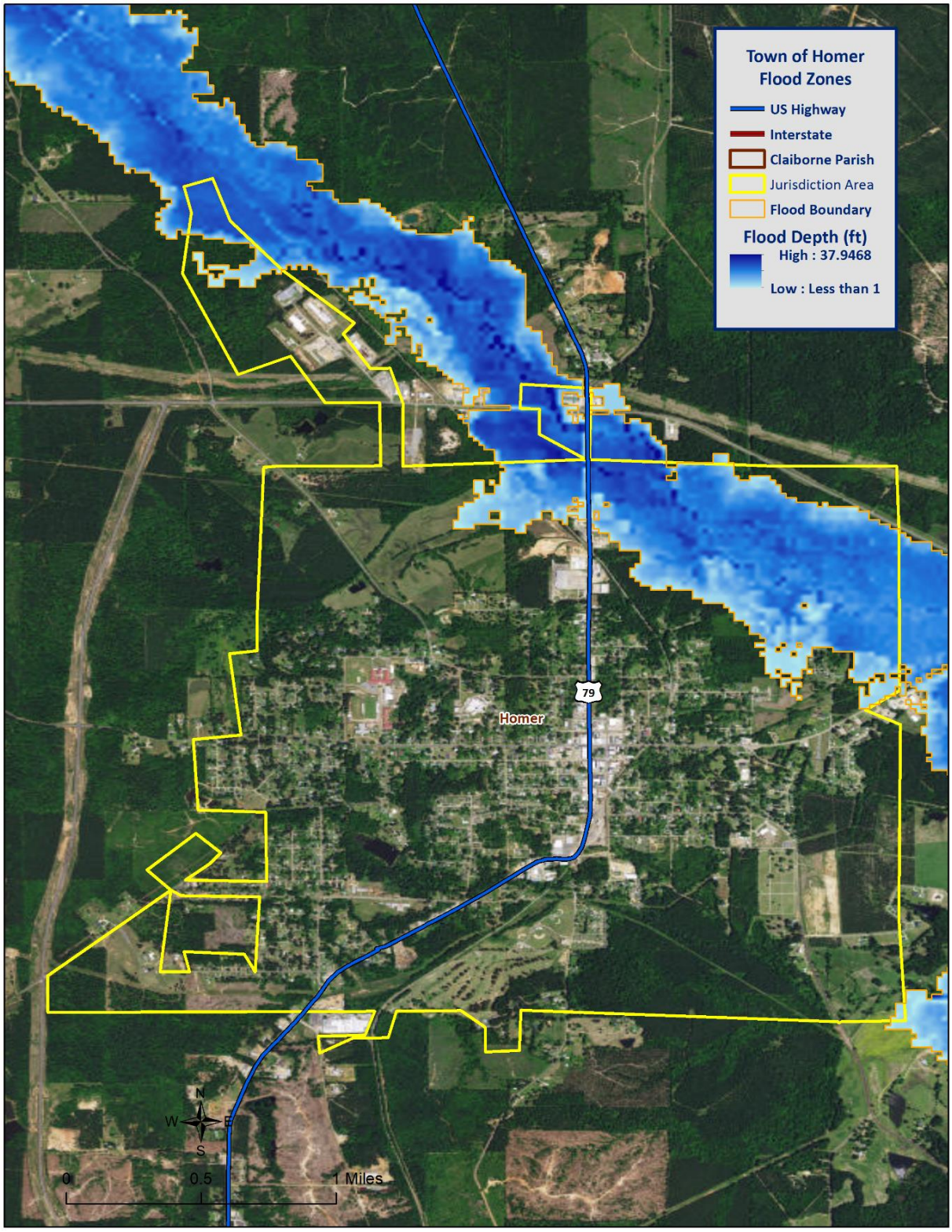


Figure 2-16: Town of Homer Areas within the Flood Zones

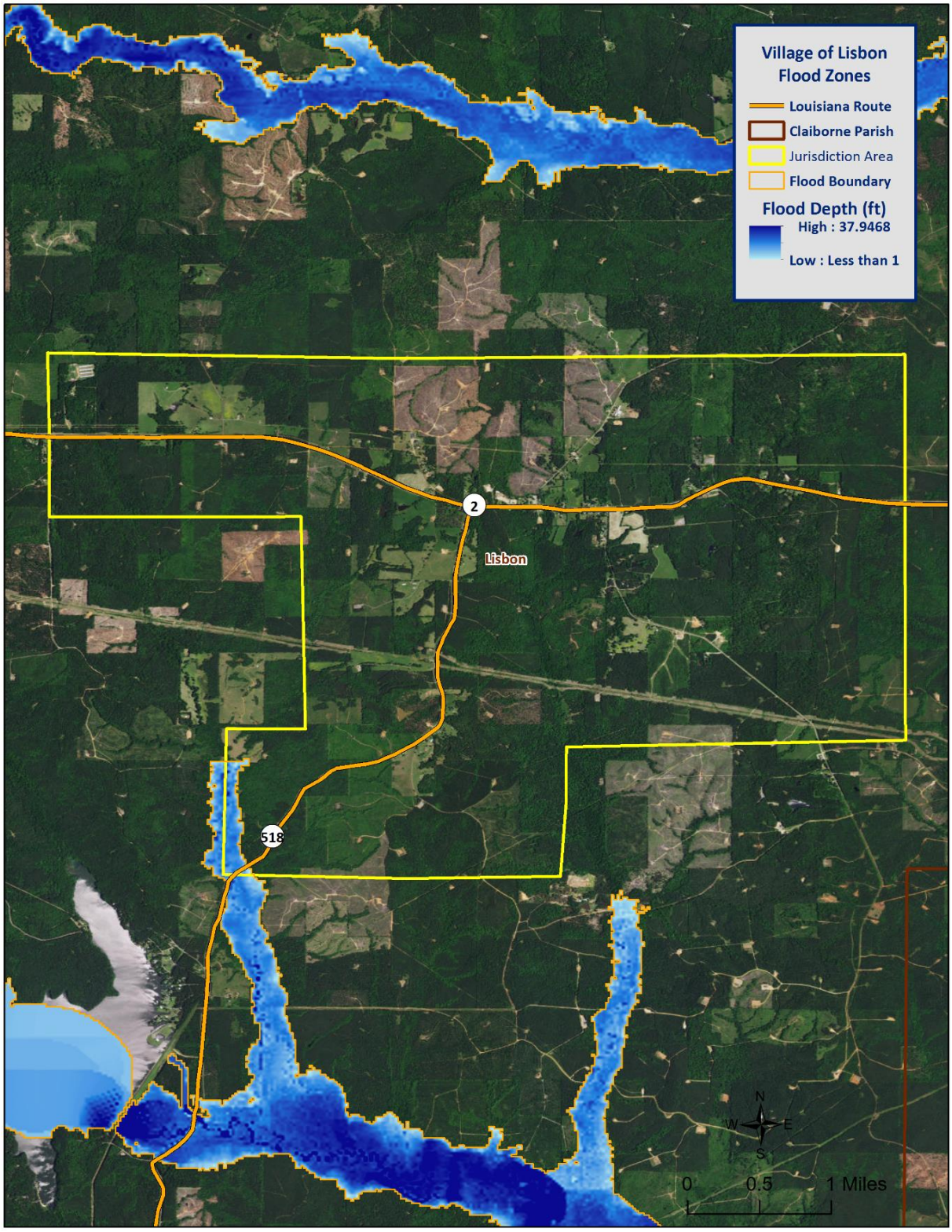


Figure 2-17: Village of Lisbon Areas within the Flood Zones

Previous Occurrences / Extents

Historically, there have been 23 flooding events that have created significant flooding in Claiborne Parish between 1990 and 2015. Below is a brief synopsis of the three flooding events that have occurred since 2010, including flooding events that have occurred since the parish's last planning update.

Table 2-20: Historical Floods in Claiborne Parish with Locations from 2010 - 2015

Date	Extents	Type of Flooding	Estimated Damages	Location
March 21, 2012	Heavy rainfall caused flooding along Highway 534 near Haynesville. The road had to be closed until flood waters receded.	Flash Flood	$0	UNINCORPORATED AREA
March 21, 2012	Heavy rainfall caused high water along Highway 3062 in Homer. Approximately 10 roads were barricaded and closed throughout the parish due to flash floods.	Flash Flood	$0	UNINCORPORATED AREA AND HOMER
April 6, 2014	Multiple roads were flooded south of Homer due to flash floods caused by heavy rainfall.	Flash Flood	$0	UNINCORPORATED AREA

Since 2010, there have been no significant flooding events in the incorporated areas of Athens, Haynesville, and Lisbon.

The worst-case scenarios are based on several different types of flooding events. Storm water excesses and riverine flooding primarily affect the low-lying areas of the parish, and flood depths of up to eight feet can be expected in the unincorporated areas of the parish and in the incorporated area of Homer. The incorporated areas of Athens and Lisbon can expect flood depths from two to five feet, while the incorporated area of Haynesville can expect flooding levels of approximately one to three feet.

Frequency / Probability

While other parts of this plan, along with the State's Hazard Mitigation Plan, have relied on the SHELDUS database to provide the annual probability, due to Claiborne Parish having multiple jurisdictions, it was necessary to assess the historical data found in the National Climatic Data Center for Claiborne Parish and its jurisdictions to properly determine probability for future flood events. The table on the next page shows the probability and return frequency for each jurisdiction.

Table 2-21: Annual Flood Probabilities for Claiborne Parish

Jurisdiction	Annual Probability	Return Frequency
Claiborne Parish (Unincorporated)	24%	4 – 5 years
Athens	4%	25 years
Haynesville	8%	12 – 13 years
Homer	56%	1 – 2 years
Lisbon	<1%	More than 25 years

Based on historical record, the overall flooding probability for the entire Claiborne Parish planning area is 92%, with 23 events occurring over a 25-year period.

Estimated Potential Losses

Using the Hazus 2.2 Flood Model, along with the Parish DFIRM, the 100-year flood scenario was analyzed to determine losses from this worst-case scenario. *Table 2-22* shows the total economic losses that would result from this occurrence.

Table 2-22: Estimated Losses in Claiborne Parish from a 100-Year Flood Event (Source: Hazus 2.2)

Jurisdiction	Estimated Total Losses from 100-Year Flood Event
Claiborne Parish (Unincorporated)	$17,298,000
Athens	$201,000
Haynesville	$0
Homer	$1,175,000
Lisbon	$6,000
Total	$18,680,000

The Hazus 2.2 Flood Model also provides a breakdown by jurisdiction for seven primary sectors (Hazus occupancy) throughout the parish. The losses for each jurisdiction by sector are listed in the following tables. Modeled results for the jurisdiction of Haynesville indicate that no buildings will incur flood damage from a 100-year flood event, although localized street flooding can be expected north of Park Drive and south of State Route 2, resulting in area streets becoming impassible by many vehicles.

Table 2-23: Estimated 100-Year Flood Losses for Unincorporated Claiborne Parish by Sector (Source: Hazus 2.2)

Claiborne Parish (Unincorporated)	Estimated Total Losses from 100-Year Flood Event
Agricultural	$55,000
Commercial	$1,740,000
Government	$32,000
Industrial	$7,214,000
Religious / Non-Profit	$567,000
Residential	$7,365,000
Schools	$325,000
Total	$17,298,000

Table 2-24: Estimated 100-Year Flood Losses for Athens by Sector (Source: Hazus 2.2)

Athens	Estimated Total Losses from 100-Year Flood Event
Agricultural	$0
Commercial	$0
Government	$0
Industrial	$8,000
Religious / Non-Profit	$0
Residential	$193,000
Schools	$0
Total	$201,000

Table 2-25: Estimated 100-Year Flood Losses for Homer by Sector (Source: Hazus 2.2)

Homer	Estimated Total Losses from 100-Year Flood Event
Agricultural	$0
Commercial	$246,000
Government	$0
Industrial	$0
Religious / Non-Profit	$177,000
Residential	$752,000
Schools	$0
Total	$1,175,000

Table 2-26: Estimated 100-Year Flood Losses for Lisbon by Sector
(Source: Hazus 2.2)

Lisbon	Estimated Total Losses from 100-Year Flood Event
Agricultural	$0
Commercial	$0
Government	$0
Industrial	$0
Religious / Non-Profit	$0
Residential	$6,000
Schools	$0
Total	$6,000

Threat to People

The total population within the parish that is susceptible to a flood hazard is shown in the table below:

Table 2-27: Vulnerable Populations Susceptible to a 100-Year Flood Event
(Source: Hazus 2.2)

Number of People Exposed to Flood Hazards			
Location	**# in Community**	**# in Hazard Area**	**% in Hazard Area**
Claiborne Parish (Unincorporated)	**11,197**	**304**	**2.7%**
Athens	**249**	**33**	**13.3%**
Haynesville	**2,327**	**0**	**0%**
Homer	**3,237**	**14**	**0.4%**
Lisbon	**185**	**4**	**2.2%**
Total	**17,195**	**355**	**2.1%**

The Hazus 2.2 Flood Model was also extrapolated to provide an overview of vulnerable populations throughout the jurisdictions in the following tables:

Table 2-28: Vulnerable Populations Susceptible to a 100-Year Flood Event in Unincorporated Claiborne Parish
(Source: Hazus 2.2)

Claiborne Parish (Unincorporated)		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	304	2.7%
Persons Under 5 Years	16	5.3%
Persons Under 18 Years	44	14.4%
Persons 65 Years and Over	49	16.0%
White	144	47.5%
Minority	160	52.5%

Table 2-29: Vulnerable Populations Susceptible to a 100-Year Flood Event in Athens (Source: Hazus 2.2)

Athens		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	33	13.3%
Persons Under 5 Years	2	6.8%
Persons Under 18 Years	5	15.3%
Persons 65 Years and Over	5	14.9%
White	25	74.3%
Minority	8	25.7%

Table 2-30: Vulnerable Populations Susceptible to a 100-Year Flood Event in Homer (Source: Hazus 2.2)

Homer		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	14	0.4%
Persons Under 5 Years	1	8.1%
Persons Under 18 Years	3	19.6%
Persons 65 Years and Over	2	15.8%
White	5	33.0%
Minority	9	67.0%

Table 2-31: Vulnerable Populations Susceptible to a 100-Year Flood Event in Lisbon (Source: Hazus 2.2)

Lisbon		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	4	2.2%
Persons Under 5 Years	0	4.3%
Persons Under 18 Years	1	16.2%
Persons 65 Years and Over	1	23.8%
White	3	65.4%
Minority	1	34.6%

Vulnerability

See Appendix C for parish and municipality buildings that are susceptible to flooding due to proximity within the 100-year floodplain.

Thunderstorms

The term "thunderstorm" is usually used as a catch-all term for several kinds of storms. Here, "thunderstorm" is defined to include any precipitation event in which thunder is heard or lightning is seen. Thunderstorms are often accompanied by heavy rain and strong winds, and depending on conditions, occasionally by hail or snow. Thunderstorms form when humid air masses are heated, which causes them to become convectively unstable. Consequently, the air masses rise. Upon rising, the air masses' water vapor condenses into liquid water and/or deposits directly into ice when they rise sufficiently to cool to the dew-point temperature.

Thunderstorms are classified into four main types (single-cell, multi-cell, squall line, and supercell), depending on the degree of atmospheric instability, the change in wind speed with height (called wind shear), and the degree to which the storm's internal dynamics are coordinated with those of adjacent storms. There is no such interaction for single-cell thunderstorms, but there is significant interaction with clusters of adjacent thunderstorms in multi-cell thunderstorms, and with a linear "chain" of adjacent storms in squall line thunderstorms. Though supercell storms have no significant interactions with other storms, they have very well-organized and self-sustaining internal dynamics, which allows them to be the longest-lived and most severe of all thunderstorms.

The life of a thunderstorm proceeds through three stages: the developing (or cumulus) stage, the mature stage, and the dissipation stage. During the developing stage, the unstable air mass is lifted as an updraft into the atmosphere. This sudden lift rapidly cools the moisture in the air mass, releasing latent heat as condensation and/or deposition occurs, which warms the surrounding environment, thus making it less dense than the surrounding air. This process intensifies the updraft and creates a localized lateral rush of air from all directions into the area beneath the thunderstorm to feed continued updrafts. At the mature stage, the rising air is accompanied by downdrafts caused by the shear of falling rain (if melted completely), or hail, freezing rain, sleet, or snow (if not melted completely). The dissipation stage is characterized by the dominating presence of the downdraft as the hot surface that gave the updrafts their buoyancy is cooled by precipitation. During the dissipation stage, the moisture in the air mass largely empties out.

The Storm Prediction Center, in conjunction with the National Weather Service (NWS), has the ability to issue advisory messages based on forecasts and observations. The following are the advisory messages that may be issued, along with definitions of each:

- *Severe Thunderstorm Watch*: Issued to alert people to the possibility of a severe thunderstorm developing in the area. Expected time frame for these storms is three to six hours.

- *Severe Thunderstorm Warning*: Issued when severe thunderstorms are imminent. This warning is highly localized and covers parts of one to several parishes (counties).

A variety of hazards might be produced by thunderstorms, including lightning, hail, tornadoes or waterspouts, flash flooding, and high-speed winds called downbursts. Nevertheless, given the criteria, the National Oceanic and Atmospheric Administration (NOAA) characterizes a thunderstorm as severe when it produces one or more of the following:

- Hail of one inch in diameter or larger
- Wind gusts to 58 mph or greater
- One or more tornadoes

Tornadoes and flooding hazards have been profiled within this report; therefore, for the purpose of thunderstorms, the sub-hazards of hail, high winds, and lightning will be profiled.

Thunderstorms occur throughout Louisiana at all times of the year, although the types and severity of those storms vary greatly depending on a wide variety of atmospheric conditions. Thunderstorms generally occur more frequently during the late spring and early summer when extreme variations exist between ground surface temperatures and upper atmospheric temperatures.

Hazard Description

Hailstorms

Hailstorms are severe thunderstorms in which balls or chunks of ice fall along with rain. Hail initially develops in the upper atmosphere as ice crystals that are bounced about by high-velocity updraft winds. The ice crystals grow through deposition of water vapor onto their surface. They then fall partially to a level in the cloud where the temperature exceeds the freezing point, melt partially, and then get caught in another updraft whereupon re-freezing and deposition grows another concentric layer of ice. After several trips up and down the cloud, they develop enough weight to fall. The size of hailstones varies depending on the severity and size of the thunderstorm. Higher surface temperatures generally mean stronger updrafts, which allow more massive hailstones to be supported by updrafts, leaving them suspended longer. This longer suspension time results in larger hailstone sizes. The tables on the next page display the TORRO Hailstorm Intensity Scale, along with a spectrum of hailstone diameters and their everyday equivalents.

Table 2-32: TORRO Hailstorm Intensity Scale

Intensity Category		Hail Diameter (mm)	Probable Kinetic Energy	Typical Damage Impacts
H0	Hard Hail	5	0 - 20	No damage
H1	Potentially Damaging	5 - 15	>20	Slight general damage to plant, crops
H2	Significant	10 - 20	>100	Significant damage to fruit, crops, vegetation
H3	Severe	20 - 30	>300	Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored
H4	Severe	25 - 40	>500	Widespread glass damage, vehicle body work
H5	Destructive	30 - 50	>800	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
H6	Destructive	40 - 60		Bodywork of grounded aircraft dented, brick walls pitted
H7	Destructive	50 - 75		Severe roof damage, risk of serious injuries
H8	Destructive	60 - 90		Severe damage to aircraft bodywork
H9	Super Hailstorms	75 - 100		Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open
H10	Super Hailstorms	>100		Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

Table 2-33: Spectrum of Hailstone Diameters and their Everyday Description (Source: National Weather Service)

Spectrum of Hailstone Diameters	
Hail Diameter Size	**Description**
1/4”	Pea
1/2”	Plain M&M
3/4”	Penny
7/8”	Nickle
1” (severe)	Quarter
1 1/4”	Half Dollar
1 1/2”	Ping Pong Ball / Walnut
1 3/4”	Golf Ball
2”	Hen Egg / Lime
2 1/2"	Tennis Ball
2 3/4"	Baseball
3”	Teacup / Large Apple
4”	Softball
4 1/2"	Grapefruit
4 3/4” – 5”	Computer CD-DVD

Hailstorms can cause widespread damage to structures, automobiles, and crops. While the damage to individual structures or vehicles is often minor, the cumulative cost to communities, especially across large metropolitan areas, can be quite significant. Hailstorms can also be devastating to crops. Thus, the severity of hailstorms depends on the size of the hailstones, the length of time the storm lasts, and where it occurs.

Hail rarely causes loss of life, although large hailstones can cause bodily injury.

High Winds

In general, high winds can occur in a number of different ways, within and without thunderstorms. The Federal Emergency Management Agency (FEMA) distinguishes these as shown in the following table.

Table 2-34: High Winds Categorized by Source, Frequency, and Duration
(Source: Making Critical Facilities Safe from High Wind, FEMA)

High Winds Categories			
High Wind Type	**Description**	**Relative Frequency in Louisiana**	**Relative Maximum Duration in Louisiana**
Straight-line Winds	Wind blowing in straight line; usually associated with intense low-pressure area	High	Few minutes – 1 day
Downslope Winds	Wind blowing down the slope of a mountain; associated with temperature and pressure gradients	N/A	N/A
Thunderstorm Winds	Wind blowing due to thunderstorms, and thus associated with temperature and pressure gradients	High (especially in the spring and summer	Few minutes – several hours
Downbursts	Sudden wind blowing down due to downdraft in a thunderstorm; spreads out horizontally at the ground, possibly forming horizontal vortex rings around the downdraft	Medium-to-High(~5% of all thunderstorms)	~15 – 20 minutes
Northeaster (nor'easter) Winds	Wind blowing due to cyclonic storm off the east coast of North America; associated with temperature and pressure gradients between the Atlantic and land	N/A	N/A
Hurricane Winds	Wind blowing in spirals, converging with increasing speed toward eye; associated with temperature and pressure gradients between the Atlantic and Gulf and land	Low-to-Medium	Several days
Tornado Winds	Violently rotating column of air from base of a thunderstorm to the ground with rapidly decreasing winds at greater distances from center; associated with extreme temperature gradient	Low-to-Medium	Few minutes – few hours

The only high winds of present concern are thunderstorm winds and downbursts. Straight-line winds are common but are a relatively insignificant hazard (on land) compared to other high winds. Downslope winds are common but relatively insignificant in the hilly areas of Louisiana where they occur. Nor'easters are cyclonic events that have at most a peripheral effect on Louisiana, and none associated with high winds. Winds associated with hurricanes and tornadoes will be considered in their respective sections.

The following table presents the Beaufort Wind Scale, first developed in 1805 by Sir Francis Beaufort, which aids in determining relative force and wind speed based on the appearance of wind effects.

Table 2-35: Beaufort Wind Scale
(Source: NOAA's SPC)

Beaufort Wind Scale			
Force	**Wind (MPH)**	**WMO Classification**	**Appearance of Wind Effects on Land**
			Calm, smoke rises vertically
1	1-3	Light Air	Smoke drift indicates wind direction, still wind vanes
2	4-7	Light Breeze	Wind felt on face, leaves rustle, vanes begin to move
3	8-12	Gentle Breeze	Leaves and small twigs constantly moving, light flags extended
4	13-17	Moderate Breeze	Dust, leaves, and loose paper lifted, small tree branches move
5	18-24	Fresh Breeze	Small trees in leaf begin to sway
6	25-30	Strong Breeze	Larger tree branches moving, whistling in wires
7	31-38	Near Gale	Whole trees moving, resistance felt walking against wind
8	39-46	Gale	Twigs breaking off trees, generally impedes progress
9	47-54	Strong Gale	Slight structural damage occurs, slate blows off roofs
10	55-63	Storm	Seldom experienced on land, trees broken or uprooted, "considerable structural damage"
11	54-73	Violent Storm	N/A
12	74+	Hurricane	N/A

Major damage directly caused by thunderstorm winds is relatively rare, while minor damage is common and pervasive, and most noticeable when it contributes to power outages. These power outages can have major negative impacts such as increased tendency for traffic accidents, loss of revenue for businesses, increased vulnerability to fire, food spoilage, and other losses that might be sustained by a loss of power. Power outages may pose a health risk for those requiring electric medical equipment and/or air conditioning.

Lightning

Lightning is a natural electrical discharge in the atmosphere that is a by-product of thunderstorms. Every thunderstorm produces lightning. There are three primary types of lightning: intra-cloud, cloud-to-ground, and cloud-to-cloud. Cloud-to-ground lightning has the potential to cause the most damage to property and crops, while also posing as a health risk to the populace in the area of the strike.

Damage caused by lightning is usually to homes or businesses. These strikes have the ability to damage electrical equipment inside the home or business, and can also ignite a fire that could destroy homes or crops.

Lightning continues to be one of the top three storm-related killers in the United States per FEMA, but it also has the ability to cause negative long-term health effects to the individual that is struck. The following table outlines the lightning activity level that is a measurement of lightning activity.

Table 2-36: Lightning Activity Level (LAL) Grids

LAL	Cloud and Storm Development	Lightning Strikes/15 Min
1	No thunderstorms.	-
2	Cumulus clouds are common but only a few reach the towering cumulus stage. A single thunderstorm must be confirmed in the observation area. The clouds produce mainly virga, but light rain will occasionally reach the ground. Lightning is very infrequent.	1-8
3	Towering cumulus covers less than two-tenths of the sky. Thunderstorms are few, but two to three must occur within the observation. Light to moderate rain will reach the ground, and lightning is infrequent.	9-15
4	Towering cumulus covers two to three-tenths of the sky. Thunderstorms are scattered and more than three must occur within the observation area. Moderate rain is common and lightning is frequent.	16-25
5	Towering cumulus and thunderstorms are numerous. They cover more than three-tenths and occasionally obscure the sky. Rain is moderate to heavy and lightning is frequent.	>25
6	Similar to LAL 3 except thunderstorms are dry	

Hazard Profile

Hailstorms

Location

Because hailstorms are a climatological based hazard, the entire planning area for Claiborne Parish is equally at risk for hailstorms.

Previous Occurrences / Extents

The SHELDUS database reports 162 significant hailstorm events occurring within the boundaries of Claiborne Parish between the years of 1990 - 2015. According to the National Climatic Data Center, hailstorm diameters experienced in Claiborne Parish have ranged from 0.75 inches to 2.75 inches since 1990. The most frequently recorded hail size has been 1 inch diameters. *Figure 2-18* displays the density of hailstorms in Claiborne Parish and adjacent parishes. Based on the National Climatic Data Center dataset, *Table 2-37* provides an overview of hailstorms that have impacted the Claiborne Parish planning area since 2009. Claiborne Parish can expect to experience hail up to 2.75 inches in diameter for future events.

Table 2-37: Previous Occurrences of Hailstorms in Claiborne Parish (Source: NCDC)

Date	Recorded Hail Size (inches)	Location
March 10, 2010	1	HAYNESVILLE
March 10, 2010	1	HOMER
April 23, 2010	1	OAKS
February 24, 2011	1.5	HOMER
April 21, 2011	1	LISBON
May 25, 2011	0.75	HOMER
April 3, 2012	1.25	HOMER MUNI ARPT
February 12, 2013	0.75	HAYNESVILLE
February 12, 2013	0.75	HOMER
December 24, 2015	0.88	HOMER

Since 2010, there have been no significant hailstorm events in the incorporated area of Athens.

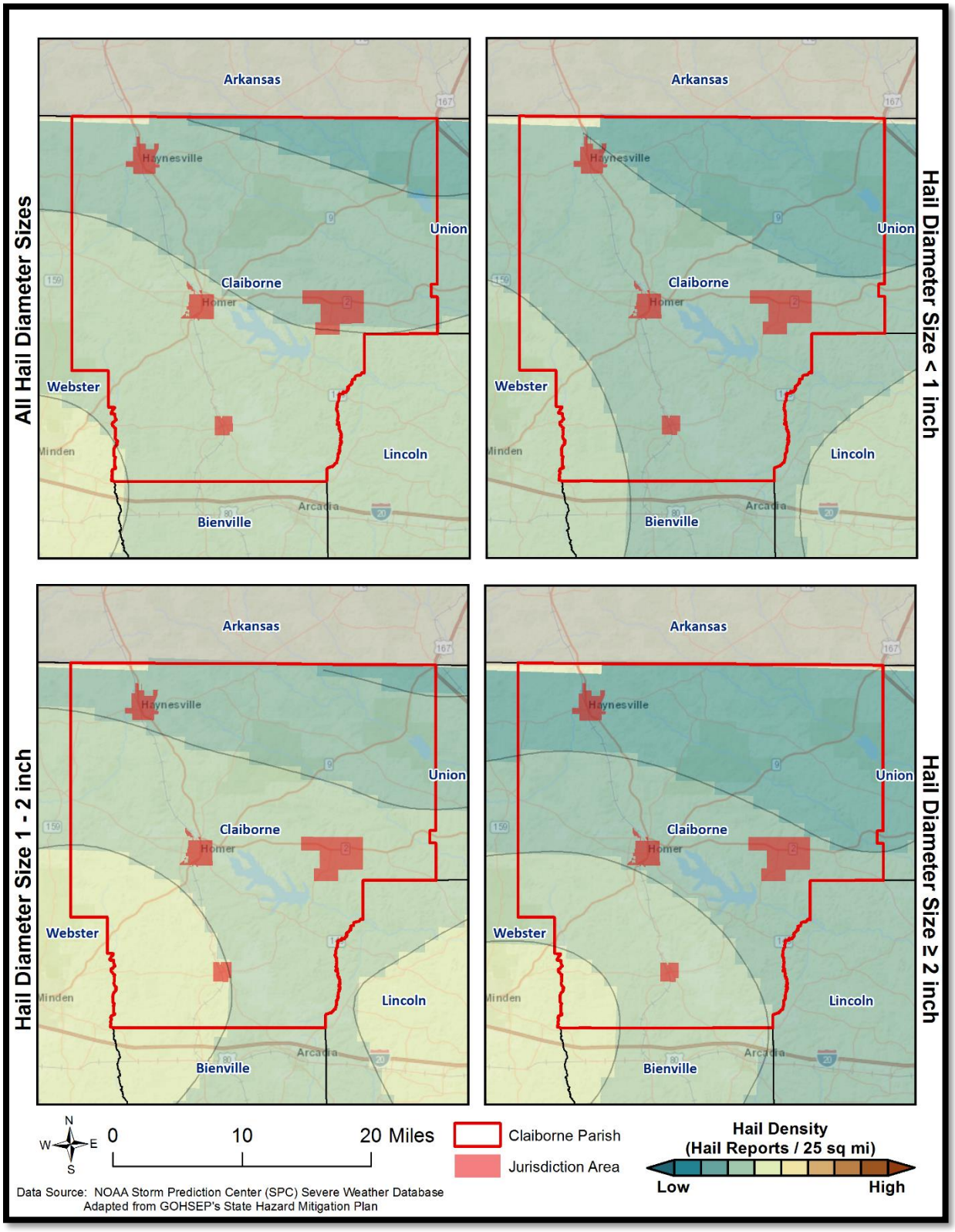


Figure 2-18: Density of Hailstorms by Diameter from 1950-2012
(Source: State of Louisiana Hazard Mitigation Plan 2014)

Frequency

Based on historical data from SHELDUS for the past 25 years, it is estimated the probability of occurrence for a significant hailstorm event is approximately 100%. The probability was determined based on a review of significant hail data that has caused damages in the last 25 years, in which Claiborne Parish has had 162 recorded events.

Estimated Potential Losses

According to the SHELDUS database, property damage due to hailstorms in Claiborne Parish have totaled approximately $548 since 1990. To estimate the potential losses of a hail event on an annual basis, the total damages recorded for hail events was divided by the total number of years of available hail data in SHELDUS (1990 – 2015). This provides an annual estimated potential loss of $22. *Table 2-38* provides an estimate of potential property losses for Claiborne Parish.

Table 2-38: Estimated Annual Property Losses in Claiborne Parish from Hailstorms

Estimated Annual Potential Losses from Hailstorms for Claiborne Parish				
Unincorporated Claiborne (65.1% of Population)	Athens (1.4% of Population)	Haynesville (13.5% of Population)	Homer (18.8% of Population)	Lisbon (1.1% of Population)
$14	< $1	$3	$4	< $1

There have been no deaths or injuries due to hailstorms from 1990 – 2015 in Claiborne Parish.

Vulnerability

See Appendix C for parish and municipality buildings that are susceptible to hailstorms.

High Winds

Location

Because high winds are a climatological based hazard, the entire planning area for Claiborne Parish is equally at risk for high winds.

Previous Occurrences / Extents

The SHELDUS database reports a total of 37 thunderstorm wind events occurring within the boundaries of Claiborne Parish between the years of 1990 to 2015. The significant thunderstorm wind events experienced in Claiborne Parish have ranged in wind speed from 50 mph to 94 mph. Claiborne Parish can expect to receive thunderstorm winds up to 94 mph for future high wind events. The table on the next page provides an overview of significant high wind events over the last five years.

Table 2-39: Previous Occurrences for Thunderstorm High Wind Events

Location	Date	Recorded Wind Speeds (mph)	Property Damage	Crop Damage
LISBON	May 20, 2010	61	$0	$0
ATHENS	August 22, 2010	60	$0	$0
MAHAN	February 1, 2011	60	$0	$0
NORTON CORNER	February 24, 2011	66	$10,000	$0
ANTIOCH	April 4, 2011	60	$0	$0
ARIZONA	April 21, 2011	60	$0	$0
HOMER	April 26, 2011	65	$0	$0
HOMER	July 24, 2011	60	$0	$0
HOMER	August 20, 2011	71	$40,000	$0
HOMER	August 24, 2011	67	$0	$0
HAYNESVILLE	April 3, 2012	62	$0	$0
HOMER	June 12, 2012	75	$5,700,000	$0
HOMER	July 5, 2012	60	$0	$0
SPRING LAKE	August 6, 2012	58	$2,000	$0
HOMER	December 20, 2012	65	$0	$0
LISBON	January 13, 2013	60	$0	$0
HOMER	March 31, 2013	63	$0	$0
ATHENS	May 21, 2013	62	$0	$0
GORDON	June 1, 2013	61	$0	$0
HOMER	July 11, 2013	65	$0	$0
HOMER	December 21, 2013	63	$0	$0
HAYNESVILLE	July 23, 2014	62	$0	$0
LISBON	August 9, 2014	60	$0	$0
HOMER MUNI ARPT	May 24, 2015	60	$0	$0
SUMMERFIELD	May 25, 2015	66	$0	$0
LISBON	November 17, 2015	61	$0	$0
HOMER	December 13, 2015	62	$0	$0
HOMER	December 24, 2015	61	$0	$0
HOMER	December 27, 2015	63	$0	$0
SUMMERFIELD	December 28, 2015	62	$0	$0

Frequency

High winds are a fairly common occurrence within Claiborne Parish, with an annual chance of occurrence calculated at 100%.

Estimated Potential Losses

Since 1990, there have been 37 significant wind events that have resulted in property damages according to the SHELDUS database. The total property damages associated with those storms have totaled $3,334,458. To estimate the potential losses of a wind event on an annual basis, the total damages recorded for wind events was divided by the total number of years of available wind data in SHELDUS (1990 – 2015). This provides an annual estimated potential loss of $133,378. The following table provides an estimate of potential property losses for Claiborne Parish:

Table 2-40: Estimated Annual Property Losses in Claiborne Parish Resulting from High Winds

Estimated Annual Potential Losses from Thunderstorm Winds for Claiborne Parish				
Unincorporated Claiborne (65.1% of Population)	Athens (1.4% of Population)	Haynesville (13.5% of Population)	Homer (18.8% of Population)	Lisbon (1.1% of Population)
$86,853	$1,931	$18,050	$25,109	$1,435

There have been no reported injuries or fatalities as a result of a thunderstorm wind event over the 25-year record.

Vulnerability

See Appendix C for parish and municipality buildings that are susceptible to high winds.

Lightning

Location

Like hail and high winds, lightning is a climatological based hazard and has the same probability of occurring throughout the entire planning area for Claiborne Parish.

Previous Occurrences / Extents

The SHELDUS database reports a total of six lightning events occurring within the boundaries of Claiborne Parish between the years of 1990 - 2015. The SHELDUS database only records lightning events that cause death, injuries, crop damage, and/or property damage, so these numbers do not accurately reflect the number of lightning events in Claiborne Parish, which occur on a nearly monthly basis. The planning area can expect to have a lightning density of 11-12 flashes per sq. mile per year. The table on the next page provides an overview of significant lightning strikes over the last five years.

Table 2-41: Previous Occurrences of Significant Lightning Strikes in Claiborne Parish from 2010 – 2015 (Source: NCDC and SHELDUS)

Location	Date	Summary	Property Damage
RUPPLE	November 8, 2011	Lightning struck a home west of Homer resulting in a fire and significant damage to the home.	$75,000
HAYNESVILLE	April 3, 2012	Lightning struck an oil tank on Winn Bottom Road just southwest of Haynesville setting it on fire.	$1,031
HOMER	June 23, 2014	Lightning struck a tree, causing the tree to fall on a home on South 3rd Street.	$20,000
HOMER	October 13, 2014	Lightning struck a gas tank storage unit causing it to catch fire.	$5,000

Since 2010, there have been no lightning events that have caused property damage or loss of life in the incorporated areas Athens and Lisbon.

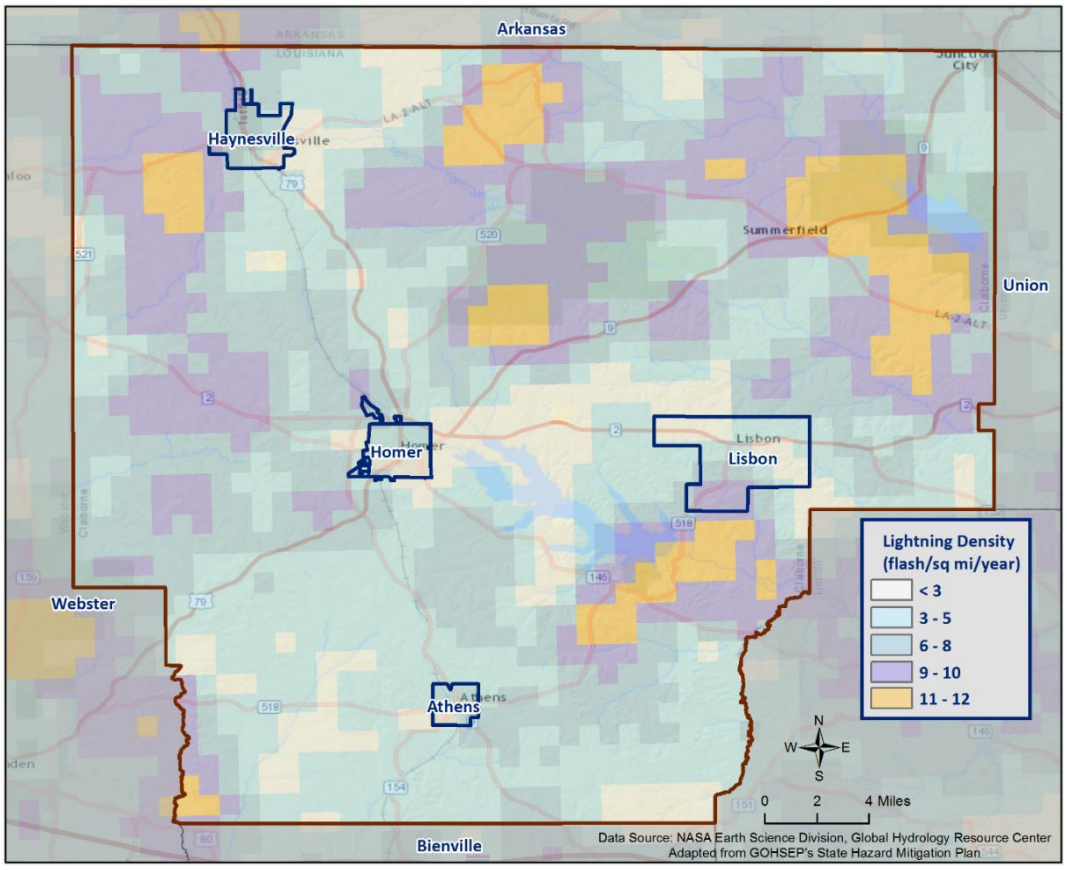


Figure 2-19: Lightning Density Reports for Claiborne Parish

Frequency

Lightning can strike anywhere and is produced by every thunderstorm, so the chance of lightning occurring in Claiborne Parish is high. However, lightning that meets the definition that is used by SHELDUS and the NCDC that actually results in damages to property and injury or death is a less likely event. According to SHELDUS, there have been six lightning events that have caused property damages or injuries over the last 25 years, establishing an annual probability of 24%.

Estimated Potential Losses

Since 1990, there have been six significant lightning events that have resulted in property damages according to the SHELDUS database. The total property damages associated with lightning events totaled $100,495. To estimate the potential losses of a lightning event on an annual basis, the total damages recorded for lightning events was divided by the total number of years of available major lightning strike data in SHELDUS (1990 – 2015). This provides an annual estimated potential loss of $4,020. The following table provides an estimate of potential property losses for Claiborne Parish:

Table 2-42: Estimated Annual Property Losses in Claiborne Parish from Lightning

Estimated Annual Potential Losses from Thunderstorm Lightning for Claiborne Parish				
Unincorporated Claiborne (65.1% of Population)	Athens (1.4% of Population)	Haynesville (13.5% of Population)	Homer (18.8% of Population)	Lisbon (1.1% of Population)
$2,618	$58	$544	$757	$43

There have been no reported injuries or fatalities in Claiborne Parish as a result of a lightning strikes over the 25-year record.

Vulnerability

See Appendix C for parish and municipality building exposure to lightning hazards.

Tornadoes

Tornadoes (also called twisters or cyclones) are rapidly rotating funnels of wind extending between storm clouds and the ground. For their size, tornadoes are the most severe storms, and 70% of the world's reported tornadoes occur within the continental United States, making them one of the most significant hazards Americans face. Tornadoes and waterspouts form during severe weather events, such as thunderstorms and hurricanes, when cold air overrides a layer of warm air, causing the warm air to rise rapidly. This usually results in a counterclockwise rotation in the northern hemisphere. The updraft of air in tornadoes always rotates because of wind shear (differing speeds of moving air at various heights), and it can rotate in either a clockwise or counterclockwise direction; clockwise rotations (in the northern hemisphere) will sustain the system, at least until other forces cause it to die seconds to minutes later.

Since February 1, 2007, the Enhanced Fujita (EF) Scale has been used to classify tornado intensity. The EF Scale classifies tornadoes based on their damage pattern rather than wind speed; wind speed is then derived and estimated. This contrasts with the Saffir-Simpson scale used for hurricane classification, which is based on measured wind speed. *Table 2-44* shows the EF scale in comparison with the old Fujita (F) Scale, which was used prior to February 1, 2007. When discussing past tornadoes, the scale used at the time of the hazard is used. Damage and adjustment between scales can be made using the following tables.

Table 2-43: Comparison of the Enhanced Fujita (EF) Scale to the Fujita (F) Scale

	Enhanced Fujita Scale					
	EF0	**EF1**	**EF2**	**EF3**	**EF4**	**EF5**
Wind Speed (mph)	65-85	86-110	111-135	136-165	166-200	>200
	Fujita Scale					
	F0	**F1**	**F2**	**F3**	**F4**	**F5**
	<73	73-112	113-157	158-206	207-260	>261

Table 2-44: Fujita and Enhanced Fujita Tornado Damage Scale

Scale	Typical Damage
F0/EF0	Light damage. Some damage to chimneys; branches broken off trees; shallow-rooted trees pushed over; sign boards damaged.
F1/EF1	Moderate damage. Peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos blown off roads.
F2/EF2	Considerable damage. Roofs torn off frame houses; mobile homes demolished; boxcars overturned; light-object missiles generated; cars lifted off ground.
F3/EF3	Severe damage. Roofs and some walls torn of well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off the ground and thrown.
F4/EF4	Devastating damage. Well-constructed houses leveled; structures with weak foundations blown away some distance; cars thrown and large missiles generated.
F5/EF5	Incredible damage. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 meters (109 yards); trees debarked; incredible phenomena will occur.

The National Weather Service (NWS) has the ability to issue advisory messages based on forecasts and observations. The following are the advisory messages that may be issued, along with definitions of each:

- *Tornado Watch*: Issued to alert people to the possibility of a tornado developing in the area. A tornado has not been spotted but the conditions are favorable for tornadoes to occur.

- *Tornado Warning*: Issued when a tornado has been spotted or when radar identifies a distinctive "hook-shaped" area within a thunderstorm line.

Structures within the direct path of a tornado vortex are often reduced to rubble. Structures adjacent to the tornado's path are often severely damaged by high winds flowing into the tornado vortex, known as inflow winds. It is here, adjacent to the tornado's path, that the building type and construction techniques are critical to the structure's survival. Although tornadoes strike at random, making all buildings vulnerable, mobile homes, homes with crawlspaces, and buildings with large spans are more likely to suffer damage.

The major health hazard from tornadoes is physical injury from flying debris, or being in a collapsed building or mobile home. Within a building, flying debris or projectiles are generally stopped by interior walls. However, if a building has no partitions, any glass, brick, or other debris blown into the interior is life threatening. Following a tornado, damaged buildings are a potential health hazard due to instability, electrical system damage, and gas leaks. Sewage and water lines may also be damaged.

Peak tornado activity in Louisiana occurs during the spring, as it does in the rest of the United States. Nearly one-third of observed tornadoes in the United States occur during April. About half of those in Louisiana, including many of the strongest, occur between March and June. Fall and winter tornadoes are less frequent, but the distribution of tornadoes throughout the year is more uniform in Louisiana than in locations farther north.

Location

While there is a significant tornado record in Claiborne Parish with actual locations, tornadoes in general are a climatological based hazard and have the same approximate probability of occurring in Claiborne Parish as all of its jurisdictions. Because a tornado has a similar probability of striking anywhere within the planning area for Claiborne Parish, all jurisdictions are equally at risk for tornadoes.

Previous Occurrences / Extents

SHELDUS reports a total of six tornadoes or waterspouts occurring within the boundaries of Claiborne Parish between the years of 1990 - 2015. The tornadoes experienced in Claiborne Parish have from ranged EF0 to EF1 on the EF scale, and ranged from F1 to F3 on the F scale. The worst case scenario Claiborne Parish can expect in the future is an EF3 tornado.

The tornado that caused the most damage to property occurred on April 3, 1999. The F3 tornado was responsible for over $3 million in damage. The tornado severely damaged 15 homes in its path. The tornado responsible for the most injuries occurred on January 12, 2005. The tornado injured 12 people. There have been no fatalities in Claiborne Parish as a result of tornadoes.

Table 2-45: Historical Tornadoes in Claiborne Parish with Locations from 2010 - 2015

Date	Impacts	Property Damage	Location	Magnitude
April 26, 2011	4.13 mile path with a width of 100 yards. Several trees were snapped and uprooted.	$0	CORNEY LAKE	EF1
April 24, 2015	9.29 mile path with a width of 820 yards. One house received major damage as a tree fell on the house.	$30,000	COLQUITT	EF1
December 27, 2015	0.17 mile path with a width of 21 yards. Downed several trees in its path.	$0	HOMER	EF1

The incorporated areas of Athens, Haynesville, and Lisbon have not experienced a tornado event from 2010 to the present. Since 2011, the year in which the last update to this hazard mitigation plan was written, Claiborne Parish has had two tornadoes touchdown in the unincorporated area of the parish and the incorporated area of Homer. The following is a brief synopsis of these events:

April 24, 2015 – EF1 Tornado in Colquitt

A tornado touched down seven miles east southeast of Haynesville. Damage consisted of numerous trees uprooted and/or snapped. Several trees fell on power lines in the area. One home received major damage as a tree fell on the house. Winds were estimated to be between 95 and 105 mph.

December 27, 2015 – EF1 Tornado in Homer

A short lived EF1 tornado touched down southwest of Homer. The tornado stayed in the rural parts of the area downing trees along and north of Dutchtown Road.

Frequency / Probability

Tornadoes are a sporadic occurrence within Claiborne Parish, with an annual chance of occurrence calculated at 24% based on the records for the past 25 years (1990 - 2015). The figure on the next page displays the density of tornado touch downs in Claiborne Parish and neighboring parishes.

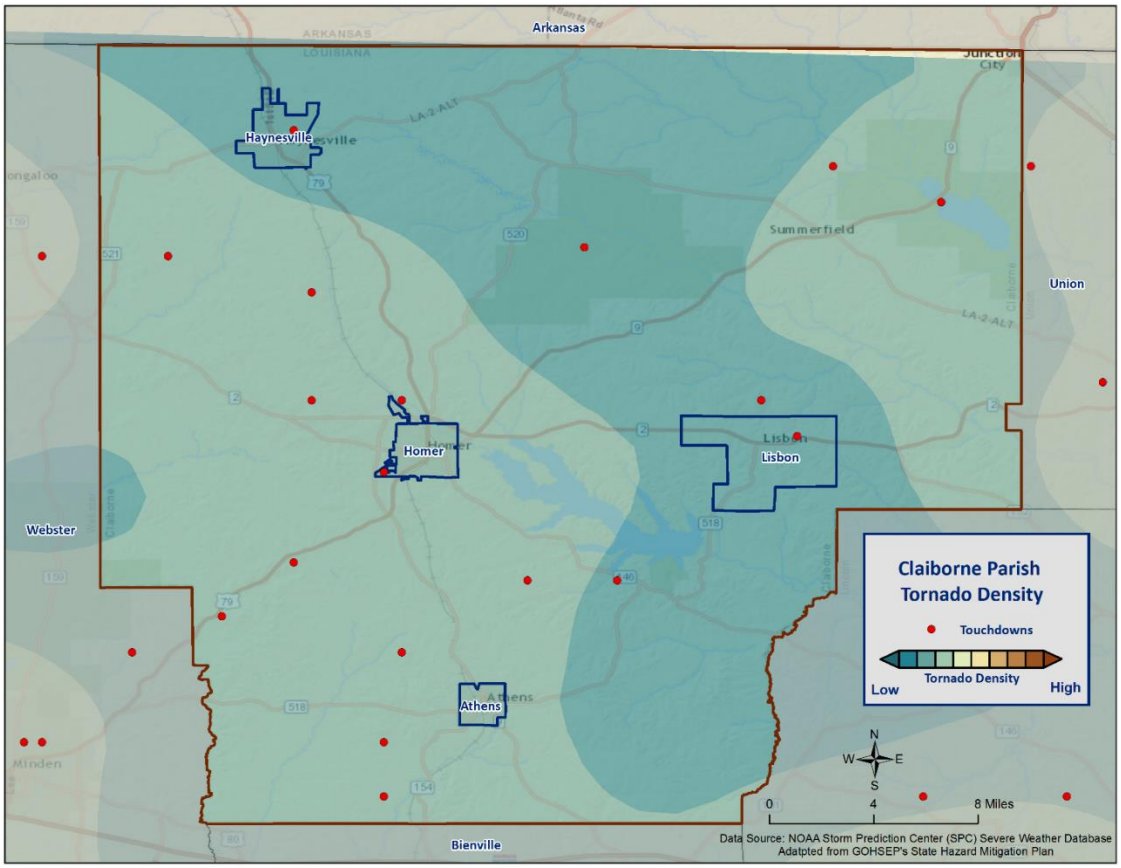


Figure 2-20: Location and Density of Tornadoes to Touch Down in Claiborne Parish (Source: NOAA/SPC Severe Weather Database)

Estimated Potential Losses

According to the SHELDUS database, there have been six tornadoes that have caused some level of property damage. The total damage from the actual claims for property is $12,102,191, with an average cost of $2,017,032 per tornado strike. When annualizing the total cost over the 25-year record, total annual loses based on tornadoes are estimated to be $484,088. To provide an estimated annual estimated potential loss per jurisdiction, the 2010 Census population was used to assign the estimated potential losses proportionally across the jurisdictions. Based on the 2010 Census data, the following table provides an annual estimate of potential losses for Claiborne Parish.

Table 2-46: Estimated Annual Losses from Tornadoes in Claiborne Parish

Estimated Annual Potential Losses from Tornadoes for Claiborne Parish				
Unincorporated Claiborne (65.1% of Population)	Athens (1.4% of Population)	Haynesville (13.5% of Population)	Homer (18.8% of Population)	Lisbon (1.1% of Population)
$315,227	$7,010	$65,512	$91,131	$5,208

Table 2-47 presents an analysis of building exposure that is susceptible to tornadoes by general occupancy type for Claiborne Parish, along with the percentage of building stock that are mobile homes.

Table 2-47: Building Exposure by General Occupancy Type for Tornadoes in Claiborne Parish (Source: FEMA's Hazus 2.2)

Building Exposure by General Occupancy Type for Tornadoes Exposure Types ($1,000)							
Residential	Commercial	Industrial	Agricultural	Religion	Government	Education	Mobile Homes (%)
1,737,295	260,701	144,964	15,940	105,118	34,833	47,674	16.1%

The parish has suffered through a total of one day in which tornadoes or waterspouts have accounted for 12 injuries and no fatalities during this 25-year period (*Table 2-48*). The average number of injuries per event for Claiborne Parish is two per tornado, with an average of 0.48 per year for the 25-year period.

Table 2-48: Tornadoes in Claiborne Parish by Magnitude that Caused Injuries or Deaths

Date	Magnitude	Deaths	Injuries
January 12, 2005	F2	0	12

In assessing the overall risk to population, the most vulnerable population throughout the parish are those residing in manufacturing housing. Approximately 16.1% of all housing in Claiborne Parish consists of manufactured housing. Based on location data collected in a previous hazard mitigation project, there are seven known locations where manufactured housing is concentrated. Each of those seven locations have an overall number of manufactured houses ranging from one to 25. The location and density of manufactured houses can be seen in *Figure 2-21*.

Manufactured housing is more likely to sustain damage from a tornado than any other residential structure. The highest concentration of manufactured home parks is located in the unincorporated area of Claiborne Parish (*Table 2-49*). However, this does not influence the risk associated with a tornado event since they strike at random, making all structures and population within the planning area equally vulnerable.

Table 2-49: Manufactured Home Distribution throughout Claiborne Parish

Location	Number of Manufactured Home Parks	% of Manufactured Home Parks
Unincorporated Area	6	85.7%
Athens	0	0%
Haynesville	0	0%
Homer	1	14.3%
Lisbon	0	0%

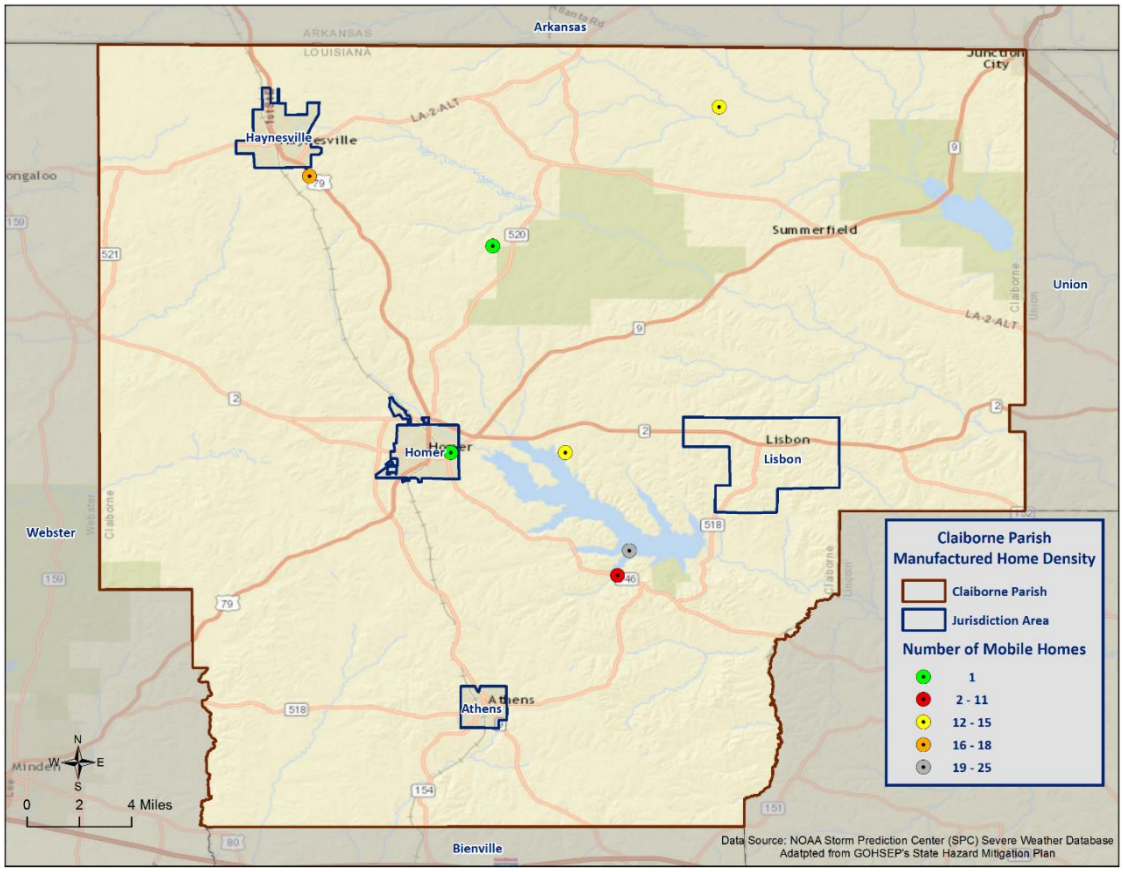


Figure 2-21: Location and Approximate Number of Units in Manufactured Housing Locations throughout Claiborne Parish

Vulnerability

See Appendix C for parish and municipality building exposure to tornado hazards.

Tropical Cyclones

Tropical cyclones are among the worst hazards that Louisiana faces. These spinning, low-pressure air masses draw surface air into their centers and attain strength ranging from weak tropical waves to the most intense hurricanes. Usually, these storms begin as clusters of oceanic thunderstorms off the western coast of Africa, moving westward in the trade wind flow. The spinning of these thunderstorm clusters begins because of the formation of low pressure in a perturbation in the westerly motion of the storms associated with differential impacts of the Earth's rotation. The west-moving, counterclockwise-spinning collection of storms, now called a tropical disturbance, may then gather strength as it draws humid air toward its low-pressure center. This results in the formation of a tropical depression (defined when the maximum sustained surface wind speed is 38 mph or less), then a Tropical Cyclone (when the maximum sustained surface wind ranges from 39 mph to 73 mph), and finally a hurricane (when the maximum sustained surface wind speeds exceed 73 mph). On the next page, the table presents the Saffir-Simpson Hurricane Wind Scale, which categorizes tropical cyclones based on sustained winds.

Table 2-50: Saffir-Simpson Hurricane Wind Scale

Saffir-Simpson Hurricane Wind Scale			
Category	**Sustained Winds**	**Pressure**	**Types of Damage Due to Winds**
Tropical Depression	<39 mph	N/A	N/A
Tropical Cyclone	39-73 mph	N/A	N/A
1	74-95 mph	>14.2 psi	Very dangerous winds will produce some damage. Well-constructed frame homes could have damage to roof, shingles, vinyl siding, and gutters. Large branches of trees will snap and shallow-rooted trees may be toppled, especially after the soil becomes waterlogged. Extensive damage to power lines and poles will likely result in power outages that could last several days.
2	96-110 mph	14-14.2 psi	Extremely dangerous winds will cause extensive damage. Well-constructed frame homes could sustain major roof and siding damage. Many shallow-rooted trees will be snapped or uprooted, especially after the soil becomes waterlogged, and block numerous roads. Near total power loss is expected, with outages that could last from several days to weeks.
3	111-129 mph	13.7 -14 psi	Devastating damage will occur. Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, especially after the soil becomes waterlogged, blocking numerous roads. Electricity and water may be unavailable for several days to weeks after the storm passes.
4	130-156 mph	13.3-13.7 psi	Catastrophic damage will occur. Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted, especially after the soil becomes waterlogged, and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5	157 mph or higher	<13.7 psi	Catastrophic damage will occur. A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks to months.

Many associated hazards can occur during a hurricane, including heavy rains, flooding, high winds, and tornadoes. A general rule of thumb in coastal Louisiana is that the number of inches of rainfall to be expected from a tropical cyclone is approximately 100 divided by the forward velocity of the storm in mph; so a fast-moving storm (20 mph) might be expected to drop five inches of rain while a slow-moving (5 mph) storm could produce totals of around 20 inches. However, no two storms are alike, and such generalizations have limited utility for planning purposes. Hurricane Beulah, which struck Texas in 1967, spawned 115 confirmed tornadoes. In recent years, extensive coastal development has increased the storm surge resulting from

these storms so much that this has become the greatest natural hazard threat to property and loss of life in the state. Storm surge is a temporary rise in sea level generally caused by reduced air pressure and strong onshore winds associated with a storm system near the coast. Although storm surge can technically occur at any time of the year in Louisiana, surges caused by hurricanes can be particularly deadly and destructive. Such storm surge events are often accompanied by large, destructive waves (exceeding ten meters in some places) that can inflict a high number of fatalities and economic losses. In 2005, Hurricane Katrina clearly demonstrated the destructive potential of this hazard, as it produced the highest modern-day storm surge levels in the State of Louisiana, reaching up to 18.7 feet near Alluvial City in St. Bernard Parish.

Property can be damaged by the various forces that accompany a tropical cyclone. High winds can directly impact structures in three ways: wind forces, flying debris, and pressure. By itself, the force of the wind can knock over trees, break tree limbs, and destroy loose items, such as television antennas and power lines. Many things can be moved by high winds. As winds increase, so does the pressure against stationary objects. Pressure against a wall rises with the square of the wind speed. For some structures, this force is enough to cause failure. The potential for damage to structures is increased when debris breaks the building "envelope" and allows the wind pressure to impact all surfaces (the building envelope includes all surfaces that make up the barrier between the indoors and the outdoors, such as the walls, foundation, doors, windows, and roof). Mobile homes and buildings in need of maintenance are most subject to wind damage. High winds mean bigger waves. Extended pounding by waves can demolish any poorly or improperly designed structures. The waves also erode sand beaches, roads, and foundations. When foundations are compromised, the building will collapse.

Nine out of ten deaths during hurricanes are caused by storm surge flooding. Falling tree limbs and flying debris caused by high winds have the ability to cause injury or death. Downed trees and damaged buildings are a potential health hazard due to instability, electrical system damage, broken pipelines, chemical releases, and gas leaks. Sewage and water lines may also be damaged. Salt water and fresh water intrusions from storm surge send animals, such as snakes, into areas occupied by humans.

Location

Hurricanes are the single biggest threat to the State of Louisiana. With any single hurricane having the potential to devastate multiple parishes at once, the risk of a tropical cyclone has the probability of impacting anywhere within the planning area for Claiborne Parish. As such, all jurisdictions are equally at risk for tropical cyclones.

Previous Occurrences / Extents

The central Gulf of Mexico coastline is among the most hurricane-prone locations in the United States, and hurricanes can affect every part of the state. The SHELDUS database reports a total of three tropical cyclone events occurring within the boundaries of Claiborne Parish between the years 2002 and 2014 (*Table 2-51*). The tropical cyclone events experienced in Claiborne Parish include depressions, storms, and hurricanes. As a worst case scenario, Claiborne Parish can expect to experience hurricanes at the Category 1 level in the future.

Table 2-51: Historical Tropical Cyclone Events in Claiborne Parish from 2002 - 2015 (Source: SHELDUS)

Date	Name	Storm Type At Time of Impact
September 24, 2005	Rita	Hurricane – Category 3
September 1, 2008	Gustav	Tropical Storm
September 13, 2008	Ike	Tropical Storm

Hurricane Rita (2005)

While Hurricane Katrina and resulting levee failures captured headlines worldwide, lesser known (but just as destructive) Hurricane Rita wreaked havoc on southwestern Louisiana less than a month later. The storm made landfall as a Category 3 hurricane in Cameron Parish. Across southeast Louisiana, the main effect from Hurricane Rita was the substantial storm surge flooding that occurred in low lying communities across coastal areas of southern Terrebonne, southern Lafourche, and southern Jefferson Parishes, where numerous homes and businesses were flooded. Some of the most substantial damage occurred in southern Terrebonne Parish, where storm surge of five to seven feet above normal overtopped or breached local drainage levees, inundating many small communities. Newspaper accounts indicated that approximately 10,000 structures were flooded in Terrebonne Parish. Lafitte and other communities in lower Jefferson Parish also suffered extensive storm surge flooding. Storm surge flooding also occurred in areas adjacent to Lake Pontchartrain and Lake Maurepas, affecting homes and businesses from Slidell to Mandeville and Madisonville. Approximately 1,500 structures were reported as flooded in Livingston Parish near Lake Maurepas. Repaired levees damaged by Hurricane Katrina in late August were overtopped or breached along the Industrial Canal in New Orleans, resulting in renewed flooding in adjacent portions of New Orleans and St. Bernard Parish. However, the flooding was much more limited in scope than during Hurricane Katrina.

Hurricane Rita was the most powerful hurricane to impact southwestern Louisiana since Hurricane Audrey in 1957. Estimated damages in southwest Louisiana totaled near $4 billion, with the majority of those losses occurring in Cameron and Calcasieu Parishes. Entire towns were destroyed in Cameron Parish, including downtown Cameron, Creole, Holly Beach, and Grand Chenier. An estimated 90 to 95 percent of the homes in the parish were severely damaged or destroyed. Storm surge values were estimated around 15 feet in parts of Cameron Parish.

In Claiborne Parish, localized flooding and minor wind damage occurred throughout the Claiborne Parish Planning area.

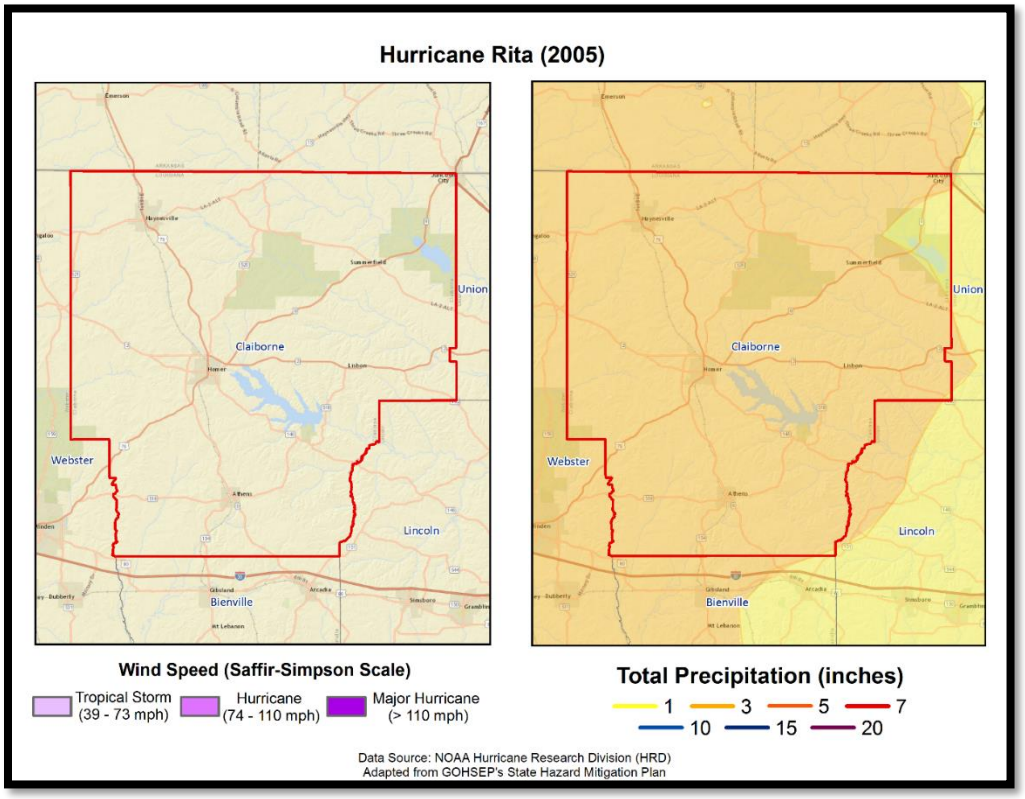


Figure 2-22: Wind Speed and Precipitation Totals in Claiborne Parish for Hurricane Rita

Hurricane Gustav (2008)

Hurricane Gustav entered the southeast Gulf of Mexico as a major Category 3 hurricane on August 31, 2008, after developing in the Caribbean Sea and moving across western Cuba. Gustav tracked northwestward across the Gulf toward Louisiana and made landfall as a Category 2 hurricane near Cocodrie, Louisiana, during the morning of September 1st. Gustav continued to move northwest across south Louisiana and weakened to a Category 1 storm over south central Louisiana later that day. The storm diminished to a tropical depression over northwestern Louisiana on September 2nd.

The highest wind gust recorded was 117 mph (102 kts) at a USGS site at the Houma Navigational Canal and at the Pilot Station East C-MAN near the Southwest Pass of the Mississippi River. The highest sustained wind of 91 mph was recorded at the Pilot's Station East C-MAN site. However, due to the failure of equipment at some observation sites during the storm, higher winds may have occurred. The minimum sea level pressure measured was 951.6 millibars at a USGS site at Caillou Lake, southwest of Dulac, and 954.5 millibars at the LUMCON facility near Dulac. Rainfall varied considerably across southeast Louisiana, ranging from around four inches to just over 11 inches.

Gustav produced widespread wind damage across southeast Louisiana, especially in the area from Houma and Thibodaux through the greater Baton Rouge area. Hurricane force wind gusts occurred also across the inland areas, including the Baton Rouge area and surrounding parishes. A peak wind gust of 91 mph was recorded at the Baton Rouge (Ryan Field) Airport at 1:12 PM CST. This was only one mph less than the highest wind gust recorded during Hurricane Betsy in 1965. After the storm, the electric utility serving most of southeast Louisiana reported 75 to 100 percent of utility customers were without power, in areas ranging from Lafourche and Terrebonne Parishes northwest through the Baton Rouge area to central Louisiana and

southwest Mississippi. Considerable damage occurred to many houses and structures as large tree limbs and trees were toppled by the hurricane force winds. Preliminary estimates from the American Red Cross indicated that around 13,000 single family dwellings were damaged by the hurricane in southeast Louisiana, and several thousand more apartments and mobile homes were also damaged. Early estimates from Louisiana Economic Development indicated that Gustav caused at least $4.5 billion in property damage in Louisiana, including insured and uninsured losses.

In Claiborne Parish, the remnants of Hurricane Gustav resulted in several reports of downed trees and power lines. Parish officials reported upwards of 30 trees downed across the parish during the height of the storm which resulted in scattered power outages.

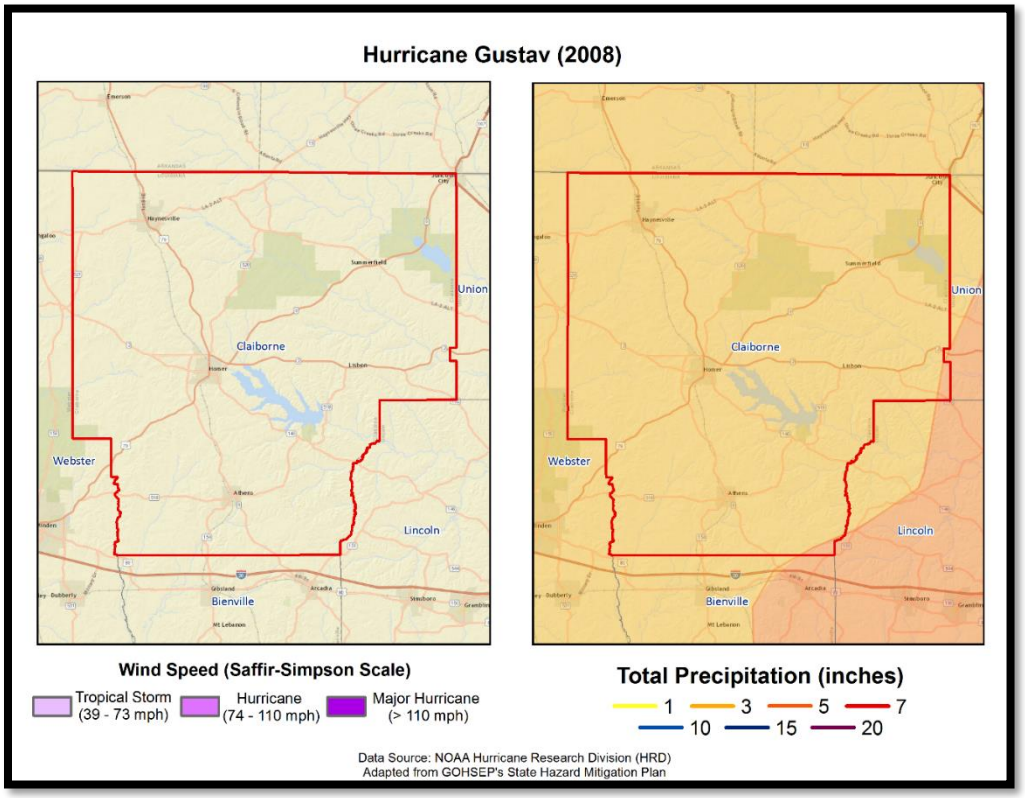


Figure 2-23: Wind Speed and Precipitation Totals in Claiborne Parish for Hurricane Gustav

Hurricane Ike (2008)

Hurricane Ike caused wind damage, storm surge flooding, and tornadoes across southwest Louisiana. Ike made landfall near Galveston, TX early in the morning on September 13, 2008, as a strong category 2 hurricane. Sustained hurricane force winds were confined to extreme western Cameron Parish. The highest recorded winds in southwest Louisiana were experienced at Lake Charles Regional Airport, with sustained winds of 53 mph (46 kts) and gusts of 77 mph (67 kts). The lowest pressure reading occurred at Southland Field near Sulphur, LA, with a low of 994.6 millibars. Several tornadoes were reported across southwest Louisiana. The most significant one was near Mamou, where ten to fifteen homes were damaged, including one that lost its roof. Storm surge was a significant event. Water levels ranged from 14 feet in western Cameron Parish, to eight feet in St. Mary Parish. This resulted in widespread flooding of the same areas that flooded during Hurricane Rita in 2005. Most of Cameron Parish was under water. Over 3,000 homes were flooded. This extended north into Calcasieu Parish, where another 1,000 homes flooded in Lake Charles,

Westlake, and Sulphur. In Vermilion Parish, at least 1,000 homes flooded in Pecan Island, Forked Island, Intracoastal City, and Henry. This extended east into Iberia Parish, where another 1,000 homes flooded south of Highway 14 and Highway 90. In St. Mary Parish, some of the worst flooding occurred in Franklin, where a man-made levee failed, flooding over 450 homes. Maximum storm total rainfall ranged from six to eight inches across Cameron, Calcasieu, and Beauregard Parishes. No fatalities were reported in southwest Louisiana. Total property damages, however, were high. Losses were estimated to be almost $420 million across southwest Louisiana. Agricultural losses were over $225 million.

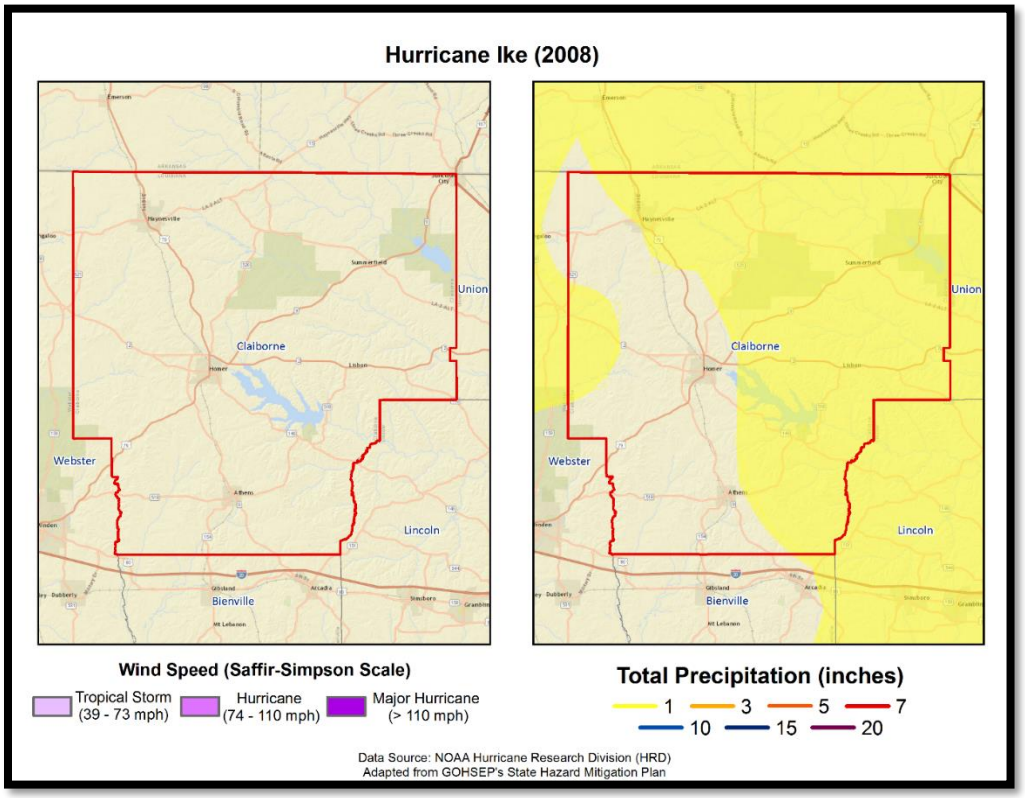


Figure 2-24: Wind Speed and Precipitation Totals in Claiborne Parish for Hurricane Ike

In Claiborne Parish, the remnants of Tropical Storm Ike resulted in widespread trees and power lines downed. Power outages were widespread as well with numerous residents without power during the height of the storm and days afterward.

The figure on the next page displays the wind zones that affect Claiborne Parish in relation to critical facilities throughout the parish.

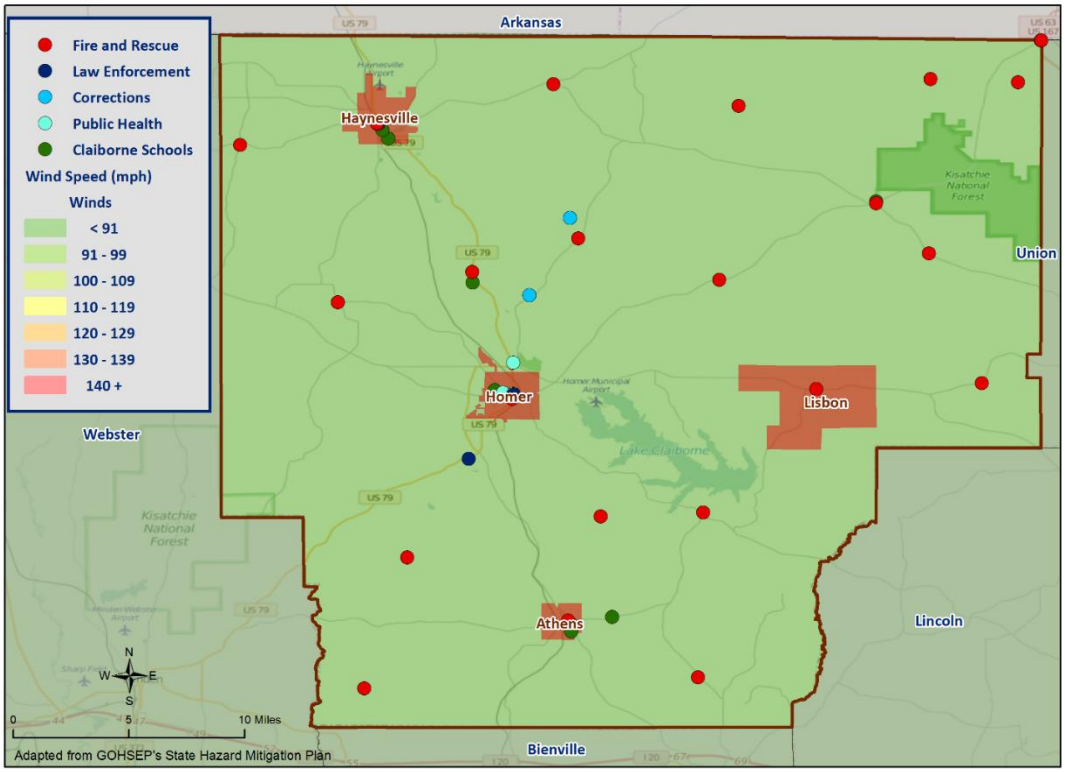


Figure 2-25: Winds Zones for Claiborne Parish in Relation to Critical Facilities

Frequency / Probability

Tropical cyclones are large natural hazard events that regularly impact Claiborne Parish. The annual chance of occurrence for a tropical cyclone is estimated at 12% for Claiborne Parish and its municipalities, with three events occurring within 25 years. The tropical cyclone season for the Atlantic Basin is from June 1st through November 30th, with most of the major hurricanes (Saffir-Simpson Categories 3, 4, & 5) occurring between the months of August and October.

Estimated Potential Losses

Using Hazus 2.2 100-Year Hurricane Model, the 100-year hurricane scenario was analyzed to determine losses from this worst-case scenario. The following table shows the total economic losses that would result from this occurrence.

Table 2-52: Total Estimated Losses for a 100-Year Hurricane Event (Source: Hazus 2.2)

Jurisdiction	Estimated total Losses from 100-Year Hurricane Event
Claiborne Parish (Unincorporated)	$388,121
Athens	$8,631
Haynesville	$80,661
Homer	$112,204
Lisbon	$6,413
Total	$596,030

Total losses from a 100-year hurricane event for each jurisdiction were compared with the total value of assets to determine the ratio of potential damage to total inventory in the table below.

Table 2-53: Ratio of Total Losses to Total Estimated Value of Assets for each Jurisdiction in Claiborne Parish (Source: Hazus 2.2)

Jurisdiction	Estimated Total Losses from 100-Year Hurricane Event	Total Estimated Value of Assets	Ratio of Estimated Losses to Total Value
Unincorporated	$388,121	$1,310,689,000	< 0.1%
Athens	$8,631	$34,309,000	< 0.1%
Haynesville	$80,661	$356,536,000	< 0.1%
Homer	$112,204	$611,714,000	< 0.1%
Lisbon	$6,413	$33,277,000	< 0.1%

Based on the Hazus 2.2 Hurricane Model, estimated total losses are less than 0.1% of the total estimated value of all assets for the Claiborne Parish Planning Area.

The Hazus 2.2 Hurricane Model also provides a breakdown by jurisdiction for seven primary sectors (Hazus occupancy) throughout the parish. The losses for each jurisdiction by sector are listed in the following tables.

Table 2-54: Estimated Losses in Unincorporated Claiborne Parish for a 100-Year Hurricane Event (Source: Hazus 2.2)

Claiborne Parish (Unincorporated)	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	$0
Commercial	$61,563
Government	$0
Industrial	$0
Religious / Non-Profit	$0
Residential	$326,558
Schools	$0
Total	$388,121

Table 2-55: Estimated Losses in Athens for a 100-Year Hurricane Event (Source: Hazus 2.2)

Athens	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	$16,262
Commercial	$565,614
Government	$32,450
Industrial	$86,334
Religious / Non-Profit	$60,312
Residential	$4,711,581
Schools	$27,891
Total	$5,500,445

Table 2-56: *Estimated Losses in Haynesville for a 100-Year Hurricane Event (Source: Hazus 2.2)*

Haynesville	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	$0
Commercial	$12,794
Government	$20,411
Industrial	$0
Religious / Non-Profit	$0
Residential	$47,456
Schools	$0
Total	$80,661

Table 2-57: Estimated Losses in Homer for a 100-Year Hurricane Event (Source: Hazus 2.2)

Homer	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	$0
Commercial	$17,798
Government	$39,620
Industrial	$0
Religious / Non-Profit	$0
Residential	$54,786
Schools	$0
Total	$112,204

Table 2-58: Estimated Losses in Lisbon for a 100-Year Hurricane Event
(Source: Hazus 2.2)

Lisbon	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	$0
Commercial	$1,017
Government	$0
Industrial	$0
Religious / Non-Profit	$0
Residential	$5,395
Schools	$0
Total	$6,413

Threat to People

The total population within the parish that is susceptible to a hurricane hazard is shown in the table below.

Table 2-59: Number of People Susceptible to a 100-Year Hurricane Event in Claiborne Parish
(Source: Hazus 2.2)

Number of People Exposed to Hurricane Hazards			
Location	**# in Community**	**# in Hazard Area**	**% in Hazard Area**
Claiborne Parish (Unincorporated)	**11,197**	**11,197**	**100%**
Athens	**249**	**249**	**100%**
Haynesville	**2,327**	**2,327**	**100%**
Homer	**3,237**	**3,237**	**100%**
Lisbon	**185**	**185**	**100%**
Total	**17,195**	**17,195**	**100%**

The HAZUS-MH hurricane model was also extrapolated to provide an overview of vulnerable populations throughout the jurisdictions. These populations are illustrated in the following tables.

Table 2-60: Vulnerable Populations in Unincorporated Claiborne Parish for a 100-Year Hurricane Event
(Source: Hazus 2.2)

Claiborne Parish (Unincorporated)		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	11,197	100%
Persons Under 5 Years	592	5.3%
Persons Under 18 Years	1,609	14.4%
Persons 65 Years and Over	1,794	16.0%
White	5,319	47.5%
Minority	5,878	52.5%

Table 2-61: Vulnerable Populations in Athens for a 100-Year Hurricane Event (Source: Hazus 2.2)

Athens		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	249	100%
Persons Under 5 Years	17	6.8%
Persons Under 18 Years	38	15.3%
Persons 65 Years and Over	37	14.9%
White	185	74.3%
Minority	64	25.7%

Table 2-62: Vulnerable Populations in Haynesville for a 100-Year Hurricane Event (Source: Hazus 2.2)

Haynesville		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	2,327	100%
Persons Under 5 Years	176	7.6%
Persons Under 18 Years	411	17.7%
Persons 65 Years and Over	453	19.5%
White	947	40.7%
Minority	1,380	59.3%

Table 2-63: Vulnerable Populations in Homer for a 100-Year Hurricane Event (Source: Hazus 2.2)

Homer		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	3,237	100%
Persons Under 5 Years	263	8.1%
Persons Under 18 Years	635	19.6%
Persons 65 Years and Over	510	15.8%
White	1,068	33.0%
Minority	2,169	67.0%

Table 2-64: Vulnerable Populations in Lisbon for a 100-Year Hurricane Event (Source: Hazus 2.2)

Lisbon		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	185	100%
Persons Under 5 Years	8	4.3%
Persons Under 18 Years	30	16.2%
Persons 65 Years and Over	44	23.8%
White	121	65.4%
Minority	64	34.6%

Vulnerability

See Appendix C for parish and municipality buildings that are susceptible to tropical cyclones.

Wildfires

A wildfire is combustion in a natural setting, marked by flames or intense heat. Most frequently, wildfires are ignited by lightning or unintentionally by humans. Fires set purposefully (but lawfully) are referred to as controlled fires or burns. There are three different types of wildfires: (1) **Ground fires** burn primarily in the thick layers of organic matter directly on the forest floor and even within the soil. Ground fires destroy root networks, peat, and compact litter. These fires spread extremely slowly and can smolder for months. (2) **Surface fires** burn litter and vegetative matter in the underbrush of a forest. (3) **Crown fires** spread rapidly by wind and move quickly by jumping along the tops of trees. There are two types of crown fires: (a) *passive (or dependent)* crown fires rely on heat transfer from surface fire, whereas (b) *active (or independent)* crown fires do not require any heat transfer from below. Active crown fires tend to occur with greater tree density and drier conditions. A firestorm is a mass, crown fire (also called a running crown fire, area fire, or conflagration). They are large, continuous, intense fires that lead to violent convection. They are characterized by destructively violent surface in-drafts near and beyond their perimeter. Crown fires are the most damaging and most difficult to contain. The intensity of crown fires enables the fire to produce its own wind gusts. These so-called *fire whirls* can move embers ahead of the fire front and ignite new fires. Fire whirls are spinning vortex columns of ascending hot air and gases rising from the fire. Large fire whirls have the intensity of a small tornado.

The conditions conducive to the occurrence of wildfires are not distributed equally across the United States. Wildfires have a much greater likelihood of occurring in the western part of the country. Although less frequent than in other areas, wildfires do occur in Louisiana. Wildfire danger can vary greatly season to season, and is exacerbated by dry weather conditions. Factors that increase susceptibility to wildfires are the availability of fuel (e.g., litter and debris), topography (i.e., slope and elevation affect various factors like precipitation, fuel amount, and wind exposure), and specific meteorological conditions (e.g., low rainfall, high temperatures, low relative humidity, and winds). The potential for wildfire is often measured by the Keetch–Byram Drought Index (KBDI), which represents the net effect of evapotranspiration and precipitation in producing cumulative moisture deficiency in the soil. The KBDI tries to measure the amount of precipitation needed to return soil to its full field capacity, with KBDI values ranging from 0 (moist soil) to 800 (severe drought).

According to the State of Louisiana Forestry Division, most forest fires in Louisiana are caused by intentional acts (arson) or carelessness and negligence committed by people, exacerbated by human confrontation with nature. The wildland–urban interface is the area in which development meets wildland vegetation, where both vegetation and the built environment provide fuel for fires. As development near wildland settings continues, more people and property are exposed to wildfire danger. *Figure 2-26* displays the areas of wildland-urban interaction in Claiborne Parish.

The Southern Group of State Foresters developed the Southern Wildfire Risk Assessment Portal to create awareness among the public and government sectors about the threat of wildfires in their areas. The Southern Wildfire Assessment Portal allows users to identify areas that are most prone to wildfires. The table on the next page summarizes the intensity levels assigned to areas in the Southern Wildfire Assessment Portal.

Table 2-65: Southern Group of State Foresters Wildfire Risk Assessment Fire Intensity Scale (Source: Southern Wildfire Assessment Portal)

Fire Intensity Scale	
Level	**Definition**
1	Lowest Intensity: Minimal direct wildfire impacts. Location has a minimal chance of being directly impacted by a wildfire.
2	Low Intensity: Small flames usually less than two feet long; small amount of very short range spotting possible. Fires are easy to suppress.
3	Moderate Intensity: Flames up to eight feet in length; short-range spotting is possible.
4	High Intensity: Large flames up to 30 feet in length; short-range spotting common; medium range spotting possible.
5	Highest Intensity: Very large flames up to 150 feet in length; profuse short-range spotting, frequent long-range spotting; strong fire induced winds.

Location

Wildfires impact areas that are populated with forests and grasslands. The following figure displays the areas of wildland-urban interface and intermix in Claiborne Parish and its jurisdictions.

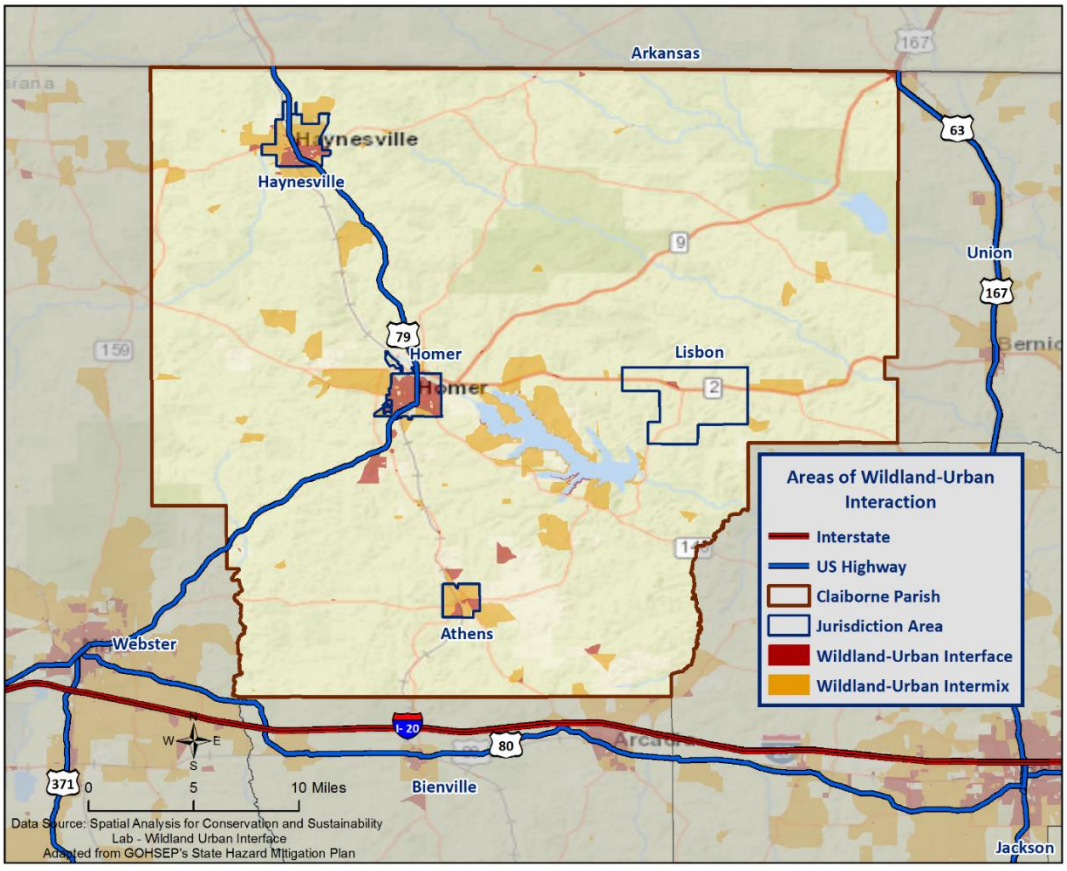


Figure 2-26: Wildland-Urban Interaction in Claiborne Parish

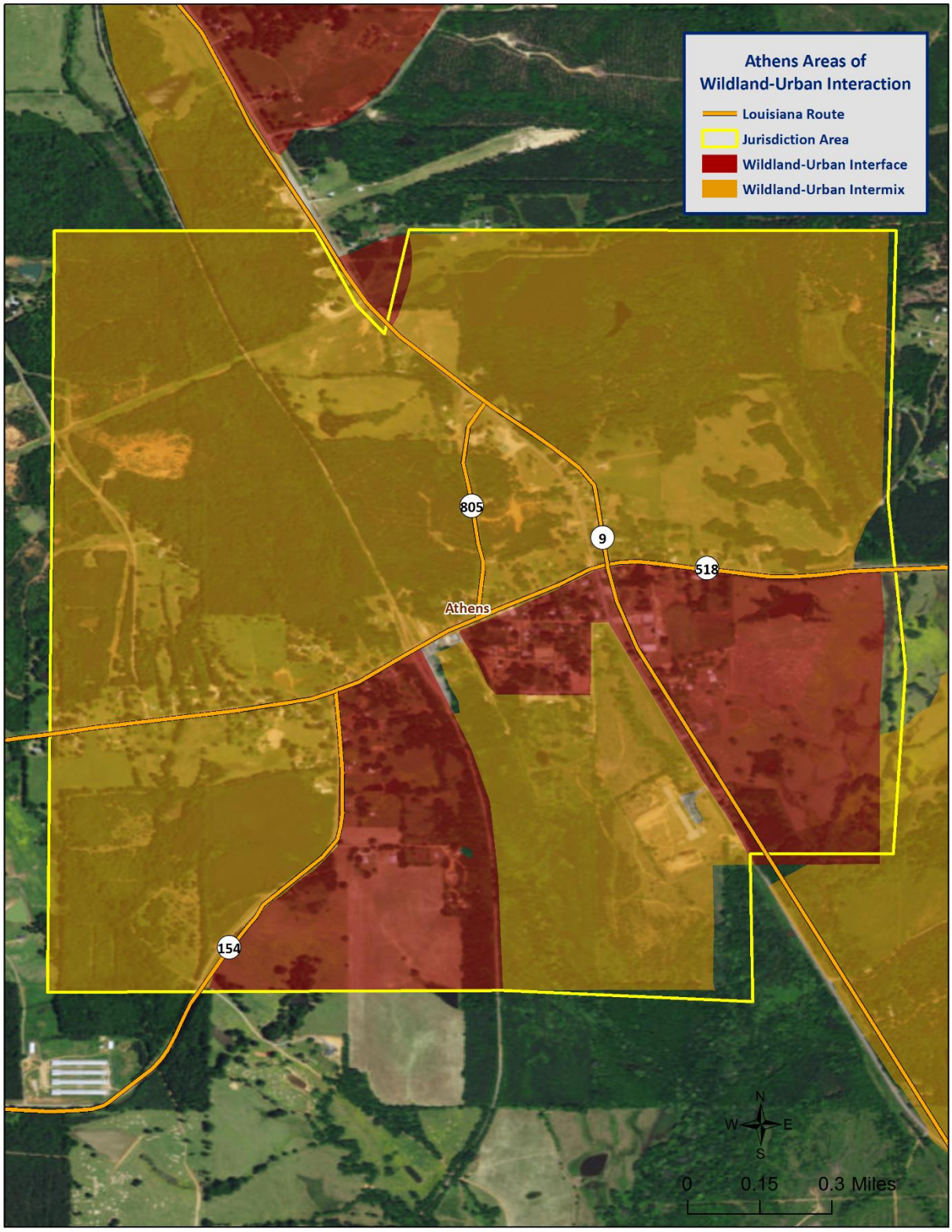


Figure 2-27: Wildland-Urban Interaction in Athens

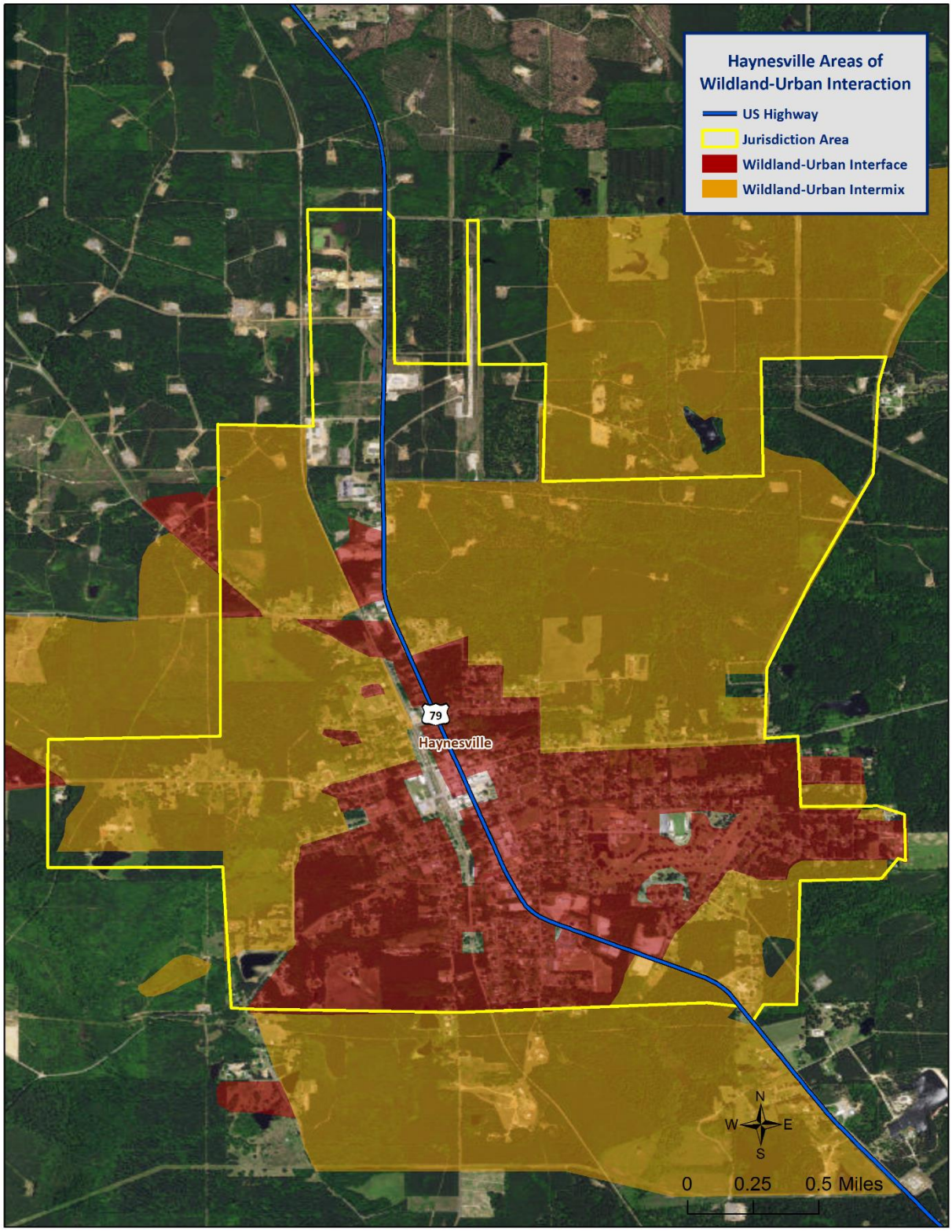


Figure 2-28: Wildland-Urban Interaction in Haynesville

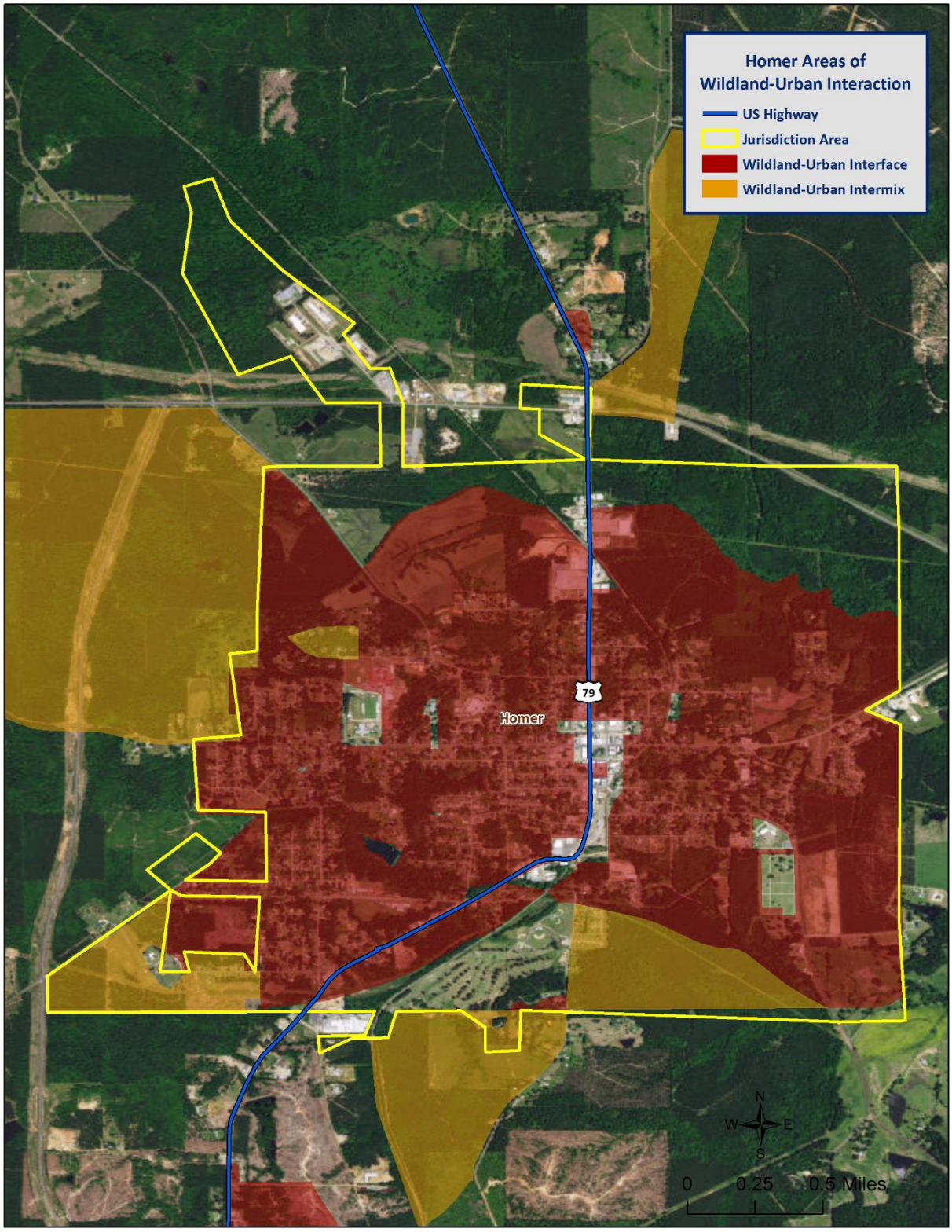


Figure 2-29: Wildland-Urban Interaction in Homer

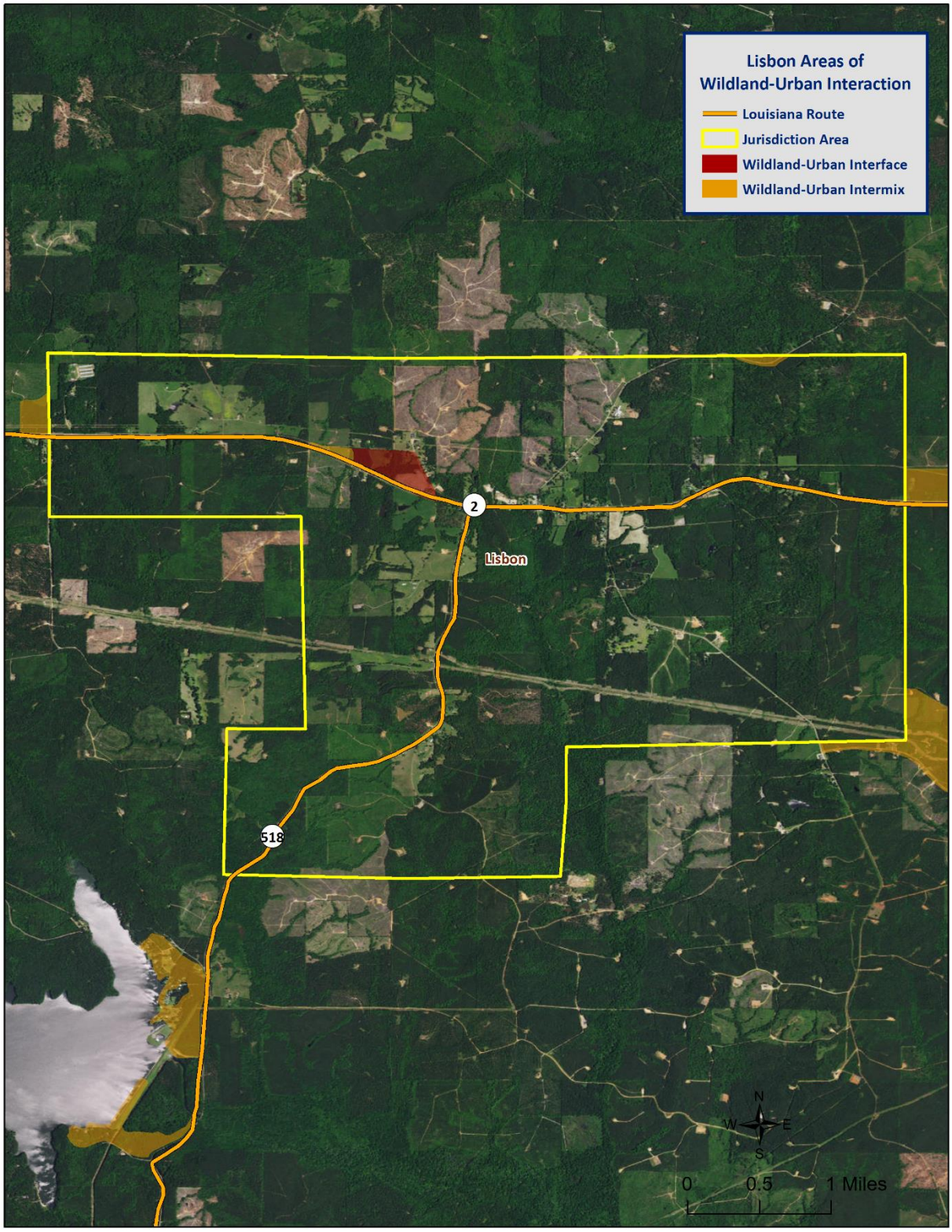


Figure 2-30: Wildland-Urban Interaction in Lisbon

Previous Occurrences / Extents

There have been no reported wildfire events that have occurred within the boundaries of Claiborne Parish Planning area between the years of 1990 and 2015.

Based on the Southern Group of State Foresters Risk Assessment Portal, the following table outlines the intensity that each jurisdictional area within Claiborne Parish could potential experience due to a wildfire event.

Table 2-66: Potential Wildfire Intensity Levels for Claiborne Parish
(Source: Southern Wildfire Assessment Portal)

Potential Wildfire Intensity	
Claiborne Parish (Unincorporated)	Highest Intensity Level 5
Athens	High Intensity Level 4
Haynesville	High Intensity Level 4
Homer	High Intensity Level 4
Lisbon	Moderate Intensity Level 3

Frequency / Probability

With no recorded events in 25 years, wildfire events within the boundaries of Claiborne Parish have an annual chance of occurrence calculated at less than 1%.

Estimated Potential Losses

There have been no wildfire events that have caused property damage, crop damage, injuries, or fatalities in Claiborne Parish. In assessing the overall risk to population, the most vulnerable population throughout the parish consists of those residing in areas of wildland-urban interaction. *Figure 2-26* displays the areas of wildland-urban interaction in Claiborne Parish.

Using Hazus 2.2, along with wildland-urban interaction areas, the following table presents an analysis of total building exposure that is located within the wildland-urban interaction areas.

Table 2-67: Total Building Exposure by Wildland-Urban Interaction Areas
(Source: Hazus 2.2)

Jurisdiction	Estimated Total Building Exposure
Claiborne Parish (Unincorporated)	$746,184,000
Athens	$43,194,000
Haynesville	$355,114,000
Homer	$603,107,000
Lisbon	$11,762,000
Total	$1,759,361,000

Hazus 2.2 also provides a breakdown by jurisdiction for seven primary sectors (Hazus occupancy) throughout the parish. Utilizing this information with the wildland-urban interaction areas allows for identifying the total exposure by jurisdiction. The total exposure for each jurisdiction by sector is listed in the following tables:

Table 2-68: Estimated Exposure for Unincorporated Claiborne Parish by Sector (Source: Hazus 2.2)

Claiborne Parish (Unincorporated)	Estimated Total Building Exposure by Sector
Agricultural	$7,074,000
Commercial	$43,924,000
Government	$518,000
Industrial	$89,921,000
Religious / Non-Profit	$20,988,000
Residential	$566,990,000
Schools	$16,769,000
Total	$746,184,000

Table 2-69: Estimated Exposure for Athens by Sector (Source: Hazus 2.2)

Athens	Estimated Total Building Exposure by Sector
Agricultural	$472,000
Commercial	$3,692,000
Government	$0
Industrial	$1,714,000
Religious / Non-Profit	$4,588,000
Residential	$32,728,000
Schools	$0
Total	$43,194,000

Table 2-70: Estimated Exposure for Haynesville by Sector (Source: Hazus 2.2)

Haynesville	Estimated Total Building Exposure by Sector
Agricultural	$0
Commercial	$30,691,000
Government	$7,495,000
Industrial	$7,492,000
Religious / Non-Profit	$13,544,000
Residential	$290,948,000
Schools	$4,944,000
Total	$355,114,000

Table 2-71: Estimated Exposure for Homer by Sector
(Source: Hazus 2.2)

Homer	Estimated Total Building Exposure by Sector
Agricultural	$0
Commercial	$130,421,000
Government	$24,928,000
Industrial	$7,039,000
Religious / Non-Profit	$24,066,000
Residential	$397,917,000
Schools	$18,736,000
Total	$603,107,000

Table 2-72: Estimated Exposure for Lisbon by Sector
(Source: Hazus 2.2)

Lisbon	Estimated Total Building Exposure by Sector
Agricultural	$0
Commercial	$0
Government	$0
Industrial	$262,000
Religious / Non-Profit	$0
Residential	$9,696,000
Schools	$1,804,000
Total	$11,762,000

Threat to People

The total population within the parish that is located within a wildland-urban interaction area is shown in the table below:

Table 2-73: Populations Located within a Wildland-Urban Interaction Area
(Source: 2010 U.S. Census Data)

Number of People Located in Wildland-Urban Interaction Areas.			
Location	**# in Community**	**# in Area**	**% in Area**
Claiborne Parish (Unincorporated)	**11,197**	**490**	**4.4%**
Athens	**249**	**88**	**35.3%**
Haynesville	**2,327**	**1,565**	**67.3%**
Homer	**3,237**	**2,523**	**77.9%**
Lisbon	**185**	**41**	**22.2%**
Total	**17,195**	**4,707**	**27.4%**

The 2010 U.S. Census data was also extrapolated to provide an overview of populations located within wildland-urban interaction areas throughout the jurisdictions. That data is illustrated in the following tables:

Table 2-74: Population in Unincorporated Claiborne Parish Located within a Wildland-Urban Interaction Area
(Source: 2010 U.S. Census Data)

Claiborne Parish (Unincorporated)		
Category	**Total Numbers**	**Percentage of People in Wildland-Urban Interaction Area**
Number in Hazard Area	490	4.4%
Persons Under 5 Years	26	5.3%
Persons Under 18 Years	70	14.4%
Persons 65 Years and Over	78	16.0%
White	233	47.5%
Minority	257	52.5%

Table 2-75: Population in Athens Located within a Wildland-Urban Interaction Area
(Source: 2010 U.S. Census Data)

Athens		
Category	**Total Numbers**	**Percentage of People in Wildland-Urban Interaction Area**
Number in Hazard Area	88	35.3%
Persons Under 5 Years	6	6.8%
Persons Under 18 Years	13	15.3%
Persons 65 Years and Over	13	14.9%
White	65	74.3%
Minority	23	25.7%

Table 2-76: Population in Haynesville Located within a Wildland-Urban Interaction Area
(Source: 2010 U.S. Census Data)

Haynesville		
Category	**Total Numbers**	**Percentage of People in Wildland-Urban Interaction Area**
Number in Hazard Area	1,565	67.3%
Persons Under 5 Years	118	7.6%
Persons Under 18 Years	276	17.7%
Persons 65 Years and Over	305	19.5%
White	637	40.7%
Minority	928	59.3%

Table 2-77: Population in Homer Located within a Wildland-Urban Interaction Area (Source: 2010 U.S. Census Data)

Homer		
Category	**Total Numbers**	**Percentage of People in Wildland-Urban Interaction Area**
Number in Hazard Area	2,523	77.9%
Persons Under 5 Years	205	8.1%
Persons Under 18 Years	495	19.6%
Persons 65 Years and Over	398	15.8%
White	832	33.0%
Minority	1,691	67.0%

Table 2-78: Population in Lisbon Located within a Wildland-Urban Interaction Area (Source: 2010 U.S. Census Data)

Lisbon		
Category	**Total Numbers**	**Percentage of People in Wildland-Urban Interaction Area**
Number in Hazard Area	41	22.2%
Persons Under 5 Years	2	4.3%
Persons Under 18 Years	7	16.2%
Persons 65 Years and Over	10	23.8%
White	27	65.4%
Minority	14	34.6%

Vulnerability

See Appendix C for parish and municipality facilities that could potentially be exposed to a wildfire hazard. Buildings were determined based on whether or not they fall within the wildfire-urban interface and/or intermix.

Winter Storms

For Louisiana and other parts of the southeastern United States, a severe winter storm occurs when humid air from the Gulf of Mexico meets a cold air mass from the north. Once the cold air mass crosses Louisiana, and the temperature drops, precipitation may fall in the form of snow or sleet. If the ground temperature is cold enough but air temperature is above freezing, rain can freeze instantly on contact with the surface, causing massive ice storms.

The winter storm events that affect the state of Louisiana are ice storms, freezes, and snow events. Of the winter storm types listed above, ice storms are the most dangerous. Ice storms occur during a precipitation event when warm air aloft exceeds 32 °F, while the surface remains below the freezing point. Ice will form on all surfaces when precipitation originating as rain or drizzle contacts physical structures. These ice storms are usually accompanied by freezing temperatures and occasionally snow.

Winter storms can be accompanied by strong winds, creating blizzard conditions with blinding, wind driven snow, severe drifting, and dangerous wind chill. These types of conditions are very rare in Louisiana, even in north Louisiana, but ice storms are more common. The climatic line between snow and rain often stalls over north Louisiana, creating ideal conditions for ice accumulation.

In a typical winter storm event, homes and buildings are damaged by ice accumulation, either directly by the weight of the ice on the roofs or by trees and/or limbs falling on buildings. While it is not very prevalent, this type of damage can occur in Louisiana, particularly in north Louisiana. Effects of winter weather more likely to occur in Louisiana, especially southern Louisiana, include extreme temperatures which can cause waterlines to freeze and sewer lines to rupture. This is especially true with elevated or mobile homes, since cold air is able to access more of the building's infrastructure. Winter storms can also have a devastating effect on agriculture, particularly on crops (like citrus) that are dependent on warm weather. Long exposures to low temperatures can kill many kinds of crops, and ice storms can weigh down branches and fruit.

Winter storms are not only a direct threat to human health through conditions like frostbite and hypothermia, but they are also an indirect threat to human health due to vehicle accidents and loss of power and heat, which can be disrupted for days. However, these impacts are rarely seen in Louisiana. As people use space heaters and fireplaces to stay warm, the risk of household fires and carbon monoxide poisoning increases.

Winter storm events occur throughout Louisiana usually during the colder calendar months of December, January, and February. Severe weather events do not occur with the same frequency across all parts of Louisiana. The northern quarter of Louisiana has historically experienced the most severe winter events between 1987 and 2012. The central, and to an even greater extent the southern parts of the state, such as Ascension Parish, have experienced the fewest severe winter events. The table on the next page shows the Sperry-Piltz Ice Accumulation Index which is utilized to predict the potential damage to overhead utility systems from freezing rain and ice storms.

Table 2-79: Sperry-Piltz Ice Accumulation Index

Ice Damage Index	Damage and Impact Descriptions
0	Minimal risk of damage to exposed utility systems; no alerts or advisories needed for crews, few outages.
1	Some isolated or localized utility interruptions are possible, typically lasting only a few hours. Roads and bridges may become slick and hazardous.
2	Scattered utility interruptions expected, typically lasting 12 to 24 hours. Roads and travel conditions may be extremely hazardous due to ice accumulation.
3	Numerous utility interruptions with some damage to main feeder lines and equipment expected. Tree limb damage is excessive. Outages lasting 1 – 5 days.
4	Prolonged and widespread utility interruptions with extensive damage to main distribution feeder lines and some high voltage transmission lines/structure. Outages lasting 5 – 10 days.
5	Catastrophic damage to entire exposed utility systems, including both distribution and transmission networks. Outages could last several weeks in some areas. Shelters needed.

Location

Because a winter storm is a climatological based hazard and has the same probability of occurring in Claiborne Parish as all of the adjacent parishes, the entire planning area for Claiborne Parish is equally at risk for winter storms.

Previous Occurrences / Extents

According to SHELDUS, there have been 18 reported winter storm events that have occurred within the boundaries of Claiborne Parish between the years of 1989 and 2014. The table on the next page provides a brief synopsis of each event. Based on historic data, Claiborne Parish can expect an ice damage index of 2 on the Sperry-Piltz Ice Accumulation Index.

Table 2-80: Previous Occurrences for Winter Storm Events

Date	Synopsis	Property Damage	Crop Damage
January 7, 2010	Bitterly cold temperatures swept into the region during the evening hours of January 7th with a hard freeze being observed nearly through the morning hours of January 10th. During this period of time, overnight and early morning low temperatures were well into the teens with daytime high temperatures struggling to make it to the freezing mark. The cold temperatures froze water pipes of many homes throughout the parish. Some city and parish water lines burst as well resulting in many residents either without water for a short period of time or with reduced water pressure.	$150,000	$0
February 11, 2010	Snow began accumulating during the morning hours of February 11th and did not end until the afternoon hours of February 12th. Snowfall totals across the parish ranged from 3 to 5 inches with 4 inches measured in Homer, Louisiana. Schools and some businesses were closed and the wet nature of the snow resulted in large tree branches being downed.	$0	$0
January 9, 2011	A wintery mix fell through Claiborne Parish. One half inch of ice accumulated in the Homer area.	$0	$0
February 3, 2011	A cold artic airmass entered the region bringing wintery weather. Claiborne Parish had snow accumulations of approximately 0.75 inches.	$0	$0
January 14, 2013	Freezing rain and sleet accumulated throughout the parish when a strong cold from moved through Northwest Louisiana.	$0	$0
November 24, 2013	Freezing rain and sleet fell across Claiborne Parish when a shallow cold layer of air moved out of the Southern Plains and into the Lower Mississippi Valley.	$0	$0
January 5, 2014	An artic airmass entered the region caused temperatures to fall. The extreme cold resulted in many underground water lines freezing and bursting.	$0	$0
February 11, 2014	A mixture of rain and sleet fell across Claiborne Parish. Sleet accumulations were approximately 1 inch in some areas of the parish.	$0	$0
January 11, 2015	An artic airmass filtered into the region causing light freezing rain and ice accumulations near one tenth of an inch.	$0	$0
February 23, 2015	Freezing rain and sleet accumulations of approximately one tenth of an inch occurred in the area when a cold dome of artic spilled southward.	$0	$0
March 4, 2015	A wintery mix fell throughout the area when a cold, artic airmass entered the region.	$0	$0

Based on previous winter storm events, the worst-case scenario for the Claiborne Parish Planning area is approximately three to five inches of snow and one tenth to one quarter inch of ice accumulation.

Frequency / Probability

With 18 recorded events in 25 years, winter storm events within the boundaries of Claiborne Parish have an annual chance of occurrence calculated at 72% based on the SHELDUS dataset.

Estimated Potential Losses

Since 1990, there have been 18 reported winter weather events that have resulted in property and/or crop damages according to the SHELDUS database. The total property damages associated with these storms have totaled $22,023,315. To estimate the potential losses of a winter weather event on an annual basis, the total damage recorded for winter weather events was divided by the total number of years of available winter weather data in SHELDUS (1990 – 2015). This provides an annual estimated potential loss of $880,933. To assess potential losses to the participating jurisdictions, the 2010 Census population was used to assign the estimated potential losses proportionally across the jurisdictions. The following table provides an estimate of potential property losses for Claiborne Parish based on the 2010 Census data:

Table 2-81: Estimated Annual Losses for Winter Weather Events in Claiborne Parish

Estimated Annual Potential Losses from Winter Weather for Claiborne Parish				
Unincorporated Claiborne (65.1% of Population)	**Athens (1.4% of Population)**	**Haynesville (13.5% of Population)**	**Homer (18.8% of Population)**	**Lisbon (1.1% of Population)**
$573,644	$12,757	$119,217	$165,838	$9,478

From 1990 to 2015, there have been no injuries and one fatality as a result of winter weather Claiborne Parish.

Vulnerability

See Appendix C for parish and municipality building exposure to winter weather hazards.

Dam Failure

Dams are water storage, control, or diversion barriers that impound water upstream in reservoirs. Dams are a vital part of our nation's infrastructure, providing drinking water, flood protection, renewable hydroelectric power, navigation, irrigation, and recreation. These critical daily benefits are also inextricably linked to the potential harmful consequences of a dam failure.

Dam failure is a collapse or breach in the structure. A dam failure can result in severe loss of life, economic disaster, and extensive environmental damage. While most dams have storage volumes small enough that failures have few repercussions, dams with large storage volumes can cause significant flooding downstream. Dam failures often have a rapid rate of onset, leaving little time for evacuation. The first signs of the failure may go unnoticed upon visual inspection of the dam structure. However, continual maintenance and inspection of dams often provide the opportunity to identify possible deficiencies in their early stages and can prevent a possible catastrophic failure event.

The duration of the flooding event caused by the failure depends largely on the amount of water and downstream topography. Given smaller volumes of water and a topography suited for transporting the water rapidly downstream, the event may only last hours. Because of the lack of seasonality and other predictive factors, a predictive frequency or likelihood of dam failures cannot be determined. However, the National Dam Safety Program (NDSP) produces hazard rankings (high, significant, and low) and definitions of dam structures, based on potential impact.

Dam/reservoir failures can result from any one of or a combination of the following causes:

- Prolonged periods of rainfall and flooding, which cause most failures;
- Inadequate spillway capacity, resulting in excess overtopping flows;
- Internal erosion caused by embankment or foundation leakage or piping;
- Improper maintenance, including failure to remove trees, repair internal seepage problems, replace lost material from the cross-section of the dam and abutments, or maintain gates, valves, and other operational components;
- Improper design, including the use of improper construction materials and construction practices;
- Negligent operation, including the failure to remove or open gates or valves during high flow periods;
- Failure of upstream dams on the same waterway;
- Landslides into reservoirs, which cause surges that result in overtopping;
- High winds, which can cause significant wave action and result in substantial erosion; and
- Earthquakes, which typically cause longitudinal cracks at the tops of the embankments that can weaken entire structures.

Location

Claiborne Parish is awaiting a response from the U.S. Army Corps of Engineers on dam locations within the Claiborne Parish Planning area. Currently, a data deficiency exists for dam failure in Claiborne Parish.

Previous Occurrences / Extents

There have been no reported dam failures in Claiborne Parish from 1990 to 2015. Dam information including the extent of dam failures has been requested from the USACE. Claiborne Parish is awaiting a response from the USACE, and will continue to work to update this information as new data is received.

Frequency / Probability

Based on the 25-year record, it is determined that a dam failure has less than a 1% annual chance of occurrence in the Claiborne Parish planning area. Claiborne Parish is awaiting a response from the USACE, and will continue to work to update this information as new data is received.

Levee Failure

Levees and floodwalls are flood control barriers constructed of earth, concrete, or other materials. For the purposes of this plan, levees are distinguished from smaller flood barriers (such as berms) by their size and extent. Berms are barriers that only protect a small number of structures, or at times only a single structure. Levees and floodwalls are barriers that protect significant areas of residential, commercial, or industrial development; at a minimum, they protect a neighborhood or small community. Levee failure involves the overtopping, breach, or collapse of the levee. Levee failure is especially destructive to nearby development during flood and hurricane events.

The northern half of Louisiana is protected by levees on the Ouachita River, under the authority of the Vicksburg District of the United States Army Corp of Engineers (USACE). The Vicksburg District encompasses 68,000 mi^2 in the states of Arkansas, Mississippi and Louisiana. They manage seven drainage basins, including the Yazoo, Pearl, Big Black, Red, Ouachita, and Mississippi Rivers; 12 locks and dams on the Pearl, Red, and Ouachita Rivers; 1,808 miles of levees, including 468 miles along the Mississippi River; and multiple lakes with 1,709 miles of shoreline.

Coastal and southern Louisiana are protected by an extensive levee system under the authority of the New Orleans District of the USACE. This system includes 30,000 mi^2 of Louisiana south of Alexandria, including 961 miles of river levees in the Mississippi River and Tributaries Project, 449 miles of river levees in the Atchafalaya Basin, and 340 miles of hurricane-protection levees. Other levees have been built along stretches of rivers throughout Louisiana by local levee districts and private citizens. The data regarding these non-federal levees are managed by the individual entity responsible for construction and subsequent maintenance and are not kept in a consistent format for comprehensive hazard analysis.

The effects of a levee failure on property is similar to that of a flood, as discussed in the flooding section. One major difference is that the velocity of the water is increased in the area of the breach, so the potential for property damage is higher in these areas.

A levee failure occurs during high water events, so the populace is normally alerted to the potential danger. Levees are normally monitored during these events and the population in danger is alerted to a possible levee failure. However, if people consider themselves safe once a levee has been breached and do not evacuate, the results could be deadly.

Location

Claiborne Parish is awaiting a response from the U.S. Army Corps of Engineers on levee locations within the Claiborne Parish Planning area. Currently, a data deficiency exists for levee failure in Claiborne Parish.

Previous Occurrences / Extents

There have been no reported levee failures in Claiborne Parish from 1990 to 2015. Levee information including the extent of a levee failure has been requested from the U.S. Army Corps of Engineers. Claiborne Parish is awaiting a response from the USACE, and will continue to update this information as new data is received.

Frequency / Probability

Based on the 25-year record, it is determined that a levee failure has less than a 1% annual chance of occurrence in the Claiborne Parish planning area. Claiborne Parish is awaiting a response from the USACE, and will continue to work to update this information as new data is received.

3. Capability Assessment

This section summarizes the results of the Claiborne Parish jurisdictions and other agency efforts to develop policies, programs, and activities that directly or indirectly support hazard mitigation. It also provides information on resources and gaps in the parish's infrastructure, as well as relevant changes in its law since the last plan update, in order to suggest a mitigation strategy.

Through this assessment, Claiborne Parish and the participating jurisdictions are able to identify strengths that could be used to reduce losses and reduce risk throughout the community. It also identifies areas where mitigation actions might be used to supplement current capabilities and create a more resilient community before, during, and after a hazard event.

Policies, Plans, and Programs

Claiborne Parish capabilities are unique to the parish, including planning, regulatory, administrative, technical, financial, and education and outreach resources. There are a number of mitigation-specific acts, plans, executive orders, and policies that lay out specific goals, objectives, and policy statements which already support or could support pre- and post-disaster hazard mitigation. Many of the ongoing plans and policies hold significant promise for hazard mitigation. They take an integrated and strategic look holistically at hazard mitigation in Claiborne Parish to propose ways to continually improve it. These tools are valuable instruments in pre- and post-disaster mitigation as they facilitate the implementation of mitigation activities through the current legal and regulatory framework. Examples of existing documents in Claiborne Parish and its jurisdictions are shown in the table on the following page.

Table 3-1: Claiborne Parish Planning and Regulatory Capabilities

Planning and Regulatory						
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.						
	Claiborne Unincorporated	Athens	Haynesville	Homer	Lisbon	
Plans	Yes / No					
Comprehensive / Master Plan	NO	NO	NO	NO	NO	
Capital Improvements Plan	YES	YES	YES	YES	YES	
Economic Development Plan	NO	NO	YES	NO	NO	
Local Emergency Operations Plan	YES	YES	YES	YES	YES	
Continuity of Operations Plan	YES	NO	NO	NO	NO	
Transportation Plan	YES	NO	NO	NO	NO	
Stormwater Management Plan	YES	NO	NO	NO	NO	
Community Wildfire Protection Plan	NO	NO	NO	NO	NO	
Other plans (redevelopment, recovery, coastal zone management)	NO	NO	NO	NO	NO	
Building Code, Permitting and Inspections	Yes / No					
Building Code	IBC2006	IBC2006	IBC2006	IBC2006	IBC2006	
Building Code Effectiveness Grading Schedule (BCEGS) Score	NO	NO	NO	NO	NO	
Fire Department ISO/PIAL rating	4	4	4	4	4	
Site plan review requirements	NO	NO	NO	NO	NO	
Land Use Planning and Ordinances	Yes / No					
Zoning Ordinance	NO	NO	NO	NO	NO	
Subdivision Ordinance	NO	NO	NO	NO	NO	
Floodplain Ordinance	YES	NO	YES	YES	NO	
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	NO	NO	NO	NO	NO	
Flood Insurance Rate Maps	YES	YES	YES	YES	NO	
Acquisition of land for open space and public recreation uses	NO	NO	YES	NO	NO	
Other	NO	NO	NO	NO	NO	

Building Codes, Permitting, Land Use Planning and Ordinances

The Claiborne Parish Police Jury provides oversight for building permits and codes and all parish ordinances.

As of the 2016 update, Claiborne Parish and its jurisdictions ensure that all adopted building codes are enforced and in compliance relating to the construction of any structure within the boundaries of the parish. Building permits are required prior to beginning any type of construction or renovation projects, installation of electrical wiring, plumbing or gas piping, moving manufactured/modular or portable buildings, and reroofing or demolitions.

The Claiborne Parish Police Jury is also responsible for enforcing the Parish Ordinances relating to health and safety, property maintenance standards, and condemnation of unsafe structures.

The Claiborne Parish Police Jury meets regularly to consider any proposed ordinance changes, and to take final actions on proposed changes.

While local capabilities for mitigation can vary from community to community, Claiborne Parish as a whole has a system in place to coordinate and share these capabilities through Claiborne Parish Government and through this Parish Hazard Mitigation Plan.

Some programs and policies, such as the above described, might use complementary tools to achieve a common end, but fail to coordinate with or support each other. Thus, coordination among local mitigation policies and programs is essential to hazard mitigation.

Administration, Technical, and Financial

As a community, Claiborne Parish has administrative and technical capabilities in place that may be utilized in reducing hazard impacts or implementing hazard mitigation activities. Such capabilities include staff, skillset, and tools available in the community that may be accessed to implement mitigation activities and to effectively coordinate resources. The ability to access and coordinate these resources is also important. The table below shows examples of resources in place in Claiborne Parish and its jurisdictions.

Table 3-2: Claiborne Parish Administrative and Technical Capabilities

Administration and Technical						
Identify whether your community has the following administrative and technical capabilities. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.						
	Claiborne Unincorporated	Athens	Haynesville	Homer	Lisbon	Comments
Administration	Yes / No					
Planning Commission	NO	NO	NO	NO	NO	
Mitigation Planning Committee	YES	YES	YES	YES	YES	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	YES	YES	YES	YES	YES	
Mutual Aid Agreements	NO	NO	NO	NO	NO	
Staff	Yes / No; FT/PT; % Hazard Mitigation					
Chief Building Official	YES	NO	NO	YES	NO	
Floodplain Administrator	YES	NO	NO	NO	NO	Homer & Haynesville - Rely on Parish
Emergency Manager	YES	YES	YES	YES	YES	
Community Planner	NO	NO	NO	NO	NO	
Civil Engineer	YES	NO	NO	NO	NO	
GIS Coordinator	NO	NO	NO	NO	NO	
Grant Writer	NO	NO	YES	NO	NO	
Other	NO	NO	NO	NO	NO	
Technical	Yes / No					
Warning Systems / Service (Reverse 911, outdoor warning signals)	YES	YES	YES	YES	YES	
Hazard Data & Information	NO	NO	NO	NO	NO	
Grant Writing	NO	NO	YES	NO	NO	
Hazus Analysis	NO	NO	NO	NO	NO	
Other	NO	NO	NO	NO	NO	

Financial capabilities are the resources that Claiborne Parish and its incorporated jurisdictions have access to or are eligible to use in order to fund mitigation actions. Costs associated with implementing the actions identified by the jurisdictions may vary from little/no cost actions, such as outreach efforts, to substantial action costs such acquisition of flood prone properties.

The following resources are available to fund mitigation actions in Claiborne Parish and its jurisdictions:

Table 3-3: Claiborne Parish Financial Capabilities

Financial						
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.						
	Claiborne Unincorporated	Athens	Haynesville	Homer	Lisbon	
Funding Resource	Yes / No					
Capital Improvements project funding	NO	NO	YES	YES	NO	
Authority to levy taxes for specific purposes	NO	NO	YES	NO	NO	
Fees for water, sewer, gas, or electric services	NO	NO	YES	YES	NO	
Impact fees for new development	NO	NO	YES	NO	NO	
Stormwater Utility Fee	NO	NO	NO	NO	NO	
Community Development Block Grant (CDBG)	NO	NO	YES	NO	NO	
Other Funding Programs	YES	NO	YES	YES	NO	

Education and Outreach

A key element in hazard mitigation is promoting a safer, more disaster resilient community through education and outreach activities and/or programs. Successful outreach programs provide data and information that improves overall quality and accuracy of important information for citizens to feel better prepared and educated with mitigation activities. These programs enable the individual jurisdictions and parish as a whole to maximize opportunities for implementation of activities through greater acceptance and consensus of the community.

Claiborne Parish and its jurisdictions have existing education and outreach programs to implement mitigation activities, as well as to communicate risk and hazard related information to its communities. The existing programs are as follows:

Table 3-4: Claiborne Parish Education and Outreach Capabilities

Education and Outreach						
Identify education and outreach programs and methods, already in place that could be used to implement mitigation activities and communicate hazard-related information.						
	Claiborne Unincorporated	Athens	Haynesville	Homer	Lisbon	
Program / Organization	Yes / No					
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	NO	NO	NO	NO	NO	
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	YES	YES	NO	YES	YES	
Natural Disaster or safety related school program	NO	NO	NO	NO	NO	
Storm Ready certification	NO	NO	NO	NO	NO	
Firewise Communities certification	NO	NO	NO	NO	NO	
Public/Private partnership initiatives addressing disaster-related issues	NO	NO	NO	NO	NO	
Other	NO	NO	NO	NO	NO	

In some cases, the jurisdictions rely on Claiborne Parish OHSEP and/or Claiborne Parish Government Agencies for the above listed planning and regulatory, administrative and technical, financial, and education and outreach capabilities. Comments regarding the jurisdictions utilization or intentions to utilize and leverage the capabilities of the parish government can be found on the jurisdictional specific worksheets upon request.

As reflected in the aforementioned existing regulatory mechanisms, programs, and resources within each jurisdiction, Claiborne Parish and its jurisdiction remains committed to expanding and improving on the existing capabilities within the parish. All participating jurisdictions will work toward increased participation in funding opportunities and available mitigation programs. Should funding become available, the hiring of additional personnel to dedicate to hazard mitigation initiatives and programs, as well as increasing ordinances within the jurisdictions, will help to enhance and expand risk reduction measures within the parish.

With the sharing of these capabilities, the following municipalities and entities are recognized by the Parish of Claiborne under the Hazard Mitigation Plan, allowing them to apply for available hazard mitigation funding for as long as these municipalities and entities notify the parish of their intentions and the parish concurs:

- Claiborne Parish
- Village of Athens
- Town of Haynesville
- Town of Homer
- Village of Lisbon

Flood Insurance and Community Rating System

Claiborne Parish is not a participant in the Community Rating System (CRS), nor are any of its jurisdictions. Obtaining the CRS rating for the parish and participating jurisdictions is recognized as an eventual goal by the Hazard Mitigation Steering Committee. Participation in the CRS strengthens local capabilities by lowering flood insurance premiums for jurisdictions that exceed NFIP minimum requirements.

Under the Federal Emergency Management Agency (FEMA), the National Flood Insurance Program (NFIP) administers the Community Rating System. Under the CRS, flood insurance premiums for properties in participating communities are reduced to reflect the flood protection activities that are being implemented. This program can have a major influence on the design and implementation of flood mitigation activities, so a brief summary is provided here.

A community receives a CRS classification based upon the credit points it receives for its activities. It can undertake any mix of activities that reduce flood losses through better mapping, regulations, public information, flood damage reduction and/or flood warning and preparedness programs.

There are ten CRS classes: class 1 requires the most credit points and gives the largest premium reduction; class 10 receives no premium reduction (see *Figure 3-1*). A community that does not apply for the CRS or that does not obtain the minimum number of credit points is a class 10 community.

During the last update, 38 Louisiana communities participated. Mandeville, Shreveport, and Jefferson and East Baton Rouge Parishes had the best classifications in the state, class 7. As of the 2016 update, Jefferson, East Baton Rouge, and Terrebonne Parishes all lead the state with best classifications, class 6.

CLASS	DISCOUNT	CLASS	DISCOUNT
1	45%	6	20%
2	40%	7	15%
3	35%	8	10%
4	30%	9	5%
5	25%	10	–

SFHA (Zones A, AE, A1–A30, V, V1–V30, AO, and AH): Discount varies depending on class.

SFHA (Zones A99, AR, AR/A, AR/AE, AR/A1–A30, AR/AH, and AR/AO): 10% discount for Classes 1–6; 5% discount for Classes 7–9.*

Figure 3-1: CRS Discounts by Class (Source: FEMA)

As of May 2012, 310 communities in the State of Louisiana participate in the Federal Emergency Management Agency's NFIP. Of these communities, 41 (or 13%) participate in the Community Rating System (CRS). Of the top fifty Louisiana communities, in terms of total flood insurance policies held by residents, 27 participate in the CRS. The remaining 23 communities present an outreach opportunity for encouraging participation in the CRS.

The CRS provides an incentive not just to start new mitigation programs, but to keep them going. There are two requirements that "encourage" a community to implement flood mitigation activities.

First, the parish will receive CRS credit for this plan when it is adopted. To retain that credit, though, the parish must submit an evaluation report on progress toward implementing this plan to FEMA by October 1st of each year. That report must be made available to the media and the public.

Second, the parish must annually recertify to FEMA that it is continuing to implement its CRS credited activities. Failure to maintain the same level of involvement in flood protection can result in a loss of CRS credit points and a resulting increase in flood insurance rates to residents.

In 2011[1], the National Flood Insurance Program (NFIP) completed a comprehensive review of the Community Rating System that will result in the release of a new CRS Coordinator's Manual.

The changes to the 2013 CRS Coordinator's Manual are the result of a multi-year program evaluation that included input from a broad group of contributors in order to evaluate the CRS and refine the program to meet its stated goals.

The upcoming changes will drive new achievements in the following six core flood loss reduction areas important to the NFIP: (1) reduce liabilities to the NFIP Fund; (2) improve disaster resiliency and sustainability of communities; (3) integrate a whole community approach to addressing emergency management; (4) promote natural and beneficial functions of floodplains; (5) increase understanding of risk, and; (6) strengthen adoption and enforcement of disaster-resistant building codes.

The 2013 CRS Coordinator's Manual changes will impact each CRS community differently. Some communities will see an increase in the points they receive since points for certain activities have increased (e.g., Activity 420 Open Space Preservation). Other communities will receive fewer points for certain activities (e.g., Activity 320 Map Information Service). It is likely that some communities with marginal CRS class 9 programs will have to identify new CRS credits in order to remain in the CRS.

[1] https://www.fema.gov/national-flood-insurance-program-community-rating-system

Typically, CRS communities do not request credit for all the activities they are currently implementing unless it would earn enough credit to advance the community to a higher CRS class. A community that finds itself losing CRS credit with the 2013 manual could likely identify activities deserving credit they had not previously received.

Due to the changes in both activities and CRS points, community CRS coordinators should speak with their ISO/CRS Specialist to understand how and when the 2013 manual will impact their community.

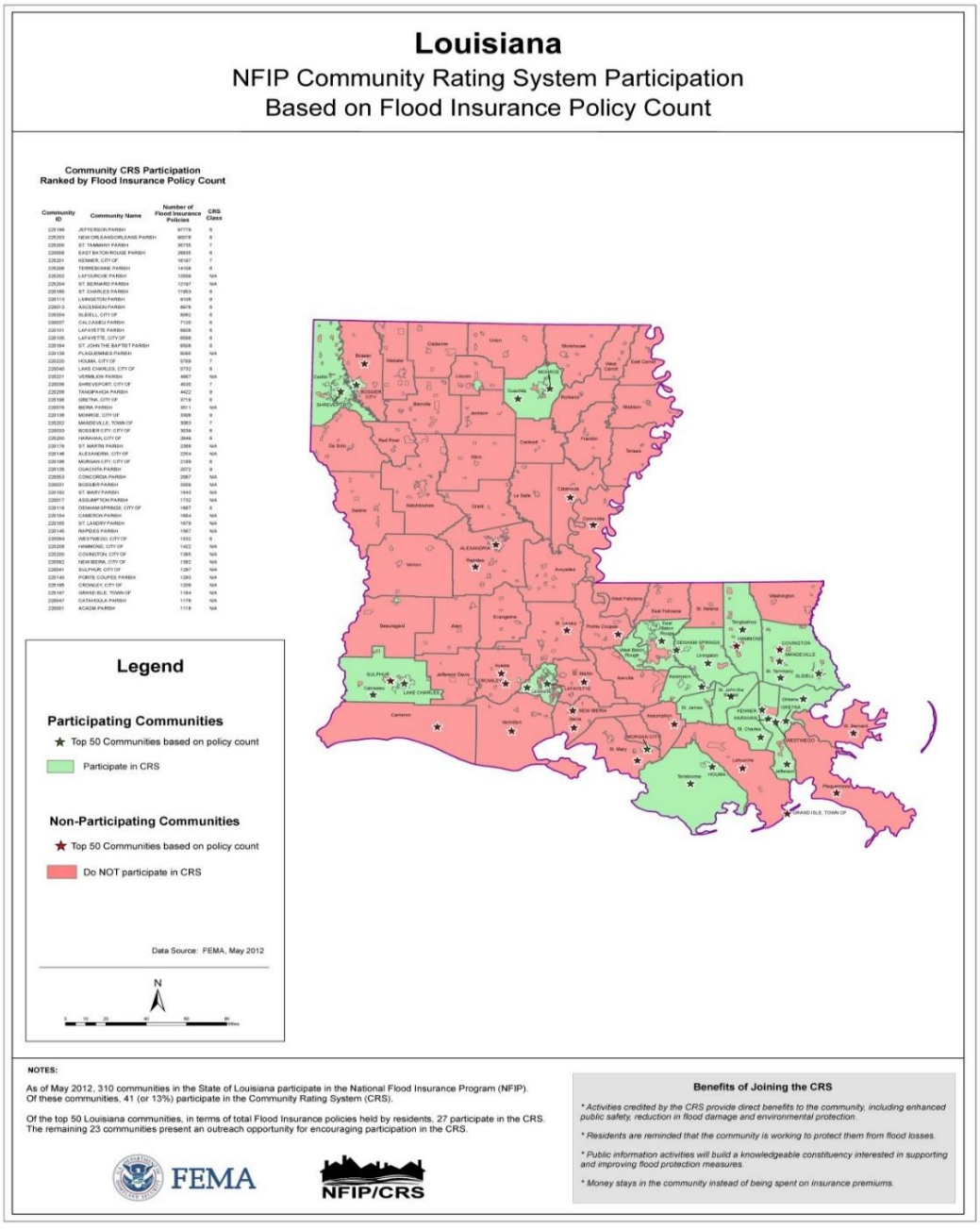


Figure 3-2: Louisiana CRS NFIP Participation
(Source: FEMA[2])

[2] http://www.fema.gov/media-library-data/20130726-2128-31471-9581/ks_ky_la_crs_may_2012_508.zip

In addition to the direct financial reward for participating in the Community Rating System, there are many other reasons to participate in the CRS. As FEMA staff often say, "If you are only interested in saving premium dollars, you're in the CRS for the wrong reason." The other benefits that are more difficult to measure in dollars include:

1. The activities credited by the CRS provide direct benefits to residents, including:
   – Enhanced public safety
   – A reduction in damage to property and public infrastructure
   – Avoidance of economic disruption and losses
   – Reduction of human suffering
   – Protection of the environment

2. A community's flood programs will be better organized and more formal. Ad hoc activities, such as responding to drainage complaints rather than an inspection program, will be conducted on a sounder, more equitable basis.

3. A community can evaluate the effectiveness of its flood programs against a nationally recognized benchmark.

4. Technical assistance in designing and implementing a number of activities is available at no charge from the Insurance Services Office.

5. The public information activities will build a knowledgeable constituency interested in supporting and improving flood protection measures.

6. A community would have an added incentive to maintain its flood programs over the years. The fact that its CRS status could be affected by the elimination of a flood related activity or a weakening of the regulatory requirements for new developments would be taken into account by the governing board when considering such actions.

7. Every time residents pay their insurance premiums, they are reminded that the community is working to protect them from flood losses, even during dry years.

More information on the Community Rating System can be found at www.fema.gov/nfip/crs.shtm

NFIP Worksheets

Parish and participating jurisdiction NFIP worksheets are available upon request.

4. Mitigation Strategy

Introduction

Claiborne Parish's Hazard Mitigation Strategy has a common guiding principle and is the demonstration of the parish's and participating jurisdictions' commitment to reduce risks from hazards. The strategy also serves as a guide for parish and local decision makers as they commit resources to reducing the effects of hazards.

Claiborne Parish confirmed the goals, objectives, actions, and projects over the period of the Hazard Mitigation Plan Update process. The mitigation actions and projects in this 2016 update are a product of analysis and review of the Claiborne Parish Hazard Mitigation Plan Steering Committee, under the coordination of the Claiborne Parish Office of Homeland Security and Emergency Preparedness. The committee was presented a list of projects and actions, new and from the 2011 plan, for review from January to December 2016.

An online public opinion survey was conducted of Claiborne Parish residents between February – October 2016. The survey was designed to capture public perceptions and opinions regarding natural hazards in Claiborne Parish. In addition, the survey sought to collect information regarding the methods and techniques preferred by the respondents for reducing the risks and losses associated with local hazards.

This activity was created in an effort to confirm that the goals and action items developed by the Claiborne Parish Hazard Mitigation Plan Steering Committee are representative of the outlook of the community at large. However, because there were no responses to the survey, this public feedback could not be incorporated into the plan. The full Claiborne Parish survey can be found at the following link:

https://www.surveymonkey.com/r/ClaiborneParish

During the public meeting in October, the committee provided a status of the projects from 2011 and the proposed actions for the 2016 update. Committee members then agreed on the submission of each project based on feasibility for funding, ease of completion and other community specific factors. The actions were later prioritized.

Goals

The goals represent the guidelines that the parish and its communities want to achieve with this plan update. To help implement the strategy and adhere to the mission of the Hazard Mitigation Plan, the preceding section of the plan update was focused on identifying and quantifying the risks faced by the residents and property owners in Claiborne Parish from natural and manmade hazards. By articulating goals and objectives based on the previous plans, the risk assessment results, and intending to address those results, this section sets the stage for identifying, evaluating, and prioritizing feasible, cost effective, and environmentally sound actions to be promoted at the parish and municipal level – and to be undertaken by the state for its own property and assets. By doing so, Claiborne Parish and its jurisdictions can make progress toward reducing identified risks.

For the purposes of this plan update, goals and action items are defined as follows:

- **Goals** are general guidelines that explain what the parish wants to achieve. Goals are expressed as broad policy statements representing desired long-term results.
- **Action Items** are the specific steps (projects, policies, and programs) that advance a given goal. They are highly focused, specific, and measurable.

The current goals of the Claiborne Parish Hazard Mitigation Plan Update Steering Committee represent long-term commitments by the parish and its jurisdictions. After assessing these goals, the committee decided that the current three goals remain valid.

The goals are as follows:

- Mitigate both critical and non-critical structures and infrastructure around Claiborne Parish to reduce the impact of hazards
- Pursue opportunities to educate the public on the hazards that can impact Claiborne Parish
- Maintain a continuity of government before, during, and after a disaster

The Mitigation Action Plan focuses on actions to be taken by Claiborne Parish and its jurisdictions. All of the activities in the Mitigation Action Plan will be focused on helping the parish and its municipalities in developing and funding projects that are not only cost effective, but also meet the other DMA 2000 criteria of environmental compatibility and technical feasibility.

The Hazard Mitigation Plan Steering Committee and each jurisdiction reviewed and evaluated the potential action and project lists in which consideration was given to a variety of factors. Such factors include determining a project's eligibility for federal mitigation grants, as well as its ability to be funded. This process required evaluation of each project's engineering feasibility, cost effectiveness, and environmental and cultural factors.

2016 Mitigation Actions and Update on Previous Plan Actions

The Claiborne Parish Hazard Mitigation Plan Steering Committee and participating jurisdictions each identified actions that would reduce and/or prevent future damage within Claiborne Parish and their respective communities. In that effort, each jurisdiction focused on a comprehensive range of specific mitigation actions. These actions were identified in thorough fashion by the consultant team, the committee, and the individual jurisdictions by way of frequent and open communications and meetings held throughout the planning process.

As outlined in the Local Mitigation Planning Handbook, the following are eligible types of mitigation actions:

- **Local Plans and Regulations –** These actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.
- **Structure and Infrastructure Projects –** These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area, and also includes projects to construct manmade structures to reduce the impact of hazards.
- **Natural System Protection –** These actions minimize the damage and losses and also preserve or restore the functions of natural systems.
- **Education and Awareness Programs –** These actions inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them.

The established and agreed upon parish and jurisdiction actions relative to the parish-wide goals are below. Additionally, action updates from the previous plan updates can be found in the tables below.

Claiborne Parish and Jurisdictions 2011 Hazard Mitigation Action Update

Claiborne Parish - Unincorporated						
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Status**
C1: Hardening of Critical and Non Critical Structures	Harden both new and existing critical and non-critical structures throughout Claiborne Parish. This can include, but is not limited to window shutters, roof straps, flood proofing, and roll-up door reinforcement.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Parish Public Works	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms, Tornados	Carried Over
C2: Wind Retrofit Projects	Wind Retrofit Sheriffs Office, Women's Jail, the EOC and 911 Center, as well as the CID	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Parish Public Works	Hurricanes/ Tropical Storms, Thunderstorms, Tornados	Carried Over
C3: Construct or Retrofit Safe Rooms	Construct new or retrofit existing structures to act as safe rooms during tornados and other severe weather events.	HMGP, PDM, State and Local	12-36 Months	CPPJ, CPOHSEP, GOHSEP	Tornados	Carried Over
C4: Construction/Installation of Safe Rooms	Construct/install safe rooms in public buildings capable of providing protection from severe tornados, extreme straight line winds in accordance with FEMA Publication 320 and/or National Performance Criteria for Tornado Shelters specifications.	HMGP, PDM, State and Local	12-36 Months	CPPJ, CPOHSEP, GOHSEP	Tornados	Carried Over

C5: Incentivize Safe Room Construction and Installation	Develop incentives (i.e. partial rebates, etc.) and provide instruction for homeowners to construct/install safe rooms capable of providing protection from severe tornados, extreme straight line winds, and hailstorms in accordance with FEMA Publication 320 and/or National Performance Criteria for Tornado Shelters specifications.	HMGP, PDM, State and Local	12-36 Months	CPPJ, CPOHSEP, GOHSEP	Tornados	Carried Over
C6: Parish wide Drainage Improvements	Pursue drainage improvements throughout Claiborne Parish. Actions can include but are not limited to installing/upgrading culverts and headwalls as well as enlarging storm water ditches and canals.	HMGP, PDM, FMA	12-60 Months	CPPJ, CPOHSEP, Parish Public Works	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Carried Over
C7: Infrastructure Replacements and Upgrades	Replace and/or upgrade bridges, culverts and other crossings throughout Claiborne Parish.	HMGP, PDM, Local	12-48 Months	CPPJ, CPOHSEP	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Carried Over
C8: Property Acquisition	Acquire flood prone properties (including Repetitive Loss and Severe Repetitive Loss Properties).	HMGP, PDM, FMA, RFC, SRL	12-36 Months	CPPJ, CPOHSEP	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
C9: Roadway Elevation	Elevate flood prone roadways throughout the Parish.	HMGP, PDM, Local	12-60 Months	CPPJ, CPOHSEP, LADOTD	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
C10: Generator Installation and Upgrades	Install new or upgrade existing power supplies/generators for critical facilities (including but not limited to lift stations, water plants, police/sheriff/fire stations, and EMS facilities.	HMGP, EMPG	12-48 Months	CPPJ, CPOHSEP	Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Winter Storms	Carried Over
C11: Purchase of Warning Sirens	Purchase warning sirens for sites within Claiborne Parish that include, but are not limited to, Summerfield, Airport Loop, and Pleasure Point.	HMGP, PDM, EMPG	12-48 Months	CPPJ, CPOHSEP, Law Enforcement	Dam/Levee Failure, Drought, Earthquake, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Carried Over

C12: Brochures for Public	Provide the public with educational brochures for the hazards identified as part of this 2011 Plan Update. These brochures will be placed in public buildings including town halls, schools, and hospitals.	HMGP, PDM, Local	6-12 Months	CPOHSEP	Dam/Levee Failure, Drought, Earthquake, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
C13: Educational Program	Pursue an "all hazards" education program that includes but is not limited to community meetings, and public service announcements.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
C14: Educational Program for Special Needs Populations	Pursue an "all hazards" education program for special needs populations. This can include but is not limited to school presentations, nursing home presentations, community meetings, and public service announcements.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
C15: Audit 911 Systems	Minimize redundancy in the 911 systems as well as backup system at the CID building	EMPG, Local	6-12 Months	CPPJ, CPOHSEP	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
C16: Develop Zoning Ordinances	Develop ordinances that drive development away from known hazard areas. This can include but is not limited to developing and/or updating floodplain ordinances.	CPPJ, CPOHSEP, Local	12-48 Months	CPPJ	NFIP PARTICIPATION - Dam/Levee Failure, Flooding, Hurricanes/Tropical Storms, Thunderstorms	Ongoing

C17: DFIRM Adoption	Request and Adopt new DFIRMS once available from FEMA.	Local	12-48 Months	CPPJ, CPOHSEP	NFIP PARTICIPATION - Dam/Levee Failure, Flooding, Hurricanes/Tropical Storms, Thunderstorms	Ongoing
C18: Structure and Infrastructure Elevation	Elevate new and existing flood prone structures and infrastructure throughout Claiborne Parish. This can also include elevation of key electrical equipment where structure elevation is not feasible.	HMGP, PDM, FMA, RFC, SRL	36 Months	CPPJ, CPOHSEP	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
C19: Urban-Wildland Defensible Space Program	Develop a defensible space program in order to reduce fuels surrounding homes in the urban-wildland interface.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Local Fire Departments	Wildfire	Carried Over
C20: Urban-Wildland Defensible Space Around Structures	Develop a defensible space around structures to reduce damage due to wildfire.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Local Fire Departments	Wildfire	Carried Over
C21: Tree and Limb Removal Program	Minimize damage to structures and infrastructure from falling trees and limbs. Actions include but are not limited to: · Pursue and coordinate a dangerous tree and limb removal program to protect infrastructure and critical facilities from damage. This includes working with private homeowners for voluntary removal of hazardous trees and limbs on private property. This also includes working with Entergy and other utility companies who may maintain a hazardous tree removal program. · Coordinate contracting to remove and/or trim trees that endanger structures, infrastructure, and vital roadways.	HMGP, PA, Local, Utility Companies	6-12 Months	CPPJ, CPOHSEP, Entergy, Other Utilities	Hurricanes/Tropical Storms, Thunderstorms, Tornados	Ongoing
C22: Purchase Interoperable Communications Equipment	Purchase interoperable communications equipment such as portable and/or mobile radios.	HMGP, EMPG, Local	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Law Enforcement	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing

C23: Hazard Training for First Responders	Coordinate with federal, state, and local partners to provide training opportunities for first responders, for all hazards including HAZMAT training.	EMPG, Local	12-36 Months	CPOHSEP, Sheriff's Office, Fire Departments, Local Law Enforcement, State Police	Hazardous Materials	Deleted
C24: Relocate Flood Prone Properties	Relocate flood prone properties throughout the Parish to locations out of the floodplain to prevent future flood losses.	HMGP, PDM, FMA, RFC, SRL	36 Months	CPPJ, CPOHSEP	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
C25: Lake Claiborne Dam Spillway Expansion	Expand existing capacity and/or construct secondary Spillway at Lake Claiborne Dam.	HMGP, PDM, LADOTD	12-60 Months	CPPJ, CPOHSEP, LADOTD	Dam/Levee Failure	Ongoing
C26: Construction of Retention Ponds	Construct and/or improve existing detention/retention ponds to hold storm water run-off.	HMGP, PDM, FMA	24-36 Months	CPPJ, CPOHSEP, Parish Public Works	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
C27: Vegetation Management Program	Pursue a vegetation management program along levee systems to ensure proper levee function.	Local	12-48 Months	CPPJ, CPOHSEP, Parish Public Works	Dam/Levee Failure	Ongoing
C28: Water Rationing Program	Implement staged water rationing ranging from voluntary, to encouraged, to mandatory participation during periods of severe drought.	Local	12-48 Months	CPPJ, CPOHSEP, Parish Public Works	Drought	Ongoing
C29: Recharge Sparta Aquifer	Construct a water retention lake in order to recharge the Sparta Aquifer.	HMGP, PDM, FMA	12-48 Months	CPPJ, CPOHSEP, Parish Public Works	Drought	Carried Over
C30: Dry Hydrant Installation	Install new or upgrade existing dry hydrants throughout the Parish.	HMGP, EMPG, Local	12-48 Months	Local Fire Departments, Parish Public Works	Wildfire	Carried Over
C31: Cooling Station Retrofit	Retrofit existing structures to act as cooling stations during extreme heat conditions.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Parish Public Works	Extreme Heat	Carried Over
C32: Installation of Frangible Linkage Systems	Install frangible (breakaway) linkage systems for vulnerable sections of power lines.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP	Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Winter Storms	Carried Over
C33: Analyze Potential Dam Inundation Zones	Work with those individual dam owners to analyze the potential dam inundation zones and levels that could occur due to dam failure.	HMGP, PDM, Local	12-48 Months	CPPJ, CPOHSEP	Dam/Levee Failure	Carried Over

Village of Athens						
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Status**
A1: Hardening of Critical and Non Critical Structures	Harden both new and existing critical and non-critical structures throughout The Village of Athens. This can include, but is not limited to window shutters, roof straps, flood proofing, and roll-up door reinforcement.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Village of Athens	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms, Tornados	Carried Over
A2: Construct or Retrofit Safe Rooms	Construct new or retrofit existing structures to act as safe rooms during tornados and other severe weather events.	HMGP, PDM, State and Local	12-36 Months	CPPJ, CPOHSEP, GOHSEP, Village of Athens	Tornados	Carried Over
A3: Construction/ Installation of Safe Rooms	Construct/install safe rooms in public buildings capable of providing protection from severe tornados, extreme straight line winds in accordance with FEMA Publication 320 and/or National Performance Criteria for Tornado Shelters specifications.	HMGP, PDM, State and Local	12-36 Months	CPPJ, CPOHSEP, GOHSEP, Village of Athens	Tornados	Carried Over
A4: Incentivize Safe Room Construction and Installation	Develop incentives (i.e. partial rebates, etc.) and provide instruction for homeowners to construct/install safe rooms capable of providing protection from severe tornados, extreme straight line winds, and hailstorms in accordance with FEMA Publication 320 and/or National Performance Criteria for Tornado Shelters specifications.	HMGP, PDM, State and Local	12-36 Months	CPPJ, CPOHSEP, GOHSEP, Village of Athens	Tornados	Carried Over
A5: Drainage Improvements	Pursue drainage improvements throughout the Village of Athens. Actions can include but are not limited to installing/upgrading culverts and headwalls as well as enlarging storm water ditches and canals.	HMGP, PDM, FMA	12-60 Months	CPPJ, CPOHSEP, Parish Public Works, Village of Athens	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Carried Over
A6: Infrastructure Replacements and Upgrades	Replace and/or upgrade bridges, culverts and other crossings throughout the Village of Athens.	HMGP, PDM, Local	12-48 Months	CPPJ, CPOHSEP, Village of Athens	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Carried Over
A7: Property Acquisition	Acquire flood prone properties (including Repetitive Loss and Severe Repetitive Loss Properties).	HMGP, PDM, FMA, RFC, SRL	12-36 Months	CPPJ, CPOHSEP, Village of Athens	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
A8: Roadway Elevation	Elevate flood prone roadways throughout the Parish.	HMGP, PDM, Local	12-60 Months	CPPJ, CPOHSEP, LADOTD, Village of Athens	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing

A9: Generator Installation and Upgrades	Install new or upgrade existing power supplies/generators for critical facilities (including but not limited to lift stations, water plants, police/sheriff/fire stations, and EMS facilities.	HMGP, EMPG	12-48 Months	CPPJ, CPOHSEP, Village of Athens	Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Winter Storms	Carried Over
A10: Purchase of Warning Sirens	Purchase warning sirens for sites within the Village of Athens that include, but are not limited to, Summerfield, Airport Loop, and Pleasure Point.	HMGP, PDM, EMPG	12-48 Months	CPPJ, CPOHSEP, Law Enforcement, Village of Athens	Dam/Levee Failure, Drought, Earthquake, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Carried Over
A11: Brochures for Public	Provide the public with educational brochures for the hazards identified as part of this 2011 Plan Update. These brochures will be placed in public buildings including town halls, schools, and hospitals.	HMGP, PDM, Local	6-12 Months	CPOHSEP, Village of Athens	Dam/Levee Failure, Drought, Earthquake, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
A12: Educational Program	Pursue an “all hazards” education program that includes but is not limited to community meetings, and public service announcements.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Village of Athens	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
A13: Educational Program for Special Needs Populations	Pursue an “all hazards” education program for special needs populations. This can include but is not limited to school presentations, nursing home presentations, community meetings, and public service announcements.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Village of Athens	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing

A14: Audit 911 Systems	Minimize redundancy in the 911 systems as well as backup system at the CID building	EMPG, Local	6-12 Months	CPPJ, CPOHSEP, Village of Athens	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
A15: Develop Zoning Ordinances	Develop ordinances that drive development away from known hazard areas. This can include but is not limited to developing and/or updating floodplain ordinances.	CPPJ, CPOHSEP, Local	12-48 Months	CPPJ, Village of Athens	NFIP PARTICIPATION - Dam/Levee Failure, Flooding, Hurricanes/Tropical Storms, Thunderstorms	Ongoing
A16: DFIRM Adoption	Request and Adopt new DFIRMS once available from FEMA.	Local	12-48 Months	CPPJ, CPOHSEP, Village of Athens	NFIP PARTICIPATION - Dam/Levee Failure, Flooding, Hurricanes/Tropical Storms, Thunderstorms	Ongoing
A17: Structure and Infrastructure Elevation	Elevate new and existing flood prone structures and infrastructure throughout the Village of Athens. This can also include elevation of key electrical equipment where structure elevation is not feasible.	HMGP, PDM, FMA, RFC, SRL	36 Months	CPPJ, CPOHSEP, Village of Athens	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
A18: Urban-Wildland Defensible Space Program	Develop a defensible space program in order to reduce fuels surrounding homes in the urban-wildland interface.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Local Fire Departments, Village of Athens	Wildfire	Carried Over
A19: Urban-Wildland Defensible Space Around Structures	Develop a defensible space around structures to reduce damage due to wildfire.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Local Fire Departments, Village of Athens	Wildfire	Carried Over
A20: Tree and Limb Removal Program	Minimize damage to structures and infrastructure from falling trees and limbs. Actions include but are not limited to: · Pursue and coordinate a dangerous tree and limb removal program to protect infrastructure and critical facilities from damage. This includes working with private homeowners for voluntary removal of hazardous trees and limbs on private property. This also includes working with Entergy and other utility companies who may maintain a hazardous tree removal program. · Coordinate contracting to	HMGP, PA, Local, Utility Companies	6-12 Months	CPPJ, CPOHSEP, Entergy, Other Utilities, Village of Athens	Hurricanes/Tropical Storms, Thunderstorms, Tornados	Ongoing

	remove and/or trim trees that endanger structures, infrastructure, and vital roadways.					
A21: Purchase Interoperable Communications Equipment	Purchase interoperable communications equipment such as portable and/or mobile radios.	HMGP, EMPG, Local	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Law Enforcement, Village of Athens	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
A22: Hazard Training for First Responders	Coordinate with federal, state, and local partners to provide training opportunities for first responders, for all hazards including HAZMAT training.	EMPG, Local	12-36 Months	CPOHSEP, Sheriff's Office, Fire Departments, Local Law Enforcement, State Police	Hazardous Materials	Deleted
A23: Relocate Flood Prone Properties	Relocate flood prone properties throughout the Parish to locations out of the floodplain to prevent future flood losses.	HMGP, PDM, FMA, RFC, SRL	36 Months	CPPJ, CPOHSEP , Village of Athens	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
A24: Lake Claiborne Dam Spillway Expansion	Expand existing capacity and/or construct secondary Spillway at Lake Claiborne Dam.	HMGP, PDM, LADOTD	12-60 Months	CPPJ, CPOHSEP, LADOTD, Village of Athens	Dam/Levee Failure	Ongoing
A25: Construction of Retention Ponds	Construct and/or improve existing detention/retention ponds to hold storm water run-off.	HMGP, PDM, FMA	24-36 Months	CPPJ, CPOHSEP, Parish Public Works, Village of Athens	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
A26: Vegetation Management Program	Pursue a vegetation management program along levee systems to ensure proper levee function.	Local	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Village of Athens	Dam/Levee Failure	Ongoing
A27: Water Rationing Program	Implement staged water rationing ranging from voluntary, to encouraged, to mandatory participation during periods of severe drought.	Local	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Village of Athens	Drought	Ongoing
A28: Recharge Sparta Aquifer	Construct a water retention lake in order to recharge the Sparta Aquifer.	HMGP, PDM, FMA	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Village of Athens	Drought	Carried Over

A29: Dry Hydrant Installation	Install new or upgrade existing dry hydrants throughout the Parish.	HMGP, EMPG, Local	12-48 Months	Local Fire Departments, Parish Public Works, Village of Athens	Wildfire	Carried Over
A30: Cooling Station Retrofit	Retrofit existing structures to act as cooling stations during extreme heat conditions.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Village of Athens	Extreme Heat	Carried Over
A31: Installation of Frangible Linkage Systems	Install frangible (breakaway) linkage systems for vulnerable sections of power lines.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Village of Athens	Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Winter Storms	Carried Over

Town of Haynesville						
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Status**
H1: Hardening of Critical and Non Critical Structures	Harden both new and existing critical and non-critical structures throughout The Town of Haynesville. This can include, but is not limited to window shutters, roof straps, flood proofing, and roll-up door reinforcement.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Town of Haynesville	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms, Tornados	Carried Over
H2: Local Facility Hardening	Harden the facilities for the following locations: Haynesville Police Department, Haynesville Fire Department, Haynesville City Hall, Butler-Abshire Clinic, Sherman Dental Office, Heritage Manor, Haynesville High School, Haynesville Elementary, Haynesville Water Supply	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Town of Haynesville	Hurricanes/ Tropical Storms, Thunderstorms, Tornados	Carried Over
H3: Construct or Retrofit Safe Rooms	Construct new or retrofit existing structures to act as safe rooms during tornados and other severe weather events.	HMGP, PDM, State and Local	12-36 Months	CPPJ, CPOHSEP, GOHSEP, Town of Haynesville	Tornados	Carried Over
H4: Construction/ Installation of Safe Rooms	Construct/install safe rooms in public buildings capable of providing protection from severe tornados, extreme straight line winds in accordance with FEMA Publication 320 and/or National Performance Criteria for Tornado Shelters specifications.	HMGP, PDM, State and Local	12-36 Months	CPPJ, CPOHSEP, GOHSEP, Town of Haynesville	Tornados	Carried Over

H5: Incentivize Safe Room Construction and Installation	Develop incentives (i.e. partial rebates, etc.) and provide instruction for homeowners to construct/install safe rooms capable of providing protection from severe tornados, extreme straight line winds, and hailstorms in accordance with FEMA Publication 320 and/or National Performance Criteria for Tornado Shelters specifications.	HMGP, PDM, State and Local	12-36 Months	CPPJ, CPOHSEP, GOHSEP, Town of Haynesville	Tornados	Carried Over
H6: Drainage Improvements	Pursue drainage improvements throughout the Town of Haynesville. Actions can include but are not limited to installing/upgrading culverts and headwalls as well as enlarging storm water ditches and canals.	HMGP, PDM, FMA	12-60 Months	CPPJ, CPOHSEP, Parish Public Works, Town of Haynesville	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Carried Over
H7: Infrastructure Replacements and Upgrades	Replace and/or upgrade bridges, culverts and other crossings throughout the Town of Haynesville.	HMGP, PDM, Local	12-48 Months	CPPJ, CPOHSEP, Town of Haynesville	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Carried Over
H8: Property Acquisition	Acquire flood prone properties (including Repetitive Loss and Severe Repetitive Loss Properties).	HMGP, PDM, FMA, RFC, SRL	12-36 Months	CPPJ, CPOHSEP, Town of Haynesville	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
H9: Roadway Elevation	Elevate flood prone roadways throughout the Parish.	HMGP, PDM, Local	12-60 Months	CPPJ, CPOHSEP, LADOTD, Town of Haynesville	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
H10: Generator Installation and Upgrades	Install new or upgrade existing power supplies/generators for critical facilities (including but not limited to lift stations, water plants, police/sheriff/fire stations, and EMS facilities.	HMGP, EMPG	12-48 Months	CPPJ, CPOHSEP, Town of Haynesville	Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Winter Storms	Carried Over
H11: Purchase of Warning Sirens	Purchase warning sirens for sites within the Town of Haynesville that include, but are not limited to, Summerfield, Airport Loop, and Pleasure Point.	HMGP, PDM, EMPG	12-48 Months	CPPJ, CPOHSEP, Law Enforcement, Town of Haynesville	Dam/Levee Failure, Drought, Earthquake, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Carried Over

H12: Brochures for Public	Provide the public with educational brochures for the hazards identified as part of this 2011 Plan Update. These brochures will be placed in public buildings including town halls, schools, and hospitals.	HMGP, PDM, Local	6-12 Months	CPOHSEP, Town of Haynesville	Dam/Levee Failure, Drought, Earthquake, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
H13: Educational Program	Pursue an "all hazards" education program that includes but is not limited to community meetings, and public service announcements.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Town of Haynesville	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
H14: Educational Program for Special Needs Populations	Pursue an "all hazards" education program for special needs populations. This can include but is not limited to school presentations, nursing home presentations, community meetings, and public service announcements.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Town of Haynesville	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
H15: Audit 911 Systems	Minimize redundancy in the 911 systems as well as backup system at the CID building	EMPG, Local	6-12 Months	CPPJ, CPOHSEP, Town of Haynesville	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
H16: Develop Zoning Ordinances	Develop ordinances that drive development away from known hazard areas. This can include but is not limited to developing and/or updating floodplain ordinances.	CPPJ, CPOHSEP, Local	12-48 Months	CPPJ, Town of Haynesville	NFIP PARTICIPATION - Dam/Levee Failure, Flooding, Hurricanes/Tropical Storms, Thunderstorms	Ongoing

H17: DFIRM Adoption	Request and Adopt new DFIRMS once available from FEMA.	Local	12-48 Months	CPPJ, CPOHSEP, Town of Haynesville	NFIP PARTICIPATION - Dam/Levee Failure, Flooding, Hurricanes/Tropical Storms, Thunderstorms	Ongoing
H18: Structure and Infrastructure Elevation	Elevate new and existing flood prone structures and infrastructure throughout the Town of Haynesville. This can also include elevation of key electrical equipment where structure elevation is not feasible.	HMGP, PDM, FMA, RFC, SRL	36 Months	CPPJ, CPOHSEP, Town of Haynesville	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
H19: Urban-Wildland Defensible Space Program	Develop a defensible space program in order to reduce fuels surrounding homes in the urban-wildland interface.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Local Fire Departments, Town of Haynesville	Wildfire	Carried Over
H20: Urban-Wildland Defensible Space Around Structures	Develop a defensible space around structures to reduce damage due to wildfire.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Local Fire Departments, Town of Haynesville	Wildfire	Carried Over
H21: Tree and Limb Removal Program	Minimize damage to structures and infrastructure from falling trees and limbs. Actions include but are not limited to: · Pursue and coordinate a dangerous tree and limb removal program to protect infrastructure and critical facilities from damage. This includes working with private homeowners for voluntary removal of hazardous trees and limbs on private property. This also includes working with Entergy and other utility companies who may maintain a hazardous tree removal program. · Coordinate contracting to remove and/or trim trees that endanger structures, infrastructure, and vital roadways.	HMGP, PA, Local, Utility Companies	6-12 Months	CPPJ, CPOHSEP, Entergy, Other Utilities, Town of Haynesville	Hurricanes/Tropical Storms, Thunderstorms, Tornados	Ongoing
H22: Purchase Interoperable Communications Equipment	Purchase interoperable communications equipment such as portable and/or mobile radios.	HMGP, EMPG, Local	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Law Enforcement, Town of Haynesville	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing

H23: Hazard Training for First Responders	Coordinate with federal, state, and local partners to provide training opportunities for first responders, for all hazards including HAZMAT training.	EMPG, Local	12-36 Months	CPOHSEP, Sheriff's Office, Fire Departments, Local Law Enforcement, State Police	Hazardous Materials	Deleted
H24: Relocate Flood Prone Properties	Relocate flood prone properties throughout the Parish to locations out of the floodplain to prevent future flood losses.	HMGP, PDM, FMA, RFC, SRL	36 Months	CPPJ, CPOHSEP , Town of Haynesville	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
H25: Lake Claiborne Dam Spillway Expansion	Expand existing capacity and/or construct secondary Spillway at Lake Claiborne Dam.	HMGP, PDM, LADOTD	12-60 Months	CPPJ, CPOHSEP, LADOTD, Town of Haynesville	Dam/Levee Failure	Ongoing
H26: Construction of Retention Ponds	Construct and/or improve existing detention/retention ponds to hold storm water run-off.	HMGP, PDM, FMA	24-36 Months	CPPJ, CPOHSEP, Parish Public Works, Town of Haynesville	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
H27: Vegetation Management Program	Pursue a vegetation management program along levee systems to ensure proper levee function.	Local	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Town of Haynesville	Dam/Levee Failure	Ongoing
H28: Water Rationing Program	Implement staged water rationing ranging from voluntary, to encouraged, to mandatory participation during periods of severe drought.	Local	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Town of Haynesville	Drought	Ongoing
H29: Recharge Sparta Aquifer	Construct a water retention lake in order to recharge the Sparta Aquifer.	HMGP, PDM, FMA	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Town of Haynesville	Drought	Carried Over
H30: Dry Hydrant Installation	Install new or upgrade existing dry hydrants throughout the Parish.	HMGP, EMPG, Local	12-48 Months	Local Fire Departments, Parish Public Works, Town of Haynesville	Wildfire	Carried Over
H31: Cooling Station Retrofit	Retrofit existing structures to act as cooling stations during extreme heat conditions.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Town of Haynesville	Extreme Heat	Carried Over
H32: Installation of Frangible Linkage Systems	Install frangible (breakaway) linkage systems for vulnerable sections of power lines.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Town of Haynesville	Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Winter Storms	Carried Over

Town of Homer						
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Status**
H1: Hardening of Critical and Non Critical Structures	Harden both new and existing critical and non-critical structures throughout The Town of Homer. This can include, but is not limited to window shutters, roof straps, flood proofing, and roll-up door reinforcement.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Town of Homer	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms, Tornados	Carried Over
H2: Construct or Retrofit Safe Rooms	Construct new or retrofit existing structures to act as safe rooms during tornados and other severe weather events.	HMGP, PDM, State and Local	12-36 Months	CPPJ, CPOHSEP, GOHSEP, Town of Homer	Tornados	Carried Over
H3: Construction/ Installation of Safe Rooms	Construct/install safe rooms in public buildings capable of providing protection from severe tornados, extreme straight line winds in accordance with FEMA Publication 320 and/or National Performance Criteria for Tornado Shelters specifications.	HMGP, PDM, State and Local	12-36 Months	CPPJ, CPOHSEP, GOHSEP, Town of Homer	Tornados	Carried Over
H4: Incentivize Safe Room Construction and Installation	Develop incentives (i.e. partial rebates, etc.) and provide instruction for homeowners to construct/install safe rooms capable of providing protection from severe tornados, extreme straight line winds, and hailstorms in accordance with FEMA Publication 320 and/or National Performance Criteria for Tornado Shelters specifications.	HMGP, PDM, State and Local	12-36 Months	CPPJ, CPOHSEP, GOHSEP, Town of Homer	Tornados	Carried Over
H5: Drainage Improvements	Pursue drainage improvements throughout the Town of Homer. Actions can include but are not limited to installing/upgrading culverts and headwalls as well as enlarging storm water ditches and canals.	HMGP, PDM, FMA	12-60 Months	CPPJ, CPOHSEP, Parish Public Works, Town of Homer	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Carried Over
H6: Infrastructure Replacements and Upgrades	Replace and/or upgrade bridges, culverts and other crossings throughout the Town of Homer.	HMGP, PDM, Local	12-48 Months	CPPJ, CPOHSEP, Town of Homer	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Carried Over
H7: Property Acquisition	Acquire flood prone properties (including Repetitive Loss and Severe Repetitive Loss Properties).	HMGP, PDM, FMA, RFC, SRL	12-36 Months	CPPJ, CPOHSEP, Town of Homer	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
H8: Roadway Elevation	Elevate flood prone roadways throughout the Parish.	HMGP, PDM, Local	12-60 Months	CPPJ, CPOHSEP, LADOTD, Town of Homer	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing

H9: Generator Installation and Upgrades	Install new or upgrade existing power supplies/generators for critical facilities (including but not limited to lift stations, water plants, police/sheriff/fire stations, and EMS facilities.	HMGP, EMPG	12-48 Months	CPPJ, CPOHSEP, Town of Homer	Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Winter Storms	Carried Over
H10: Purchase of Warning Sirens	Purchase warning sirens for sites within the Town of Homer that include, but are not limited to, Summerfield, Airport Loop, and Pleasure Point.	HMGP, PDM, EMPG	12-48 Months	CPPJ, CPOHSEP, Law Enforcement, Town of Homer	Dam/Levee Failure, Drought, Earthquake, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Carried Over
H11: Brochures for Public	Provide the public with educational brochures for the hazards identified as part of this 2011 Plan Update. These brochures will be placed in public buildings including town halls, schools, and hospitals.	HMGP, PDM, Local	6-12 Months	CPOHSEP, Town of Homer	Dam/Levee Failure, Drought, Earthquake, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
H12: Educational Program	Pursue an “all hazards” education program that includes but is not limited to community meetings, and public service announcements.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Town of Homer	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
H13: Educational Program for Special Needs Populations	Pursue an “all hazards” education program for special needs populations. This can include but is not limited to school presentations, nursing home presentations, community meetings, and public service announcements.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Town of Homer	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing

H14: Audit 911 Systems	Minimize redundancy in the 911 systems as well as backup system at the CID building	EMPG, Local	6-12 Months	CPPJ, CPOHSEP, Town of Homer	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
H15: Develop Zoning Ordinances	Develop ordinances that drive development away from known hazard areas. This can include but is not limited to developing and/or updating floodplain ordinances.	CPPJ, CPOHSEP, Local	12-48 Months	CPPJ, Town of Homer	NFIP PARTICIPATION - Dam/Levee Failure, Flooding, Hurricanes/Tropical Storms, Thunderstorms	Ongoing
H16: DFIRM Adoption	Request and Adopt new DFIRMS once available from FEMA.	Local	12-48 Months	CPPJ, CPOHSEP, Town of Homer	NFIP PARTICIPATION - Dam/Levee Failure, Flooding, Hurricanes/Tropical Storms, Thunderstorms	Ongoing
H17: Structure and Infrastructure Elevation	Elevate new and existing flood prone structures and infrastructure throughout the Town of Homer. This can also include elevation of key electrical equipment where structure elevation is not feasible.	HMGP, PDM, FMA, RFC, SRL	36 Months	CPPJ, CPOHSEP, Town of Homer	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
H18: Urban-Wildland Defensible Space Program	Develop a defensible space program in order to reduce fuels surrounding homes in the urban-wildland interface.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Local Fire Departments, Town of Homer	Wildfire	Carried Over
H19: Urban-Wildland Defensible Space Around Structures	Develop a defensible space around structures to reduce damage due to wildfire.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Local Fire Departments, Town of Homer	Wildfire	Carried Over

H20: Tree and Limb Removal Program	Minimize damage to structures and infrastructure from falling trees and limbs. Actions include but are not limited to: · Pursue and coordinate a dangerous tree and limb removal program to protect infrastructure and critical facilities from damage. This includes working with private homeowners for voluntary removal of hazardous trees and limbs on private property. This also includes working with Entergy and other utility companies who may maintain a hazardous tree removal program. · Coordinate contracting to remove and/or trim trees that endanger structures, infrastructure, and vital roadways.	HMGP, PA, Local, Utility Companies	6-12 Months	CPPJ, CPOHSEP, Entergy, Other Utilities, Town of Homer	Hurricanes/Tropical Storms, Thunderstorms, Tornados	Ongoing
H21: Purchase Interoperable Communications Equipment	Purchase interoperable communications equipment such as portable and/or mobile radios.	HMGP, EMPG, Local	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Law Enforcement, Town of Homer	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
H22: Hazard Training for First Responders	Coordinate with federal, state, and local partners to provide training opportunities for first responders, for all hazards including HAZMAT training.	EMPG, Local	12-36 Months	CPOHSEP, Sheriff's Office, Fire Departments, Local Law Enforcement, State Police	Hazardous Materials	Deleted
H23: Relocate Flood Prone Properties	Relocate flood prone properties throughout the Parish to locations out of the floodplain to prevent future flood losses.	HMGP, PDM, FMA, RFC, SRL	36 Months	CPPJ, CPOHSEP , Town of Homer	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
H24: Lake Claiborne Dam Spillway Expansion	Expand existing capacity and/or construct secondary Spillway at Lake Claiborne Dam.	HMGP, PDM, LADOTD	12-60 Months	CPPJ, CPOHSEP, LADOTD, Town of Homer	Dam/Levee Failure	Ongoing
H25: Construction of Retention Ponds	Construct and/or improve existing detention/retention ponds to hold storm water run-off.	HMGP, PDM, FMA	24-36 Months	CPPJ, CPOHSEP, Parish Public Works, Town of Homer	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
H26: Vegetation Management Program	Pursue a vegetation management program along levee systems to ensure proper levee function.	Local	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Town of Homer	Dam/Levee Failure	Ongoing

H27: Water Rationing Program	Implement staged water rationing ranging from voluntary, to encouraged, to mandatory participation during periods of severe drought.	Local	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Town of Homer	Drought	Ongoing
H28: Recharge Sparta Aquifer	Construct a water retention lake in order to recharge the Sparta Aquifer.	HMGP, PDM, FMA	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Town of Homer	Drought	Carried Over
H29: Dry Hydrant Installation	Install new or upgrade existing dry hydrants throughout the Parish.	HMGP, EMPG, Local	12-48 Months	Local Fire Departments, Parish Public Works, Town of Homer	Wildfire	Carried Over
H30: Cooling Station Retrofit	Retrofit existing structures to act as cooling stations during extreme heat conditions.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Town of Homer	Extreme Heat	Carried Over
H31: Installation of Frangible Linkage Systems	Install frangible (breakaway) linkage systems for vulnerable sections of power lines.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Town of Homer	Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Winter Storms	Carried Over

Village of Lisbon						
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Status**
L1: Hardening of Critical and Non Critical Structures	Harden both new and existing critical and non-critical structures throughout The Village of Lisbon. This can include, but is not limited to window shutters, roof straps, flood proofing, and roll-up door reinforcement.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Village of Lisbon	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms, Tornados	Carried Over
L2: Construct or Retrofit Safe Rooms	Construct new or retrofit existing structures to act as safe rooms during tornados and other severe weather events.	HMGP, PDM, State and Local	12-36 Months	CPPJ, CPOHSEP, GOHSEP, Village of Lisbon	Tornados	Carried Over
L3: Construction/ Installation of Safe Rooms	Construct/install safe rooms in public buildings capable of providing protection from severe tornados, extreme straight line winds in accordance with FEMA Publication 320 and/or National Performance Criteria for Tornado Shelters specifications.	HMGP, PDM, State and Local	12-36 Months	CPPJ, CPOHSEP, GOHSEP, Village of Lisbon	Tornados	Carried Over

L4: Incentivize Safe Room Construction and Installation	Develop incentives (i.e. partial rebates, etc.) and provide instruction for homeowners to construct/install safe rooms capable of providing protection from severe tornados, extreme straight line winds, and hailstorms in accordance with FEMA Publication 320 and/or National Performance Criteria for Tornado Shelters specifications.	HMGP, PDM, State and Local	12-36 Months	CPPJ, CPOHSEP, GOHSEP, Village of Lisbon	Tornados	Carried Over
L5: Drainage Improvements	Pursue drainage improvements throughout the Village of Lisbon. Actions can include but are not limited to installing/upgrading culverts and headwalls as well as enlarging storm water ditches and canals.	HMGP, PDM, FMA	12-60 Months	CPPJ, CPOHSEP, Parish Public Works, Village of Lisbon	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Carried Over
L6: Infrastructure Replacements and Upgrades	Replace and/or upgrade bridges, culverts and other crossings throughout the Village of Lisbon.	HMGP, PDM, Local	12-48 Months	CPPJ, CPOHSEP, Village of Lisbon	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Carried Over
L7: Property Acquisition	Acquire flood prone properties (including Repetitive Loss and Severe Repetitive Loss Properties).	HMGP, PDM, FMA, RFC, SRL	12-36 Months	CPPJ, CPOHSEP, Village of Lisbon	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
L8: Roadway Elevation	Elevate flood prone roadways throughout the Parish.	HMGP, PDM, Local	12-60 Months	CPPJ, CPOHSEP, LADOTD, Village of Lisbon	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
L9: Generator Installation and Upgrades	Install new or upgrade existing power supplies/generators for critical facilities (including but not limited to lift stations, water plants, police/sheriff/fire stations, and EMS facilities.	HMGP, EMPG	12-48 Months	CPPJ, CPOHSEP, Village of Lisbon	Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Winter Storms	Carried Over
L10: Purchase of Warning Sirens	Purchase warning sirens for sites within the Village of Lisbon that include, but are not limited to, Summerfield, Airport Loop, and Pleasure Point.	HMGP, PDM, EMPG	12-48 Months	CPPJ, CPOHSEP, Law Enforcement, Village of Lisbon	Dam/Levee Failure, Drought, Earthquake, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Carried Over

L11: Brochures for Public	Provide the public with educational brochures for the hazards identified as part of this 2011 Plan Update. These brochures will be placed in public buildings including town halls, schools, and hospitals.	HMGP, PDM, Local	6-12 Months	CPOHSEP, Village of Lisbon	Dam/Levee Failure, Drought, Earthquake, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
L12: Educational Program	Pursue an "all hazards" education program that includes but is not limited to community meetings, and public service announcements.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Village of Lisbon	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
L13: Educational Program for Special Needs Populations	Pursue an "all hazards" education program for special needs populations. This can include but is not limited to school presentations, nursing home presentations, community meetings, and public service announcements.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Village of Lisbon	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
L14: Audit 911 Systems	Minimize redundancy in the 911 systems as well as backup system at the CID building	EMPG, Local	6-12 Months	CPPJ, CPOHSEP, Village of Lisbon	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing
L15: Develop Zoning Ordinances	Develop ordinances that drive development away from known hazard areas. This can include but is not limited to developing and/or updating floodplain ordinances.	CPPJ, CPOHSEP, Local	12-48 Months	CPPJ, Village of Lisbon	NFIP PARTICIPATION - Dam/Levee Failure, Flooding, Hurricanes/Tropical Storms, Thunderstorms	Ongoing

L16: DFIRM Adoption	Request and Adopt new DFIRMS once available from FEMA.	Local	12-48 Months	CPPJ, CPOHSEP, Village of Lisbon	NFIP PARTICIPATION - Dam/Levee Failure, Flooding, Hurricanes/Tropical Storms, Thunderstorms	Ongoing
L17: Structure and Infrastructure Elevation	Elevate new and existing flood prone structures and infrastructure throughout the Village of Lisbon. This can also include elevation of key electrical equipment where structure elevation is not feasible.	HMGP, PDM, FMA, RFC, SRL	36 Months	CPPJ, CPOHSEP, Village of Lisbon	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
L18: Urban-Wildland Defensible Space Program	Develop a defensible space program in order to reduce fuels surrounding homes in the urban-wildland interface.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Local Fire Departments, Village of Lisbon	Wildfire	Carried Over
L19: Urban-Wildland Defensible Space Around Structures	Develop a defensible space around structures to reduce damage due to wildfire.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Local Fire Departments, Village of Lisbon	Wildfire	Carried Over
L20: Tree and Limb Removal Program	Minimize damage to structures and infrastructure from falling trees and limbs. Actions include but are not limited to: · Pursue and coordinate a dangerous tree and limb removal program to protect infrastructure and critical facilities from damage. This includes working with private homeowners for voluntary removal of hazardous trees and limbs on private property. This also includes working with Entergy and other utility companies who may maintain a hazardous tree removal program. · Coordinate contracting to remove and/or trim trees that endanger structures, infrastructure, and vital roadways.	HMGP, PA, Local, Utility Companies	6-12 Months	CPPJ, CPOHSEP, Entergy, Other Utilities, Village of Lisbon	Hurricanes/Tropical Storms, Thunderstorms, Tornados	Ongoing
L21: Purchase Interoperable Communications Equipment	Purchase interoperable communications equipment such as portable and/or mobile radios.	HMGP, EMPG, Local	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Law Enforcement, Village of Lisbon	Dam/Levee Failure, Drought, Extreme Heat, Flooding, Hazardous Materials, Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Wildfires, Winter Storms	Ongoing

L22: Hazard Training for First Responders	Coordinate with federal, state, and local partners to provide training opportunities for first responders, for all hazards including HAZMAT training.	EMPG, Local	12-36 Months	CPOHSEP, Sheriff's Office, Fire Departments, Local Law Enforcement, State Police	Hazardous Materials	Deleted
L23: Relocate Flood Prone Properties	Relocate flood prone properties throughout the Parish to locations out of the floodplain to prevent future flood losses.	HMGP, PDM, FMA, RFC, SRL	36 Months	CPPJ, CPOHSEP , Village of Lisbon	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
L24: Lake Claiborne Dam Spillway Expansion	Expand existing capacity and/or construct secondary Spillway at Lake Claiborne Dam.	HMGP, PDM, LADOTD	12-60 Months	CPPJ, CPOHSEP, LADOTD, Village of Lisbon	Dam/Levee Failure	Ongoing
L25: Construction of Retention Ponds	Construct and/or improve existing detention/retention ponds to hold storm water run-off.	HMGP, PDM, FMA	24-36 Months	CPPJ, CPOHSEP, Parish Public Works, Village of Lisbon	Dam/Levee Failure, Flooding, Hurricanes/ Tropical Storms, Thunderstorms	Ongoing
L26: Vegetation Management Program	Pursue a vegetation management program along levee systems to ensure proper levee function.	Local	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Village of Lisbon	Dam/Levee Failure	Ongoing
L27: Water Rationing Program	Implement staged water rationing ranging from voluntary, to encouraged, to mandatory participation during periods of severe drought.	Local	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Village of Lisbon	Drought	Ongoing
L28: Recharge Sparta Aquifer	Construct a water retention lake in order to recharge the Sparta Aquifer.	HMGP, PDM, FMA	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Village of Lisbon	Drought	Carried Over
L29: Dry Hydrant Installation	Install new or upgrade existing dry hydrants throughout the Parish.	HMGP, EMPG, Local	12-48 Months	Local Fire Departments, Parish Public Works, Village of Lisbon	Wildfire	Carried Over
L30: Cooling Station Retrofit	Retrofit existing structures to act as cooling stations during extreme heat conditions.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Parish Public Works, Village of Lisbon	Extreme Heat	Carried Over
L31: Installation of Frangible Linkage Systems	Install frangible (breakaway) linkage systems for vulnerable sections of power lines.	HMGP, PDM	12-48 Months	CPPJ, CPOHSEP, Village of Lisbon	Hurricanes/ Tropical Storms, Thunderstorms, Tornados, Winter Storms	Carried Over

Unincorporated Claiborne New Mitigation Actions

Claiborne Unincorporated - New Mitigation Actions						
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Status**
C1: Building Retrofits	Retrofit public buildings exterior shell to maintain use during and after storm events. Benefits: Reduces damage from high winds, and helps assure that the public buildings can be used, occupied and operable during or after storms.	FEMA HMGP, Local	1-5 years	Claiborne Parish OHSEP	High Wind, Hail, Tropical Cyclones, Tornadoes	New
C2: Drainage Improvement	Will relieve flooding problems, reduce flood damage and costs of damage, overtopping of roads with drain water, while also keeping open roadways during periods of high precipitation. Benefits: Relieves Parish or local government and property owners of the continual flooding problems, with closed roadways (loss of function). Saves public funds for road repairs, drainage ditch repairs, sandbagging and blocking of roadways during storm periods.	FEMA HMGP, Local	1-5 years	Claiborne Parish OHSEP	Flooding, Tropical Cyclones	New
C3: Mitigation of repetitive loss and severe repetitive loss properties and other hazard prone structures	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss or flooding or other hazard prone properties.	FEMA HMGP, Local	1-5 years	Claiborne Parish OHSEP	Flooding, Tropical Cyclones	New
C4: Safe Room Projects	Construction of a safe room for first responders located in Claiborne Parish. Other locations will be identified based on funding availability.	FEMA HMGP, Local	1-5 years	Claiborne Parish OHSEP	Tornadoes, High Wind, Tropical Cyclones, Wildfires	New
C5: Education and Outreach	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for Flooding, Tropical Cyclones, Tornadoes, Wildfires, Extreme Heat, Thunderstorms (lightning, high wind, hail), Drought, Dam Failure, Levee Failure, and Winter Storms hazards, as well as providing information on high risk areas. Informing communities, business and citizens on proper mitigation efforts and activities will create resiliency within the parish and its communities.	FEMA HMGP, Local	1-5 years	Claiborne Parish OHSEP	Flooding, Tropical Cyclones, Tornadoes, Wildfires, Extreme Heat, Thunderstorms (lightning, high wind, hail), Winter Storms, Drought, Dam Failure, Levee Failure	New

C6: Generators for continuity of operations and government	Procurement and Installation of generators at public facilities to ensure continued operations during and after events.	FEMA HMGP, Local	1-5 years	Claiborne Parish OHSEP	Tornadoes, Winter Storms, Tropical Cyclones, Thunderstorms (lightning, high wind, hail) , Extreme Heat	New
C7: Lightning Mitigation	Procurement and Installation of Lightning rods and surge protectors for public buildings to preserve life and property	FEMA HMGP, Local	1-5 years	Claiborne Parish OHSEP	Lightning	New
C8: Warning Systems	Update/upgrade public warning system components throughout Claiborne Parish as necessary. Install audible and/or reverse 911 warning system(s)	FEMA HMGP, Local	1-5 years	Claiborne Parish OHSEP	Winter Storms, Wildfires, Tornadoes, Tropical Cyclones, Dam Failure, Levee Failure	New
C9: Potable Water	Create redundancy of potable water supply to critical facilities, especially hospitals in Parish, and provide protection of potable water supply by acquisition/installation of backflow preventers at appropriate critical locations.	FEMA HMGP, Local	1-5 years	Claiborne Parish OHSEP	Tropical Cyclones, Thunderstorms (lightning, high wind, hail), Tornadoes, Drought, Extreme Heat	New
C10: Promote Flood Insurance	Promote the purchase of flood insurance. Advertise the availability, cost, and coverage of flood insurance through the National Flood Insurance Program (NFIP).	FEMA HMGP, Local	1-5 years	Claiborne Parish OHSEP	Tropical Cyclones, Flooding	New
C11: Dam/Levee Failure Working Group	Create a working group in order to assess the extent and determine the possible effects of a dam/levee failure.	FEMA HMGP, Local	1-5 years	Claiborne Parish OHSEP	Flooding, Dam Failure, Levee Failure	New
C12: Drought Ordinances	Adopt ordinances requiring water-saving measures in time of drought.	FEMA HMGP, Local	1-5 years	Claiborne Parish OHSEP	Drought	New
C13: Wildfire Ordinances	Strengthen penalties and improve enforcement capabilities of burn ban ordinances	FEMA HMGP, Local	1-5 years	Claiborne Parish OHSEP	Wildfires	New

Village of Athens New Mitigation Actions

Village of Athens						
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Status**
A1: Building Retrofits	Retrofit public buildings exterior shell to maintain use during and after storm events. Benefits: Reduces damage from high winds, and helps assure that the public buildings can be used, occupied and operable during or after storms.	FEMA HMGP, Local	1-5 years	Village of Athens/Claiborne Parish OHSEP	High Wind, Tropical Cyclones, Tornadoes	New
A2: Drainage Improvements	Will relieve flooding problems, reduce flood damage and costs of damage, overtopping of roads with drain water, while also keeping open roadways during periods of high precipitation. Benefits: Relieves Parish or local government and property owners of the continual flooding problems, with closed roadways (loss of function). Saves public funds for road repairs, drainage ditch repairs, sandbagging and blocking of roadways during storm periods.	FEMA HMGP, Local	1-5 years	Village of Athens/Claiborne Parish OHSEP	Flooding, Tropical Cyclones	New
A3: Mitigation of repetitive loss and severe repetitive loss properties and other hazard prone structures	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss or flooding or other hazard prone properties.	FEMA HMGP, Local	1-5 years	Village of Athens/Claiborne Parish OHSEP	Flooding, Tropical Cyclones	New
A4: Safe Room Projects	Construction of a safe room for first responders located in Athens. Other locations will be identified based on funding availability.	FEMA HMGP, Local	1-5 years	Village of Athens/Claiborne Parish OHSEP	Tornadoes, High Wind, Tropical Cyclones, Wildfires	New
A5: Education and Outreach	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for Flooding, Tropical Cyclones, Tornadoes, Wildfires, Extreme Heat, Thunderstorms (lightning, high wind, hail), Drought, Dam Failure, Levee Failure, and Winter Storms hazards, as well as providing information on high risk areas. Informing communities, business and citizens on proper mitigation efforts and activities will create resiliency within the parish and its communities.	FEMA HMGP, Local	1-5 years	Village of Athens/Claiborne Parish OHSEP	Flooding, Tropical Cyclones, Tornadoes, Wildfires, Extreme Heat, Thunderstorms (lightning, high wind, hail), Winter Storms, Drought, Dam Failure, Levee Failure	New

A6: Generators for continuity of operations and government	Procurement and Installation of generators at public facilities to ensure continued operations during and after events.	FEMA HMGP, Local	1-5 years	Village of Athens/Claiborne Parish OHSEP	Tornadoes, Winter Storms, Tropical Cyclones, Thunderstorms (lightning, high wind, hail) , Extreme Heat	New
A7: Lightning Mitigation	Procurement and Installation of Lightning rods and surge protectors for public buildings to preserve life and property	FEMA HMGP, Local	1-5 years	Village of Athens/Claiborne Parish OHSEP	Lightning	New
A8: Warning Systems	Update/upgrade public warning system components throughout Athens as necessary. Install audible and/or reverse 911 warning system(s)	FEMA HMGP, Local	1-5 years	Village of Athens/Claiborne Parish OHSEP	Winter Storms, Wildfires, Tornadoes, Tropical Cyclones, Dam Failure, Levee Failure	New
A9: Potable Water	Create redundancy of potable water supply to critical facilities, especially hospitals in Parish, and provide protection of potable water supply by acquisition/installation of backflow preventers at appropriate critical locations.	FEMA HMGP, Local	1-5 years	Village of Athens/Claiborne Parish OHSEP	Tropical Cyclones, Thunderstorms (lightning, high wind, hail), Tornadoes, Drought, Extreme Heat	New
A10: Promote Flood Insurance	Promote the purchase of flood insurance. Advertise the availability, cost, and coverage of flood insurance through the National Flood Insurance Program (NFIP).	FEMA HMGP, Local	1-5 years	Village of Athens/Claiborne Parish OHSEP	Tropical Cyclones, Flooding	New
A11: Dam/Levee Failure Working Group	Create a working group in order to assess the extent and determine the possible effects of a dam/levee failure.	FEMA HMGP, Local	1-5 years	Village of Athens/Claiborne Parish OHSEP	Flooding, Dam Failure, Levee Failure	New
A12: Drought Ordinances	Adopt ordinances requiring water-saving measures in time of drought.	FEMA HMGP, Local	1-5 years	Village of Athens/Claiborne Parish OHSEP	Drought	New
A13: Wildfire Ordinances	Strengthen penalties and improve enforcement capabilities of burn ban ordinances	FEMA HMGP, Local	1-5 years	Village of Athens/Claiborne Parish OHSEP	Wildfires	New

Town of Haynesville New Mitigation Actions

Town of Haynesville						
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Status**
H1: Building Retrofits	Retrofit public buildings exterior shell to maintain use during and after storm events. Benefits: Reduces damage from high winds, and helps assure that the public buildings can be used, occupied and operable during or after storms.	FEMA HMGP, Local	1-5 years	Town of Haynesville/Claiborne Parish OHSEP	High Wind, Tropical Cyclones, Tornadoes	New
H2: Drainage Improvements	Will relieve flooding problems, reduce flood damage and costs of damage, overtopping of roads with drain water, while also keeping open roadways during periods of high precipitation. Benefits: Relieves Parish or local government and property owners of the continual flooding problems, with closed roadways (loss of function). Saves public funds for road repairs, drainage ditch repairs, sandbagging and blocking of roadways during storm periods.	FEMA HMGP, Local	1-5 years	Town of Haynesville/Claiborne Parish OHSEP	Flooding, Tropical Cyclones	New
H3: Mitigation of repetitive loss and severe repetitive loss properties and other hazard prone structures	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss or flooding or other hazard prone properties.	FEMA HMGP, Local	1-5 years	Town of Haynesville/Claiborne Parish OHSEP	Flooding, Tropical Cyclones	New
H4: Safe Room Projects	Construction of a safe room for first responders located in Haynesville. Other locations will be identified based on funding availability.	FEMA HMGP, Local	1-5 years	Town of Haynesville/Claiborne Parish OHSEP	Tornadoes, High Wind, Tropical Cyclones, Wildfires	New
H5: Education and Outreach	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for Flooding, Tropical Cyclones, Tornadoes, Wildfires, Extreme Heat, Thunderstorms (lightning, high wind, hail), Drought, Dam Failure, Levee Failure, and Winter Storms hazards, as well as providing information on high risk areas. Informing communities, business and citizens on proper mitigation efforts and activities will create resiliency within the parish and its communities.	FEMA HMGP, Local	1-5 years	Town of Haynesville/Claiborne Parish OHSEP	Flooding, Tropical Cyclones, Tornadoes, Wildfires, Extreme Heat, Thunderstorms (lightning, high wind, hail), Winter Storms, Drought, Dam Failure, Levee Failure	New

H6: Generators for continuity of operations and government	Procurement and Installation of generators at public facilities to ensure continued operations during and after events.	FEMA HMGP, Local	1-5 years	Town of Haynesville/Claiborne Parish OHSEP	Tornadoes, Winter Storms, Tropical Cyclones, Thunderstorms (lightning, high wind, hail) , Extreme Heat	New
H7: Lightning Mitigation	Procurement and Installation of Lightning rods and surge protectors for public buildings to preserve life and property	FEMA HMGP, Local	1-5 years	Town of Haynesville/Claiborne Parish OHSEP	Lightning	New
H8: Warning Systems	Update/upgrade public warning system components throughout Haynesville as necessary. Install audible and/or reverse 911 warning system(s)	FEMA HMGP, Local	1-5 years	Town of Haynesville/Claiborne Parish OHSEP	Winter Storms, Wildfires, Tornadoes, Tropical Cyclones, Dam Failure, Levee Failure	New
H9: Potable Water	Create redundancy of potable water supply to critical facilities, especially hospitals in Parish, and provide protection of potable water supply by acquisition/installation of backflow preventers at appropriate critical locations.	FEMA HMGP, Local	1-5 years	Town of Haynesville/Claiborne Parish OHSEP	Tropical Cyclones, Thunderstorms (lightning, high wind, hail), Tornadoes, Drought, Extreme Heat	New
H10: Promote Flood Insurance	Promote the purchase of flood insurance. Advertise the availability, cost, and coverage of flood insurance through the National Flood Insurance Program (NFIP).	FEMA HMGP, Local	1-5 years	Town of Haynesville/Claiborne Parish OHSEP	Tropical Cyclones, Flooding	New
H11: Dam/Levee Failure Working Group	Create a working group in order to assess the extent and determine the possible effects of a dam/levee failure.	FEMA HMGP, Local	1-5 years	Town of Haynesville/Claiborne Parish OHSEP	Flooding, Dam Failure, Levee Failure	New
H12: Drought Ordinances	Adopt ordinances requiring water-saving measures in time of drought.	FEMA HMGP, Local	1-5 years	Town of Haynesville/Claiborne Parish OHSEP	Drought	New
H13: Wildfire Ordinances	Strengthen penalties and improve enforcement capabilities of burn ban ordinances	FEMA HMGP, Local	1-5 years	Town of Haynesville/Claiborne Parish OHSEP	Wildfires	New

Town of Homer New Mitigation Actions

Town of Homer						
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Status**
H1: Building Retrofits	Retrofit public buildings exterior shell to maintain use during and after storm events. Benefits: Reduces damage from high winds, and helps assure that the public buildings can be used, occupied and operable during or after storms.	FEMA HMGP, Local	1-5 years	Town of Homer/Claiborne Parish OHSEP	High Wind, Tropical Cyclones, Tornadoes	New
H2: Drainage Improvements	Will relieve flooding problems, reduce flood damage and costs of damage, overtopping of roads with drain water, while also keeping open roadways during periods of high precipitation. Benefits: Relieves Parish or local government and property owners of the continual flooding problems, with closed roadways (loss of function). Saves public funds for road repairs, drainage ditch repairs, sandbagging and blocking of roadways during storm periods.	FEMA HMGP, Local	1-5 years	Town of Homer/Claiborne Parish OHSEP	Flooding, Tropical Cyclones	New
H3: Mitigation of repetitive loss and severe repetitive loss properties and other hazard prone structures	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss or flooding or other hazard prone properties.	FEMA HMGP, Local	1-5 years	Town of Homer/Claiborne Parish OHSEP	Flooding, Tropical Cyclones	New
H4: Safe Room Projects	Construction of a safe room for first responders located in Homer. Other locations will be identified based on funding availability.	FEMA HMGP, Local	1-5 years	Town of Homer/Claiborne Parish OHSEP	Tornadoes, High Wind, Tropical Cyclones, Wildfires	New
H5: Education and Outreach	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for Flooding, Tropical Cyclones, Tornadoes, Wildfires, Extreme Heat, Thunderstorms (lightning, high wind, hail), Drought, Dam Failure, Levee Failure, and Winter Storms hazards, as well as providing information on high risk areas. Informing communities, business and citizens on proper mitigation efforts and activities will create resiliency within the parish and its communities.	FEMA HMGP, Local	1-5 years	Town of Homer/Claiborne Parish OHSEP	Flooding, Tropical Cyclones, Tornadoes, Wildfires, Extreme Heat, Thunderstorms (lightning, high wind, hail), Winter Storms, Drought, Dam Failure, Levee Failure	New

H6: Generators for continuity of operations and government	Procurement and Installation of generators at public facilities to ensure continued operations during and after events.	FEMA HMGP, Local	1-5 years	Town of Homer/Claiborne Parish OHSEP	Tornadoes, Winter Storms, Tropical Cyclones, Thunderstorms (lightning, high wind, hail) , Extreme Heat	New
H7: Lightning Mitigation	Procurement and Installation of Lightning rods and surge protectors for public buildings to preserve life and property	FEMA HMGP, Local	1-5 years	Town of Homer/Claiborne Parish OHSEP	Lightning	New
H8: Warning Systems	Update/upgrade public warning system components throughout Homer as necessary. Install audible and/or reverse 911 warning system(s)	FEMA HMGP, Local	1-5 years	Town of Homer/Claiborne Parish OHSEP	Winter Storms, Wildfires, Tornadoes, Tropical Cyclones, Dam Failure, Levee Failure	New
H9: Potable Water	Create redundancy of potable water supply to critical facilities, especially hospitals in Parish, and provide protection of potable water supply by acquisition/installation of backflow preventers at appropriate critical locations.	FEMA HMGP, Local	1-5 years	Town of Homer/Claiborne Parish OHSEP	Tropical Cyclones, Thunderstorms (lightning, high wind, hail), Tornadoes, Drought, Extreme Heat	New
H10: Promote Flood Insurance	Promote the purchase of flood insurance. Advertise the availability, cost, and coverage of flood insurance through the National Flood Insurance Program (NFIP).	FEMA HMGP, Local	1-5 years	Town of Homer/Claiborne Parish OHSEP	Tropical Cyclones, Flooding	New
H11: Dam/Levee Failure Working Group	Create a working group in order to assess the extent and determine the possible effects of a dam/levee failure.	FEMA HMGP, Local	1-5 years	Town of Homer/Claiborne Parish OHSEP	Flooding, Dam Failure, Levee Failure	New
H12: Drought Ordinances	Adopt ordinances requiring water-saving measures in time of drought.	FEMA HMGP, Local	1-5 years	Town of Homer/Claiborne Parish OHSEP	Drought	New
H13: Wildfire Ordinances	Strengthen penalties and improve enforcement capabilities of burn ban ordinances	FEMA HMGP, Local	1-5 years	Town of Homer/Claiborne Parish OHSEP	Wildfires	New

Village of Lisbon New Mitigation Actions

Village of Lisbon						
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Status**
L1: Building Retrofits	Retrofit public buildings exterior shell to maintain use during and after storm events. Benefits: Reduces damage from high winds, and helps assure that the public buildings can be used, occupied and operable during or after storms.	FEMA HMGP, Local	1-5 years	Village of Lisbon/Claiborne Parish OHSEP	High Wind, Tropical Cyclones, Tornadoes	New
L2: Drainage Improvements	Will relieve flooding problems, reduce flood damage and costs of damage, overtopping of roads with drain water, while also keeping open roadways during periods of high precipitation. Benefits: Relieves Parish or local government and property owners of the continual flooding problems, with closed roadways (loss of function). Saves public funds for road repairs, drainage ditch repairs, sandbagging and blocking of roadways during storm periods.	FEMA HMGP, Local	1-5 years	Village of Lisbon/Claiborne Parish OHSEP	Flooding, Tropical Cyclones	New
L3: Mitigation of repetitive loss and severe repetitive loss properties and other hazard prone structures	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss or flooding or other hazard prone properties.	FEMA HMGP, Local	1-5 years	Village of Lisbon/Claiborne Parish OHSEP	Flooding, Tropical Cyclones	New
L4: Safe Room Projects	Construction of a safe room for first responders located in City of Lisbon. Other locations will be identified based on funding availability.	FEMA HMGP, Local	1-5 years	Village of Lisbon/Claiborne Parish OHSEP	Tornadoes, High Wind, Tropical Cyclones, Wildfires	New
L5: Education and Outreach	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for Flooding, Tropical Cyclones, Tornadoes, Wildfires, Extreme Heat, Thunderstorms (lightning, high wind, hail), Drought, Dam Failure, Levee Failure, and Winter Storms hazards, as well as providing information on high risk areas. Informing communities, business and citizens on proper mitigation efforts and activities will create resiliency within the parish and its communities.	FEMA HMGP, Local	1-5 years	Village of Lisbon/Claiborne Parish OHSEP	Flooding, Tropical Cyclones, Tornadoes, Wildfires, Extreme Heat, Thunderstorms (lightning, high wind, hail), Winter Storms, Drought, Dam Failure, Levee Failure	New

L6: Generators for continuity of operations and government	Procurement and Installation of generators at public facilities to ensure continued operations during and after events.	FEMA HMGP, Local	1-5 years	Village of Lisbon/Claiborne Parish OHSEP	Tornadoes, Winter Storms, Tropical Cyclones, Thunderstorms (lightning, high wind, hail) , Extreme Heat	New
L7: Lightning Mitigation	Procurement and Installation of Lightning rods and surge protectors for public buildings to preserve life and property	FEMA HMGP, Local	1-5 years	Village of Lisbon/Claiborne Parish OHSEP	Lightning	New
L8: Warning Systems	Update/upgrade public warning system components throughout Lisbon as necessary. Install audible and/or reverse 911 warning system(s)	FEMA HMGP, Local	1-5 years	Village of Lisbon/Claiborne Parish OHSEP	Winter Storms, Wildfires, Tornadoes, Tropical Cyclones, Dam Failure, Levee Failure	New
L9: Potable Water	Create redundancy of potable water supply to critical facilities, especially hospitals in Parish, and provide protection of potable water supply by acquisition/installation of backflow preventers at appropriate critical locations.	FEMA HMGP, Local	1-5 years	Village of Lisbon/Claiborne Parish OHSEP	Tropical Cyclones, Thunderstorms (lightning, high wind, hail), Tornadoes, Drought, Extreme Heat	New
L10: Promote Flood Insurance	Promote the purchase of flood insurance. Advertise the availability, cost, and coverage of flood insurance through the National Flood Insurance Program (NFIP).	FEMA HMGP, Local	1-5 years	Village of Lisbon/Claiborne Parish OHSEP	Tropical Cyclones, Flooding	New
L11: Dam/Levee Failure Working Group	Create a working group in order to assess the extent and determine the possible effects of a dam/levee failure.	FEMA HMGP, Local	1-5 years	Village of Lisbon/Claiborne Parish OHSEP	Flooding, Dam Failure, Levee Failure	New
L12: Drought Ordinances	Adopt ordinances requiring water-saving measures in time of drought.	FEMA HMGP, Local	1-5 years	Village of Lisbon/Claiborne Parish OHSEP	Drought	New
L13: Wildfire Ordinances	Strengthen penalties and improve enforcement capabilities of burn ban ordinances	FEMA HMGP, Local	1-5 years	Village of Lisbon/Claiborne Parish OHSEP	Wildfires	New

Action Prioritization

During the prioritization process, each jurisdiction and the steering committee considered the costs and relative benefits of each new action. Costs can usually be listed in terms of dollars, although at times it involves staff time rather than the purchase of equipment or services that can be readily measured in dollars. In most cases, benefits, such as lives saved or future damage prevented, are hard to measure in dollars, many projects were prioritized with these factors in mind.

In all cases, the jurisdictions concluded that the benefits (in terms of reduced property damage, lives saved, health problems averted and/or economic harm prevented) outweighed the costs for the recommended action items.

The steering committee met internally for mitigation action meetings to review and approve Claiborne Parish and the jurisdiction's mitigation actions. On-going actions, as well as actions which can be undertaken by existing parish or local staff without need for additional funding, were given high priority. The actions with high benefit and low cost, political support, and public support but require additional funding from parish or external sources were given medium priority. The actions that require substantial funding from external sources with relatively longer completion time were given low priority. There have been no changes in financial, legal and political priorities within the past 5 years, with the methodology and prioritization process remaining the same.

Claiborne Parish and the participating jurisdictions will implement and administer the identified actions based off of the proposed timeframes and priorities for each reflected in the portions of this section where actions are summarized. The inclusion of any specific action item in this document does not commit the parish to implementation. Each action item will be subject to availability of staff and funding. Certain items may require regulatory changes or other decisions that must be implemented through standard processes, such as changing regulations. This plan is intended to offer priorities based on an examination of hazards.

Appendix A: Planning Process

Purpose

The Hazard Mitigation Plan Update process prompts local jurisdictions to keep their hazard mitigation plan current and moving toward a more resilient community. The plan update builds on the research and planning efforts of previous plans while reviewing recent trends. The steering committee followed FEMA's hazard mitigation planning process per the FEMA Local Mitigation Planning Handbook. This planning process assured public involvement and the participation of interested agencies and private organizations. Documentation of the planning process for the updated plan is addressed in this section.

The Claiborne Parish Hazard Mitigation Plan Update

The Claiborne Parish Hazard Mitigation Plan Update process began in January 2016 with a series of meetings and collaborations between the contractor (SDMI) and the participating jurisdictions. Update activities were intended to give each jurisdiction the opportunity to shape the plan to best fit their community's goals. Community stakeholders and the general public were invited to attend and contribute information to the planning process during specific time periods or meetings.

Claiborne Parish includes the unincorporated areas of the Parish, as well as four incorporated municipalities that participated in the plan update process – the Village of Athens, the Town of Haynesville, the Town of Homer, and the Village of Lisbon. Claiborne Parish Office of Homeland Security and Emergency Preparedness (OHSEP) invited communities' representatives to meetings, where they supplied critical infrastructure data and reviewed work-in-progress for the plan update.

Similar to the development of the original Hazard Mitigation Plan, the role of the steering committee members during the plan update was to attend the planning meetings and provide valuable information on the parish, develop parts of the plan update, and review the results of research conducted by SDMI. Tasks completed by the steering committee include:

- Reviewing and revising the list of potential hazards included in the plan update
- Assembling a list of critical facilities, such as hospitals, police stations, and shelters
- Updating mitigation goals and objectives
- Determining prudent mitigation measures
- Prioritization of identified mitigation measures

The table below details the meeting schedule and purpose for the planning process:

Date	Meeting or Outreach	Location	Public Invited	Purpose
1/22/2016	Initial Coordination	Telephone/ Email	No	Discuss with Parish HM coordinator and any Steering Committee members expectations and requirements of the project.
2/17/2016	Kick-Off Meeting	Homer, LA	No	Discuss with the plan steering committee expectations and requirements of the project. Assign plan worksheets to jurisdictions.
10/5/2016	Risk Assessment Overview	Homer, LA	No	Discuss and review the risk assessment with the steering committee discuss and review expectations for public meeting.
10/5/2016	Public Meeting	Homer, LA	Yes	The public meeting allowed the public and community stakeholders to participate and provide input into the hazard mitigation planning process. Maps of the Claiborne Parish communities were provide for the meeting attendees to identify specific areas where localized hazards occur.
Ongoing	Public Survey Tool	Online	Yes	This survey asked participants about public perceptions and opinions regarding natural hazards in Claiborne Parish. In addition, we asked about the methods and techniques preferred for reducing the risks and losses associated with these hazards. Survey Results: https://www.surveymonkey.com/r/ClaibornePa rish
2 Week Period	Public Plan Review (Digital)		Yes	Parish Website and Claiborne Parish OHSEP

Planning

The plan update process consisted of several phases:

Phase	Month 1-2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9
Plan Revision								
Data Collection								
Risk Assessment								
Public Input								
Mitigation Strategy and Actions								
Plan Review by GOHSEP and FEMA								
Plan Adoption								
Plan Approval								

Coordination

The Claiborne Parish OHSEP oversaw the coordination of the 2016 Hazard Mitigation Plan Update Steering Committee during the update process. The Claiborne Parish OHSEP and participating jurisdictions were responsible for identifying members for the committee.

The Parish Director and SDMI were jointly responsible for inviting the Steering Committee and key stakeholders to all planned meetings and activities by email invitations and calendar invites. SDMI assisted the Parish Director with meeting notices, website and social media statements for notification to the media and general public for public meetings and public outreach activities.

SDMI was responsible for facilitating meetings and outreach efforts during the update process.

Neighboring Community, Local and Regional Planning Process Involvement

From the outset of the planning process, the Hazard Mitigation Team encouraged participation from a broad range of jurisdictional entities. The involvement of representatives from the city, state, and regional agencies provided diverse perspectives and mitigation ideas.

Formal participation in this plan includes but is not limited to the following activities:

- Participation in Hazard Mitigation Team meetings at the local and parish level
- Sharing local data and information

- Local action item development
- Plan document draft review
- Formal adoption of the Hazard Mitigation Plan document by each jurisdiction following provisional approval by The State of Louisiana and FEMA

The 2016 Hazard Mitigation Plan Update Steering Committee consisted of representatives from the following parish, municipal, or community stakeholders:

- Claiborne Parish Police Jury
- Claiborne Office of Homeland Security and Emergency Preparedness
- Village of Athens
- Town of Haynesville
- Town of Homer
- Village of Lisbon

The Webster Parish OHSEP Director was invited by the Claiborne Parish OHSEP via email invitation to participate in all meetings and activities as well in an effort to collaborate with neighboring communities. In addition, the participation of the GOHSEP Region 7 Coordinator during the process also contributed to neighboring community representation.

As part of the coordination and planning process, each jurisdiction was provided the State Required Hazard Mitigation Plan Update Worksheet. Jurisdictions with the capability to complete and return these worksheets returned them to assist with the 2016 update. The completed worksheets can be found in Appendix E – State Required Plan Update Worksheets.

Below is a detailed list of the 2016 Hazard Mitigation Plan Update Steering Committee:

Name	Title	Agency	Address	Phone
Dennis Butcher	Director	Claiborne OHSEP	507 W. Main St. Homer, LA 71040	(318) 927-9118
Cindy Singleton	Administrative Assistant	Claiborne OHSEP	507 W. Main St. Homer, LA 71040	(318) 927-9118
Dwayne Woodard	Secretary/Treasurer	Claiborne Parish Police Jury	507 W. Main St. Homer, LA 71040	(318) 927-2222
Jennifer Atkins Hay	Mayor	Village of Athens	5065 Athens Ave. Athens, LA 71003	(318) 258-3007
Beverlee G. Killgore	Mayor	Town of Haynesville	1909 Main St. Haynesville, LA 71038	(318) 624-1122
Danny "Roy" Lewis	Mayor	Town of Homer	419 W. Sixth St. Homer, LA 71040	(318) 927-6672
Wayne Tanner	Mayor	Village of Lisbon	P.O. Box 235 Lisbon, LA 71048	(318) 957-1159
Rick Crenshaw	Regional Coordinator	GOHSEP	7667 Independence Blvd Baton Rouge, LA	(225) 925-7500
Jenny Reynolds	OHSEP Director	Webster Parish OHSEP	410 Main St. Minden, LA 71055	(318) 464-5060

Program Integration

Local governments are required to describe how their mitigation planning process is integrated with other ongoing local and area planning efforts. This subsection describes Claiborne Parish programs and planning.

A measure of integration and coordination is achieved through the Hazard Mitigation Plan participation of steering committee members and community stakeholders, who administer programs such as floodplain management under the National Flood Insurance Program (NFIP) and parish planning and zoning and building code enforcement.

Opportunities to integrate the requirements of this Hazard Mitigation Plan into other local planning mechanisms will continue to be identified through future meetings of the parish and jurisdictions, and through the five-year review process described in the Plan Maintenance section. The primary means for integrating mitigation strategies into other local planning mechanisms will be through the revision, update, and implementation of each jurisdiction's individual city/town plans that require specific planning and administrative tasks (e.g. risk assessment, plan amendments, ordinance revisions, capital improvement projects, etc.).

The members of the Claiborne Parish Hazard Mitigation Steering Committee will remain charged with ensuring that the goals and strategies of new and updated local planning documents for their jurisdictions or agencies are consistent with the goals and actions of the Hazard Mitigation Plan, and will not contribute to increased hazard vulnerability in the parish. Existing plans, studies, and technical information were incorporated in the planning process. Examples include flood data from FEMA, the U.S. Army Corps of Engineers (USACE or Corps), and the U.S. Geological Survey. Much of this data was incorporated into the risk assessment component of the plan relative to plotting historical events and the magnitude of damages that occurred. The parish's 2005 Hazard Mitigation Plan was also used in the planning process. Other existing parish and jurisdiction data and plans reviewed and/or incorporated into the planning process include those listed below:

- Emergency Operations Plan
- State of Louisiana's Hazard Mitigation Plan
- Flood Insurance Rate Maps

Further information on other plans and capabilities reviewed can be found in the Capabilities Assessment, Section 3.

Meeting Documentation and Public Outreach Activities

The following pages contain information from the meetings and public outreach activities conducted during this Hazard Mitigation Plan Update for Claiborne Parish.

Meeting #1: Coordination Discussion

Date: January 22, 2016
Location: Email
Purpose: Discuss with the Hazard Mitigation Lead for the parish (OHSEP Director) the expectations and requirements of the Hazard Mitigation Plan Update process and to establish and initial project timeline.
Public Initiation: No
Invitees Included: Claiborne Parish OHSEP, SDMI Staff

Meeting #2: Hazard Mitigation Plan Update Kick-Off

Date: February 17, 2016

Location: Homer, Louisiana

Purpose: Discuss the expectations and requirements of the Hazard Mitigation Plan Update process and to establish and initial project timeline with the parish's Hazard Mitigation Plan Steering Committee. Assign each individual jurisdiction and the parish data collection for the plan update.

Public Initiation: No

Invitees Included:

Name	Title	Agency
Dennis Butcher	Director	Claiborne OHSEP
Cindy Singleton	Administrative Assistant	Claiborne OHSEP
Dwayne Woodard	Secretary/Treasurer	Claiborne Parish Police Jury
Jennifer Atkins Hay	Mayor	Village of Athens
Beverlee G. Killgore	Mayor	Town of Haynesville
Danny "Roy" Lewis	Mayor	Town of Homer
Wayne Tanner	Mayor	Village of Lisbon
Rick Crenshaw	Regional Coordinator	GOHSEP
Jenny Reynolds	OHSEP Director	Webster Parish OHSEP

Meeting #3: Risk Assessment Overview

Date: October 5, 2016

Location: Homer, LA

Purpose: Members of the Hazard Mitigation Plan Update Steering Committee were invited and were presented the results of the most recent risk assessment and an overview of the public meeting presentation during this overview. The assessment was conducted based on hazards identified during previous plans.

Public Initiation: No

Invitees Included:

Name	Title	Agency
Dennis Butcher	Director	Claiborne OHSEP
Cindy Singleton	Administrative Assistant	Claiborne OHSEP
Dwayne Woodard	Secretary/Treasurer	Claiborne Parish Police Jury
Jennifer Atkins Hay	Mayor	Village of Athens
Beverlee G. Killgore	Mayor	Town of Haynesville
Danny "Roy" Lewis	Mayor	Town of Homer
Wayne Tanner	Mayor	Village of Lisbon
Rick Crenshaw	Regional Coordinator	GOHSEP
Jenny Reynolds	OHSEP Director	Webster Parish OHSEP

Meeting #4: Public Meeting

Date: October 5, 2016

Location: Homer, LA

Purpose: The public meeting allowed the public and community stakeholders to participate and provide input into the hazard mitigation planning process. Maps of the Claiborne Parish communities were provided for the meeting attendees to identify specific areas where localized hazards occur.

Public Initiation: Yes

Invitees Included:

Name	Title	Agency
Dennis Butcher	Director	Claiborne OHSEP
Cindy Singleton	Administrative Assistant	Claiborne OHSEP
Dwayne Woodard	Secretary/Treasurer	Claiborne Parish Police Jury
Jennifer Atkins Hay	Mayor	Village of Athens
Beverlee G. Killgore	Mayor	Town of Haynesville
Danny "Roy" Lewis	Mayor	Town of Homer
Wayne Tanner	Mayor	Village of Lisbon
Rick Crenshaw	Regional Coordinator	GOHSEP
Jenny Reynolds	OHSEP Director	Webster Parish OHSEP

****Subject Matter Experts from parish government were present to answer specific questions about proposed projects from any citizens****

Meeting Public Notice

LSU STEPHENSON DISASTER MANAGEMENT INSTITUTE

CLAIBORNE PARISH OFFICE OF HOMELAND SECURITY & EMERGENCY PREPAREDNESS

MEETING NOTICE – October 5, 2016

Claiborne Parish to hold Public Meetings for Hazard Mitigation Plan Update

Homer, LA – Claiborne Parish Office of Homeland Security & Emergency Preparedness is in the process of updating the Claiborne Parish Hazard Mitigation Plan and are required to hold public meetings on the plan update. The Public meeting will be held on May 19th, in the Claiborne Parish Sheriff Trainign Facility located atPolice Jury Complex - 507 W Main St, Homer, LA 71040, from 2:00PM to 3:00PM.

Natural hazards have the potential to cause property loss, loss of life, economic hardship, and threats to public health and safety. While an important aspect of emergency management deals with disaster recovery (the actions that a community takes to repair damages), an equally important aspect of emergency management involves hazard mitigation - sustained actions taken to reduce long-term risk to life and property. They are things we do today to be more protected in the future. For example, elevating buildings in flood hazard areas, installing hurricane clips and storm shutters, relocating critical facilities out of hazard areas, using fire-resistant construction materials in wildfire hazard areas, etc. Hazard mitigation actions are essential to breaking the typical disaster cycle of damage, reconstruction, and repeated damage. With careful selection, they can be long-term, cost-effective means of reducing risk and helping to create a more sustainable and disaster-resilient community.

A hazard mitigation plan describes an area's vulnerability to the various natural hazards that are typically present, along with an array of actions and projects for reducing key risks. While natural disasters cannot be prevented from occurring, the continued implementation of mitigation strategies identified in the plan will gradually, but steadily, make our communities more sustainable and disaster-resilient.

The Disaster Mitigation Act of 2000 (DMA 2000) requires all states and local governments to have a hazard mitigation plan in order to be eligible to apply for certain types of federal hazard mitigation project grants. Hazard mitigation plans must be: (a) implemented on an ongoing basis, and (b) updated every five years to ensure that they remain applicable representations of local risk and locally-preferred risk reduction strategies.

Claiborne Parish is in the stages of updating its hazard mitigation plan. Public meeting will be held on October 3rd for all citizens interested in learning about and participating in discussions concerning the Claiborne Parish Hazard Mitigation Plan.

Residents of Claiborne Parish are asked to participate in a survey about public perceptions and opinions regarding natural hazards in the parish. The survey results will be used in the development of the plan. This short web-based survey can be found at https://www.surveymonkey.com/r/ClaiborneParish

For more information, please contact: Claiborne OHSEP Office

Stephenson Disaster Management Institute
Louisiana State University • 3000 Business Education Complex • Baton Rouge, Louisiana 70803

Outreach Activity #1: Public Opinion Survey

Date: Ongoing throughout planning process
Location: Web Survey
Public Initiation: Yes
No comments were collected through this activity.

Outreach Activity #2: Incident Questionnaire

Date: Public Meeting Activity
Location: Public Meeting
Public Initiation: Yes
The public was asked to provide information regarding which types of hazards concerned them the most. No public elected to participate in this activity, therefore no feedback was collected at this time.

Outreach Activity #3: Mapping Activities

Public meeting attendees were asked to identify areas on jurisdictional maps provided that were "problem areas". They were also asked to indicate any areas of new development. This activity gave the public an opportunity to interact with SDMI's GIS Mapping section, as well as provide valuable input on areas that may flood repeatedly during rain events that may not get reported to local emergency managers as significant events. However, because no members of the public attended, no comments were collected.

Public Plan Review Documentation

The Claiborne Parish Hazard Mitigation Draft Plan was placed on the Claiborne Parish website to collect comments and feedback from the public. This outreach provided the public an opportunity to comment on the plan during the drafting stage and prior to plan approval. No feedback or public comment was received during this time.

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Appendix B: Plan Maintenance

Purpose

The section of the Code of Federal Regulations (CFR) pertaining to Local Mitigation Plans lists five required components for each plan: a description of the planning process; risk assessments; mitigation strategies; a method and system for plan maintenance; and documentation of plan adoption. This section details the method and system for plan maintenance, following the CFR's guidelines that the Plan Update must include (1) "a section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle," (2) "a process by which local governments incorporated the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans", and (3) "discussion on how the community will continue public participation in the plan maintenance process."

Monitoring, Evaluating, and Updating the Plan

The Claiborne Parish Planning Committee will be responsible for monitoring, evaluating, and documenting the plan's progress throughout the year. Part of the plan maintenance process should include a system by which local governing bodies incorporate the HMP into the parish's comprehensive or capital improvement plans. This process provides for continued public participation through the diverse resources of the parish to help in achieving the goals and objectives of the plan. Public participation will be achieved through availability of copies of HMP in parish public library and parish website. This section describes the whole update process which includes the following:

- Responsible parties
- Methods to be used
- Evaluation criteria to be applied
- Scheduling for monitoring and evaluating the plan

Responsible Parties

Claiborne Parish has developed a method to ensure that a regular review and update of the Hazard Mitigation Plan occurs. This will be the responsibility of the steering committee, which consists of representatives from governmental organizations, local businesses, and private citizens, who will be involved in the process of monitoring, evaluating and updating the plan. All committee members in this plan will remain active in the steering committee.

Although the people filling the positions may change from year to year, the parish and its stakeholders will have representatives on the Steering Committee. The future Steering Committee will continue to be comprised of the same job functions as currently evident in the Steering Committee. However, the decision of specific job duties will be left to the Parish OHSEP Director to be assigned as deemed appropriate.

Methods for Monitoring and Evaluating the Plan and Plan Evaluation Criteria

Claiborne Parish has developed a method to ensure monitoring, evaluating, and updating of the HMP occurs during the five-year cycle of the plan. The planning committee will become a permanent body and will be responsible for monitoring, evaluating, and updating of the plan. The planning committee meeting will be held annually in order to monitor, evaluate, and update the plan. The Claiborne Parish OHSEP Director will be responsible for conducting the annual planning committee meetings.

The lead person of the agency responsible for the implementation of a specific mitigation action will submit a progress report to the Director at least thirty days prior to the planning committee meeting. The progress report will provide project status monitoring to include the following: whether the project has started; if not started, reason for not starting; if started, status of the project; if the project is completed, whether it has eliminated the problem; and any changes recommended to improve the implementation of the project etc. In addition, the progress report will provide status monitoring on the plan evaluation, changes to the hazard profile, changes to the risk assessment, and public input on the Hazard Mitigation Plan updates and reviews.

Progress on the mitigation action items and projects will be reviewed during the annual planning committee meeting. The criteria that would be utilized in the project review will include the following:

1) Whether the action was implemented and reasons, if the action was not implemented

2) What were the results of the implemented action

3) Were the outcomes as expected, and reasons if the outcomes were not as expected

4) Did the results achieve the stated goals and objectives

5) Was the action cost-effective

6) What were the losses avoided after completion of the project

7) In case of a structural project, did it change the hazard profile

In addition to monitoring and evaluating the progress of the mitigation plan actions and projects, the mitigation plan is required to be maintained and monitored annually, and updated every five years. The annual maintenance, monitoring and evaluation of the plan will be conducted in the annual planning committee meeting. The planning committee will review each goal and objective to determine their relevance to changing situations in the parish, as well as changes to state or federal policy, and to ensure that they are addressing current and expected conditions. The planning committee will evaluate if any change in hazard profile and risk in the parish occurred during the past year. In addition, the evaluation will include the following criteria in respect of plan implementation:

1) Any local staffing changes that would warrant inviting different members to the planning committee

2) Any new organizations that would be valuable in the planning process or project implementation need to be included in the planning committee

3) Are there any procedures that can be done more efficiently

4) Are there more ways to gain more diverse and widespread cooperation

5) Are there any different or additional funding sources available for mitigation planning and implementation

The HMP will be updated every five years to remain eligible for continued HMGP funding. The planning committee will be responsible for updating the HMP. The OHSEP Director will be the lead person for the HMP update. The HMP update process will commence at least one year prior to the expiration of the plan. The HMP will be updated after a major disaster if an annual evaluation of the plan indicate a substantial change in hazard profile and risk assessment in the parish.

Additionally, the public will be canvassed to solicit public input to continue Claiborne Parish's dedication to involving the public directly in review and updates of the Hazard Mitigation Plan. Meetings will be scheduled as needed by the plan administrator to provide a forum for which the public can express their concerns, opinions, and/or ideas about the plan. The plan administrator will be responsible for using parish resources to publicize the annual public meetings and maintain public involvement through the newspapers, radio, and public access television channels. Copies of the plan will be catalogued and kept at all appropriate agencies in the city government, as well as at the Public Library.

The review by the steering committee and input from the public will determine whether a plan update is needed prior to the required five-year update.

Annual Reports on the progress of actions, plan maintenance, monitoring, evaluation, incorporation into existing planning programs, and continued public involvement will be documented at each annual meeting of the committee and kept by the Parish OHSEP Director. The Steering Committee will work together as a team, with each member sharing responsibility for completing the monitoring, evaluation and updates. It is the responsibility of the Parish OHSEP Director for contacting committee members, organizing the meeting and providing public noticing for the meeting to solicit public input.

2016 Plan Version Plan Method and Schedule Evaluation

For the current plan update, the previously approved plan's method and schedule were evaluated to determine if the elements and processes involved in the required 2016 update. Based on this analysis, the method and schedule were deemed to be acceptable, and nothing was changed for this update.

Incorporation into Existing Planning Programs

It is and has been the responsibility of the Claiborne Parish Hazard Mitigation Plan Steering Committee and participating jurisdictions to determine additional implementation procedures when appropriate. This may include integrating the requirements of the Claiborne Parish Hazard Mitigation Plan into each jurisdiction's planning documents, processes, or mechanisms as follows:

- Ordinances, Resolutions, Regulations
- Floodplain Ordinances
- Capital Improvements Plan
- Economic Development Plan
- Emergency Operations Plan
- Continuity of Operations Plan
- Transportation Plan
- Stormwater Management Plan

Opportunities to integrate the requirements of this plan into other local planning mechanisms will continue to be identified through future meetings of the Claiborne Parish Hazard Mitigation Steering Committee and through the five-year review process described herein. The primary means for integrating mitigation strategies into other local planning mechanisms will be through the revision, update and implementation of each jurisdiction's individual plans that require specific planning and administrative tasks (e.g. risk assessment, plan amendments, ordinance revisions, capital improvement projects, etc.). The members of the steering committee will meet with Department Heads to discuss what should be included in the changes that are necessary before the changes are introduced to the city council or police jury meetings. Steering committee members will remain charged with ensuring that the goals and strategies of new and updated

local planning documents for their jurisdictions or agencies are consistent with the goals and actions of the Claiborne Parish Hazard Mitigation Plan, and will not contribute to increased hazard vulnerability within the parish.

During the planning process for new and updated local planning documents at the parish and jurisdiction level, such as a risk assessment, comprehensive plan, capital improvements plan, or emergency operations plan, the jurisdictions will provide a copy of the Parish Hazard Mitigation Plan to the appropriate parties and recommend that all goals and strategies of new and updated local planning documents are consistent with and support the goals of the Parish Hazard Mitigation Plan and will not contribute to increased hazards.

Although it is recognized that there are many possible benefits to integrating components of this plan into other parish and jurisdiction planning mechanisms, the development and maintenance of this stand-alone Hazard Mitigation Plan is deemed by the steering committee to be the most effective and appropriate method to ensure implementation of parish and local hazard mitigation actions.

On behalf of the jurisdictions of the Village of Athens, Town of Haynesville, Town of Homer, and Village of Lisbon, Claiborne Parish has the authority to incorporate the contents of the Hazard Mitigation Plan into the parish's existing regulatory mechanisms. Agreements are currently in place with jurisdictions to allow for the parish incorporation mechanisms to take place.

The following parish and local plans incorporate requirements of this HMP Update as follows through steering committee member and jurisdiction representation throughout the planning process as described above:

Claiborne Unincorporated
Capital Improvements Plan/Update as Needed/Claiborne Parish Police Jury
Local Emergency Operations Plan/Updated as needed/ Claiborne OHSEP
Continuity of Operations Plan/ Updated as needed/ Claiborne OHSEP
Transportation Plan/ Update as Needed/Claiborne Parish Police Jury
Stormwater Management Plan/ Update as Needed/Claiborne Parish Police Jury

Village of Athens
Capital Improvements Plan/Update as Needed/Claiborne Parish Police Jury and Mayor of Athens
Local Emergency Operations Plan/Updated as needed/ Claiborne OHSEP and Mayor of Athens

Town of Haynesville
Capital Improvements Plan/Update as Needed/Claiborne Parish Police Jury and Mayor of Haynesville
Economic Development Plan/ Update as Needed/Claiborne Parish Police Jury and Mayor of Haynesville
Local Emergency Operations Plan/Updated as needed/ Claiborne OHSEP and Mayor of Haynesville

Town of Homer
Capital Improvements Plan/Update as Needed/Claiborne Parish Police Jury and Mayor of Homer
Local Emergency Operations Plan/Updated as needed/ Claiborne OHSEP and Mayor of Homer

Village of Lisbon
Capital Improvements Plan/Update as Needed/Claiborne Parish Police Jury and Mayor of Lisbon
Local Emergency Operations Plan/Updated as needed/ Claiborne OHSEP and Mayor of Lisbon

Continued Public Participation

Public participation is an integral component of the mitigation planning process and will continue to be essential as this plan evolves over time. Significant changes or amendments to the plan require a public hearing prior to any adoption procedures. Other efforts to involve the public in the maintenance, evaluation, and revision process will be made as necessary. These efforts will include at least one of the following:

- Advertising meetings of the Mitigation Committee in the local newspaper, public bulletin boards, and/or city and county office buildings
- Designating willing and voluntary citizens and private sector representatives as official members of the Mitigation Committee
- Utilizing local media to update the public of any maintenance and/or periodic review activities taking place
- Utilizing city and parish web sites to advertise any maintenance and/or periodic review activities taking place
- Keeping copies of the plan in appropriate public locations

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Appendix C: Essential Facilities

Claiborne Parish Essential Facilities – All Jurisdictions

Claiborne Unincorporated Essential Facilities											
Type	**Name**	**Drought***	**Extreme Heat***	**Flooding**	**Hail**	**Lightning**	**Wind**	**Tornadoes**	**Tropical Cyclones**	**Wildfires**	**Winter Storms***
Fire and Rescue	Claiborne Fire Department				X	X	X	X	X		
	Claiborne Fire Department				X	X	X	X	X		
	Claiborne Fire Department				X	X	X	X	X		
	Claiborne Fire Department				X	X	X	X	X		
	Claiborne Parish Fire District 4				X	X	X	X	X	X	
	Claiborne Parish Fire District 4 Station				X	X	X	X	X		
	Claiborne Parish Fire District 4 Station				X	X	X	X	X		
	Claiborne Parish Fire District 5 - Gilgal Station			X	X	X	X	X	X		
	Claiborne Parish Fire District 5 - Harris Station				X	X	X	X	X		
	Claiborne Parish Fire District 5 - Hurricane Station				X	X	X	X	X		
	Claiborne Parish Fire District 5 - Lake Claiborne Station				X	X	X	X	X	X	

	Claiborne Parish Fire District 5 - St. John Station				X	X	X	X	X		
	Claiborne Parish Fire District 6				X	X	X	X	X		
	Claiborne Parish Fire District 6				X	X	X	X	X		
	Claiborne Parish Fire District 6 - Bailey Town Station				X	X	X	X	X		
	Claiborne Parish Fire District 6 - Gordon Station				X	X	X	X	X		
	Claiborne Parish Fire District 6 - Hebron Station				X	X	X	X	X		
	Claiborne Parish Fire District 6 - Summerfield Station				X	X	X	X	X		
	Junction City Fire Department				X	X	X	X	X	X	
Government	Claiborne Parish Highway Department			X	X	X	X	X	X	X	
	Junction City City Hall			X	X	X	X	X	X	X	
	Junction City Mayor's Office			X	X	X	X	X	X	X	
	LA Department of Ag and Forestry			X	X	X	X	X	X	X	
Law Enforcement	Caney Ranger Station				X	X	X	X	X	X	
	Union Parish Sheriff's				X	X	X	X	X	X	

	Department Substation										
Corrections	Claiborne Parish Detention Center			X	X	X	X	X	X		
	David Wade Correctional Facility				X	X	X	X	X		
Public Health	Claiborne Parish Regional Health Center				X	X	X	X	X		
Schools	Claiborne Academy				X	X	X	X	X		
	Mt. Olive Christian Middle School				X	X	X	X	X		
	Summerfield High School				X	X	X	X	X		

Athens Essential Facilities											
Type	**Name**	**Drought***	**Extreme Heat***	**Flooding**	**Hail**	**Lightning**	**Wind**	**Tornadoes**	**Tropical Cyclones**	**Wildfires**	**Winter Storms***
Fire and Rescue	Claiborne Parish Fire District 5 - Athens Station				X	X	X	X	X	X	
Government	Athens Town Hall				X	X	X	X	X		
Schools	Athens High School				X	X	X	X	X	X	
	Mt. Olive Christian School				X	X	X	X	X	X	

Haynesville Essential Facilities											
Type	Name	Drought*	Extreme Heat*	Flooding	Hail	Lightning	Wind	Tornadoes	Tropical Cyclones	Wildfires	Winter Storms*
Fire and Rescue	Claiborne Parish Fire District 3				X	X	X	X	X	X	
	Claiborne Parish Fire District 3 Training Center				X	X	X	X	X	X	
Government	Haynesville City Hall				X	X	X	X	X	X	
	Haynesville Magistrate Court and Justice of the Peace				X	X	X	X	X	X	
	Haynesville Water				X	X	X	X	X	X	
Law Enforcement	Claiborne Parish Sheriff's Office				X	X	X	X	X	X	
	Haynesville Police Department				X	X	X	X	X	X	
Schools	Haynesville Elementary				X	X	X	X	X	X	
	Haynesville High School				X	X	X	X	X	X	

Homer Essential Facilities											
Type	Name	Drought*	Extreme Heat*	Flooding	Hail	Lightning	Wind	Tornadoes	Tropical Cyclones	Wildfires	Winter Storms*
Fire and Rescue	Homer Fire Department				X	X	X	X	X	X	
Government	Claiborne Parish Assessor's Office				X	X	X	X	X	X	
	Claiborne Parish Courthouse				X	X	X	X	X	X	
	Claiborne Parish Highway Department				X	X	X	X	X	X	
	Claiborne Parish Office Complex and Police Jury				X	X	X	X	X	X	
	Claiborne Parish Office of Community Services				X	X	X	X	X	X	
	Claiborne Parish Office of Family Support				X	X	X	X	X	X	
	Claiborne Parish School Board Special Service				X	X	X	X	X	X	
	Claiborne School Board				X	X	X	X	X	X	
	Claiborne School Board Annex				X	X	X	X	X	X	
	Department of Motor Vehicles				X	X	X	X	X	X	
	District Attorney's Office				X	X	X	X	X	X	
	DOTD Maintenance				X	X	X	X	X	X	
	Homer City Hall				X	X	X	X	X	X	

Law Enforcement	Claiborne Parish Sheriff's Office				X	X	X	X	X		
Public Health	Claiborne Parish Health Center				X	X	X	X	X	X	
	Homer Memorial Hospital				X	X	X	X	X	X	
Schools	Homer Elementary School				X	X	X	X	X	X	
	Homer High School				X	X	X	X	X		

Lisbon Essential Facilities											
Type	**Name**	**Drought***	**Extreme Heat***	**Flooding**	**Hail**	**Lightning**	**Wind**	**Tornadoes**	**Tropical Cyclones**	**Wildfires**	**Winter Storms***
Fire and Rescue	Claiborne Fire Department				X	X	X	X	X		

* There are no critical facilities vulnerable to the hazard.

Appendix D: Plan Adoption

APA Letter from FEMA

Placeholder for Jurisdiction and Parish Adoptions

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Appendix E: State Required Worksheets

During the planning process (Appendix A) the Hazard Mitigation Plan Update Steering Committee was provided state-required plan update process worksheets to be filled out by each jurisdiction. The worksheets were presented at the Kickoff Meeting by the contractor as tools for assisting in the update of the Hazard Mitigation Plan. The plan update worksheets allowed for collection of information such as planning team members, community capabilities, critical infrastructure and vulnerable populations and NFIP information. The following pages contain documentation of the worksheets.

Mitigation Planning Team

Name	Title	Agency	Address	Phone
Dennis Butcher	Director	Claiborne OHSEP	507 W. Main St. Homer, LA 71040	(318) 927-9118
Cindy Singleton	Administrative Assistant	Claiborne OHSEP	507 W. Main St. Homer, LA 71040	(318) 927-9118
Dwayne Woodard	Secretary/Treasurer	Claiborne Parish Police Jury	507 W. Main St. Homer, LA 71040	(318) 927-2222
Jennifer Atkins Hay	Mayor	Village of Athens	5065 Athens Ave. Athens, LA 71003	(318) 258-3007
Beverlee G. Killgore	Mayor	Town of Haynesville	1909 Main St. Haynesville, LA 71038	(318) 624-1122
Danny "Roy" Lewis	Mayor	Town of Homer	419 W. Sixth St. Homer, LA 71040	(318) 927-6672
Wayne Tanner	Mayor	Village of Lisbon	P.O. Box 235 Lisbon, LA 71048	(318) 957-1159
Rick Crenshaw	Regional Coordinator	GOHSEP	7667 Independence Blvd Baton Rouge, LA	(225) 925-7500
Jenny Reynolds	OHSEP Director	Webster Parish OHSEP	410 Main St. Minden, LA 71055	(318) 464-5060

Capability Assessment

See Section 3: Capability Assessment

Building Inventory

Critical Facility (If Yes, Mark X)	Name of Building	Purpose of Building	Address	City	Latitude	Longitude	Assessed Value	Date Built	Construction Type
Claiborne									
	Summerfield High School	Education	4200 Louisiana 9	Summerfield	32.91357143	-92.82823591	2,212,300	1954	Reinforced Masonry
X	Claiborne Parish Fire District 6 - Summerfield Station	Fire Search and Rescue	Nearby: 1119 Louisiana 2 Alternate	Summerfield	32.9124774	-92.82834599	718,800	1970	Concrete
X	Claiborne Parish Fire District 6 - Hebron Station	Fire Search and Rescue	Nearby: Hebron Road	Hebron	32.8811512	-92.79520696	99,400	1990	Metal
X	Junction City Fire Department	Fire Search and Rescue	210 S Main St	Junction City	33.01412889	-92.72515053	118,800	1990	Wood
X	Claiborne Parish Fire District 6	Fire Search and Rescue	Nearby: 1301-1373 New Home Road	Summerfield	32.98992971	-92.79430441	112,000	1990	Metal
X	Claiborne Parish Fire District 6	Fire Search and Rescue	Nearby: 750-798 John Kelly Road	Summerfield	32.9879389	-92.73966812	117,530	1990	Metal
X	Junction City City Hall	Civil Government		Junction City	33.01416316	-92.72551037	95,000	1999	Wood
X	Junction City Mayor's Office	Civil Government		Junction City	33.01416994	-92.7253832	41,600	1970	Reinforced Masonry
Athens									
	Athens High School	Education	15520 Louisiana 9	Athens	32.64495086	-93.01888126	Privately Owned	1930	Reinforced Masonry
	Mt. Olive Christian School	Education	15349 Louisiana 9	Athens	32.65048329	-93.01989083	Privately Owned	1930	Reinforced Masonry
	Mt. Olive Christian Middle School	Education	15349 Louisiana 9	Athens	32.65408957	-92.99327463	Privately Owned	1930	Reinforced Masonry
X	Claiborne Parish Fire District 5 - Hurricane Station	Fire Search and Rescue	Nearby: 999 Willett Road	Athens	32.61637307	-92.93973099	132,370	1980	Metal
X	Claiborne Parish Fire District 5 - Athens Station	Fire Search and Rescue	Nearby: 15327 Louisiana 9	Athens	32.6516564	-93.02091442	264,320	1980	Metal

X	Claiborne Parish Fire District 5 - St. John Station	Fire Search and Rescue	Nearby: Saint John Road	Athens	32.7169023	-93.00041869	120,470	1980	Metal
X	Claiborne Parish Fire District 5 - Gilgal Station	Fire Search and Rescue	Nearby: 2900-3298 Old Arcadia Road	Athens	32.60941332	-93.14819887	121,520	1980	Metal
X	Claiborne Parish Fire District 5 - Harris Station	Fire Search and Rescue	Nearby: Fincher Creek Road	Athens	32.69122339	-93.12152877	107,590	1980	Metal
X	Athens Town Hall	Civil Government	1819 South Railroad Avenue	Athens	32.65175433	-93.02092988	446,400	1970	Concrete
Haynesville									
	Haynesville Elementary	Education		Haynesville	32.95272465	-93.13334522	86,300	1923	Reinforced Masonry
	Haynesville High School	Education	9930 U.S. 79	Haynesville	32.95816861	-93.13690568	717,600	1923	Reinforced Masonry
X	Claiborne Parish Fire District 6 - Gordon Station	Fire Search and Rescue	Nearby: Louisiana 2 Alternate	Haynesville	32.98683249	-93.02993657	250,000	1964	Reinforced Masonry
X	Claiborne Parish Fire District 6 - Bailey Town Station	Fire Search and Rescue	Nearby: Pierce Lane	Haynesville	32.9733816	-92.91416519	104,860	1970	Metal
X	Haynesville Police Department	Law Enforcement	10053 Hwy. 79	Haynesville	32.96211731	-93.13942244	432,720	1929	Reinforced Masonry
X	Haynesville Water	Civil Government	Nelson Drive	Haynesville	32.96557933	-93.14196583	686,500	1970	Metal
X	Haynesville City Hall	Civil Government	Nearby: Louisiana 534	Haynesville	32.96091393	-93.14172797	642,720	1950	Reinforced Masonry
	Haynesville Magistrate Court & Justice of Peace	Civil Government	Nearby: U.S. 79	Haynesville	32.9620551	-93.13939268	432720	1929	Reinforced Masonry
	Homer Memorial Hospital	Hospitals and Medical Centers	Nearby: 9703 U.S. 79	Haynesville	32.95048398	-93.12381809	4,993,800	1970	Concrete
	David Raines Community Health Center	Hospitals and Medical Centers	1953 Main Street	Haynesville	32.96197686	-93.13837301	605,600	NA	Reinforced Masonry
	Claiborne Parish Library	Public Library	1919 Main Street	Haynesville			300,000	1929	Reinforced Masonry
	Claiborne Parish Fair Barn	Recreation		Haynesville	32.962143	-93.142058	1,326,570	NA	Metal

	Haynesville Community Center	Recreation	2545 Stadium Drive	Haynesville	32.58 3N	93.7 50W	NA	1950	Reinforced Masonry
X	Haynesville Fire Department/Training Room	Fire Search and Rescue	1833 Sherman	Haynesville	32.57 45N	93.8 26W	NA	1985	Reinforced Masonry
X	Haynesville Fire Department	Fire Search and Rescue	1846 Sherman	Haynesville			NA	1985	Reinforced Masonry
	Haynesville Sewer Plant	Civil Government	2777 Burnham Drive	Haynesville	32.57 60N	93.8 11W	NA	NA	Metal
Homer									
	Homer High School	Education	1008 North Main	Homer	32.79282429	-93.06782169	1,701,625	1926	Reinforced Masonry
	Homer Elementary School	Education	624 Pelican Drive	Homer	32.79554042	-93.06682113	Included in High School Total	1948	Metal
	Homer Fire Dept.	Fire Search and Rescue	Nearby: 601-651 South 2nd Street	Homer	32.7902195	-93.05584632	1,401,840	NA	Concrete
X	Claiborne Fire Dept.	Fire Search and Rescue	Nearby: 6490 U.S. 79	Homer	32.86943519	-93.08079174	50,000	1990	Metal
X	Claiborne Fire Dept.	Fire Search and Rescue	Nearby: 6828 Louisiana 9	Homer	32.8646996	-92.92621665	50,000	1990	Metal
X	Claiborne Fire Dept.	Fire Search and Rescue	Nearby: Par Road 231	Homer	32.79632666	-92.86569835	50,000	1990	Metal
X	Claiborne Fire Dept.	Fire Search and Rescue	Nearby: 17560-17592 Louisiana 2	Homer	32.80010101	-92.76213335	50,000	1990	Metal
X	Claiborne Parish Fire District 3	Fire Search and Rescue	670 Par Road 244	Homer	32.9619749	-93.13988294	50,000	1990	Metal
X	Claiborne Parish Fire District 3 Training Center	Fire Search and Rescue	670 Par Road 244	Homer	32.96230131	-93.14029032	50,000	1990	Metal
X	Claiborne Parish Fire District 5 - Lake Claiborne Station	Fire Search and Rescue	Nearby: 4101-4107 Louisiana 146	Homer	32.71919858	-92.93650823	50,000	1990	Metal
X	Claiborne Parish Fire District 4	Fire Search and Rescue	3288 U.S. 79	Homer	32.85057102	-93.16488276	50,000	1990	Metal
	Caney Ranger Station	Law Enforcement	Nearby: 3288 U.S. 79	Homer	32.75265528	-93.08291175	990,900	NA	Concrete
X	Claiborne Parish Sheriff's Office	Law Enforcement	Nearby: North 2nd	Homer	32.79296188	-93.05491054	250,000	1964	Reinforced Masonry

	David Wade Correctional Facility	Prisons and Correctional Facilities	Nearby: Par Road 244	Homer	32.90325841	-93.01958269	NA	1980	Concrete
	David Wade Correctional Facility Firing Range	Prisons and Correctional Facilities	Nearby: Firing Range	Homer	32.90693079	-93.03856881	NA	1980	Concrete
	Claiborne Parish Detention Center	Prisons and Correctional Facilities	Nearby: State Route 520	Homer	32.85491707	-93.04511182	6,840,000	NA	Concrete
X	Homer City Hall	Civil Government	400 East Main Street	Homer	32.79084932	-93.05433827	1,591,440	NA	Reinforced Masonry
	Claiborne Parish Library	Civil Government	901 Edgewood	Homer			1,160,000	NA	Reinforced Masonry
	Claiborne Parish Highway Department	Civil Government	4070 U.S. 79	Homer	32.77785669	-93.06938533	338,400	NA	Concrete
	Claiborne Parish Assessor's Office	Civil Government	508 East Main Street	Homer	32.79148653	-93.054396	629,280	NA	Concrete
	Claiborne Parish Courthouse	Civil Government	Nearby: 512 West Main Street	Homer	32.79156701	-93.0551357	1,975,000	NA	Wood
X	Claiborne Parish Office Complex and Police Jury	Civil Government	Nearby: 507 North Main	Homer	32.79147503	-93.05580259	192,780	NA	Concrete
	Claiborne Parish School Board Special Service	Civil Government	415 East Main Street	Homer	32.79359347	-93.05492956	492,000	NA	Concrete
	Claiborne Parish Office of Family Support	Civil Government	622 East 2nd Street	Homer	32.79302682	-93.05340197	870,120	NA	Concrete
	Claiborne Parish Office of Community Services	Civil Government	621 West Main Street	Homer	32.79090163	-93.0568413	347,520	NA	Reinforced Masonry
	Claiborne School Board	Civil Government	Nearby: South 2nd Street	Homer	32.79054654	-93.05485568	14,000	NA	Concrete
	Claiborne School Board Annex	Civil Government	Nearby: South 2nd Street	Homer	32.79063852	-93.05440343	2100	NA	Concrete
	Claiborne Parish Highway Department	Civil Government	4070 U.S. 79	Homer	32.80880157	-93.0511507	125,228	NA	Metal
	Louisiana Department of	Civil Government	Nearby: U.S. 79	Homer	32.75977131	-93.07473034	2,000,000	2000	Metal

	Agriculture and Forestry								
	Homer Memorial Hospital	Hospitals and Medical Centers	620 East College	Homer	32.79407478	-93.06167615	7,500,000	NA	Concrete
	WK Claiborne Regional Health Center	Hospitals and Medical Centers	Nearby: 120-170 Morris Circle	Homer	32.81287098	-93.05508853	2,332,920	NA	Concrete
	Claiborne Parish Health Center	Hospitals and Medical Centers	3680 U.S. 79	Homer	32.79330423	-93.05526646	450,000	NA	Concrete
	Homer Airport	Airports and Airfields	Nearby: 500-598 Parish Road 200	Homer	32.78894904	-93.00424919	352,560	NA	Reinforced Masonry
	Claiborne Electric Building	Criminal Investigations	300 La. Hwy. 146	Homer			1,300,000	NA	Reinforced Masonry
	Claiborne Parish Library	Public Library	901 Edgewood	Homer			3,435,000	1951	Reinforced Masonry
Lisbon									
X	Lisbon Mayor's Office	Civil Government	131 Hebron Road	Lisbon			100,000	na	concrete

Vulnerable Populations

Vulnerable Populations Worksheet

Claiborne Parish

Name	Street	City	Zip Code	Latitude	Longitude
All Hospitals (Private or Public)					
Homer Memorial Hospital	Nearby: 9703 U.S. 79	Haynesville	71038	32.95048398	-93.12381809
David Raines Community Health Center	1953 Main Street	Haynesville	71038	32.96197686	-93.13837301
Homer Memorial Hospital	620 East College	Homer	71040	32.79407478	-93.06167615
WK Claiborne Regional Health Center	Nearby: 120-170 Morris Circle	Homer	71040	32.81287098	-93.05508853
Claiborne Parish Health Center	3680 U.S. 79	Homer	71040	32.79330423	-93.05526646
Nursing Homes (Private or Public)					
Presbyterian Village	3700 Hwy. 79	Homer	71040		
Claiborne Manor	6942 Hwy. 79	Homer	71040	32.81	-93.06
The Heritage	Nearby: 265 Zion Drive	Haynesville	71038	32.95666688	-93.13763618
The Heritage Annex	Nearby: 1841-1851 Sale Drive	Haynesville	71038	32.95715867	-93.13765563
Mobile Home Parks					
Unknown Trailer Park	Nearby: Louisiana 146	Homer	71040	32.72390541	-92.95097716
Pleasure Pointe RV Resort	775 Peterson Road	Homer	71040	32.73765618	-92.94435462
Green Acres	Nearby: 400-418 King	Homer	71040	32.7917283	-93.04319241
Lake Claiborne RV Park	155 Indian Head Point	Homer	71040	32.79177387	-92.97980189
Unknown Trailer Park	Nearby: 2300-2798 Bailey Town Road	Haynesville	71038	32.9828803	-92.89461013
David Wade Correctional Facility Bachelor Officer's Quarters	Nearby: Par Road 244	Haynesville	71040	32.90591625	-93.01984163
Unknown Trailer Park	Nearby: 77-9449 Highway 79	Haynesville	71038	32.94462847	-93.12128209

National Flood Insurance Program (NFIP)

Claiborne Parish

ELEMENT F: STATE REQUIREMENT

National Flood Insurance Program (NFIP)

Claiborne Parish

	Claiborne Unincorporated	Athens	Haynesville	Homer	Lisbon
Insurance Summary					
How many NFIP policies are in the community? What is the total premium and coverage?	87 Policies, $65,387 Premium, $15,694,800 Coverage	No Policies	2 Policies, $740 Premium, $700,000 Coverage	7 Policies, $24,348 Premium, $2,212,900 Coverage	No Policies
How many claims have been paid in the community? What is the total amount of paid claims? How many of the claims were for substantial damage?	45 Claims, $770,912 Paid	None	5 Claims, $96,981 Paid	16 Claims, $192,006 Paid	No Policies
How many structures are exposed to flood risk with in the community?	Unknown	none	Unknown	Unknown	None
Describe any areas of flood risk with limited NFIP policy coverage.	None	None	None	None	None
Staff Resources					
Is the Community FPA or NFIP Coordinator certified?	Yes	N/A	No	No	N/A
Is flood plain management an auxiliary function?	Yes	N/A	Yes	Yes	N/A

Provide an explanation of NFIP administration services (e.g., permit review, GIS, education or outreach, inspections, engineering capability)	Education and outreach, inspections, permit review	Education and outreach, inspections, permit review	Education and outreach, inspections, permit review	Preliminary	Education and outreach, inspections, permit review
What are the barriers to running an effective NFIP program in the community, if any?	Cost, Staffing	Cost, Staffing	Cost, Staffing	Cost	Cost, Staffing
Compliance History					
Is the community in good standing with the NFIP?	Yes	N/A	Yes	Yes	N/A
Are there any outstanding compliance issues(i.e., current violations)?	No	N/A	No	No	N/A
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact(CAC)?	2015	Unknown	Unknown	2015	Unknown
Is a CAV or CAC scheduled or needed? If so when?	No	No	No	N/A	No
Regulation					
When did the community enter the NFIP?	1/1/1992	Not in NFIP	3/30/1982	9/3/1980	Not in NFIP
Are the FIRMs digital or paper?	Paper	N/A	Both	Paper	N/A
Do floodplain development regulations meet or exceed FEMA or State minimum requirements? If so, in what ways?	Yes	N/A	Meet Minimums	Yes	N/A
Community Rating System (CRS)					
Does the community participate in CRS?	No	No	No	No	No
What is the community's CRS Class Ranking?	N/A	N/A	N/A	N/A	N/A
Does the plan include CRS planning requirements?	N/A	N/A	N/A	N/A	N/A