

NATCHITOCHEES

PARISH HAZARD MITIGATION

UPDATE – 2016



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NATCHITOCHEES PARISH HAZARD MITIGATION PLAN UPDATE

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Natchitoches Parish



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Natchitoches Parish
 Village of Ashland
 Town of Campti
 Village of Clarence
 Village of Goldonna
 Village of Natchez
 City of Natchitoches
 Village of Powhatan
 Village of Provencal
 Village of Robeline

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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 Natchitoches 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 Natchitoches 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 Natchitoches Parish Hazard Mitigation Plan is a multi-jurisdictional plan that includes the unincorporated areas of the parish, as well as the following jurisdictions which participated in the planning process:

- Village of Ashland
- Town of Campti
- Village of Clarence
- Village of Goldonna
- Village of Natchez
- City of Natchitoches
- Village of Powhatan
- Village of Provencal
- Village of Robeline

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 Natchitoches 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

Natchitoches Parish is located in the central northwest region of Louisiana, approximately 65 miles southeast of the City of Shreveport and 45 miles northwest of the City of Alexandria. It is bordered by Bienville Parish to the north, Winn and Grant Parishes to the east, Red River, DeSoto, and Sabine Parishes to the west, and Rapides and Vernon Parishes to the south. One of the largest parishes in the state, Natchitoches Parish consists of an area of 1,299 square miles, or 831,360 acres.

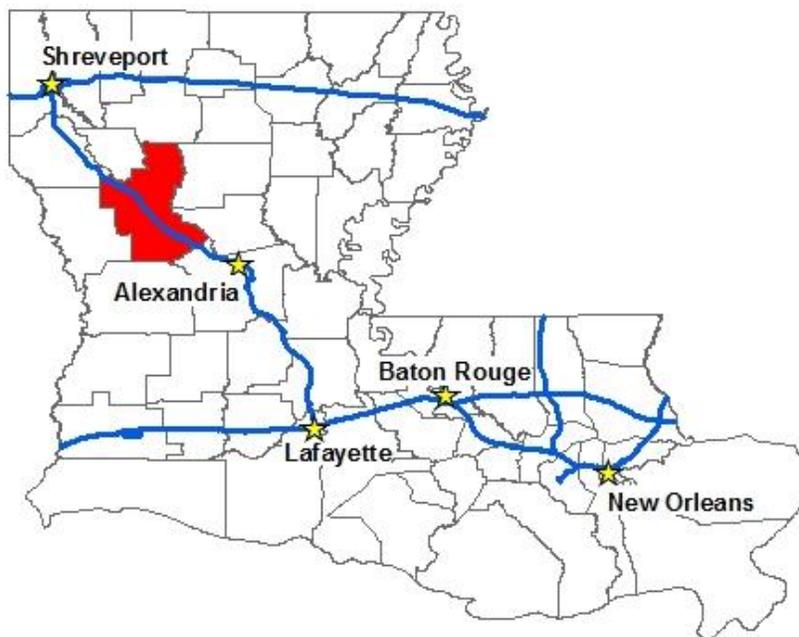


Figure 1-1: Location of Natchitoches Parish within the State of Louisiana

Natchitoches Parish is located almost entirely within the Red River Basin. The topography consists of rolling hills in the western portion of the parish and the broad alluvial valley of the Red River in the eastern portion. The flooding that does occur in this parish is primarily experienced in the alluvial valley, where drainage is poor and where most of the population centers and agricultural development is located. There are two main drainage outlets for Natchitoches Parish. Bayou Pierre drains the northern part of the Parish and Lower Cane River drains the southern part of the Parish. In addition, the City of Natchitoches has a floodgate-controlled drainage outlet into the Red River.

The main transportation arteries through Natchitoches Parish are Interstate I-49 and U.S. Highways 71 and 84, as well as a number of State Highways. I-49 stretches the entire length of the Parish. U.S. Highway 71 runs from the northwest to the southeast corner of the parish along the Red River. It is a major artery to the large metropolitan areas of Shreveport to the north and Baton Rouge and New Orleans to the south. U. S. Highway 84 connects to State Highway 1 and U.S. Highway 71, but separates to run eastward toward the Mississippi River. Both highways are well used and are maintained for commercial traffic.

Natchitoches Parish is located in Louisiana Governor’s Office of Homeland Security and Emergency Preparedness (GOHSEP) Region 6.

As noted above, Natchitoches Parish is located in the central region of Louisiana.



Figure 1-2: Louisiana Homeland Security Regions

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

	2010 Census	2014 Census	Current Year (If Available)	Percent Change 2010 - 2014
Total Population	39,566	39,166	—	-1.00%
Population Density (Pop/Sq Mi)	31.6	—	—	—
Total Households	18,587	18,770	—	—

Economy

This area has seen growth primarily in manufacturing and distribution. Forest production adds over \$30 million to the parish economy every year. Animal production is also a large industry for the parish. Natchitoches leads the state in broiler production and is third in cattle production. Other animals account for over \$3 million to the parish economy each year. Principal crops of the parish include corn, cotton, grain, rice, soybeans, and wheat. Industry data for business patterns in Natchitoches Parish can be found in the table below:

Table 1-2: Business Patterns in Natchitoches 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	1,718	140	36,706
Manufacturing	2,434	17	110,941
Health Care and Social Assistance	1,790	102	52,010
Mining, Quarrying, Oil and Gas Extraction	79	8	2,902
Transportation and Warehousing	307	31	13,954
Construction	363	58	12,449
Administration and Support and Waste Management and Remediation Services	627	28	22,480
Real Estate and Rental and Leasing	184	43	4,834
Wholesale Trade	194	29	6,602
Other Services (except Public Administration)	584	87	10,055
Accommodation and Food Services	1,549	81	18,003
Financial and Insurance	250-499	69	14,510
Professional, Scientific, and Technical Services	244	62	7,995
Information	198	18	7,005
Educational Services	20	5	145
Arts, Entertainment, and Recreation	106	14	1,675
Management of Companies and Enterprises	0-19	2	—
Agriculture, Forestry, Fishing and Hunting	104	19	4,325
Utilities	20-99	5	—

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 Natchitoches 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 Natchitoches 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 Natchitoches 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 Natchitoches Hazard Mitigation Plan were as follows:

- Section One Introduction
- Section Two Parish Profile
- Section Three Planning Process
- Section Four Risk Assessment
- Section Five Mitigation Strategy
- Section Six Plan Maintenance
- Section Seven Action Plan
- Tables
- Figures
- 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 Natchitoches 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 Natchitoches Parish Hazard Mitigation Plan. The current goals are as follows:

- Identify and pursue preventative measures that will reduce future damages from hazards
- Enhance public awareness and understanding of disaster preparedness
- Reduce repetitive flood losses in the Parish and municipalities
- Facilitate sound development in the Parish and municipalities so as to reduce or eliminate the potential impact of hazards

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: Introduction	Section 1: Introduction
Section 2: Community Profile	Section 1: Introduction
Section 3: Planning Process	Appendix A: Planning Process
Section 4: Risk Assessment	Section 2: Hazard Identification and Risk Assessment, Section 3: Capability Assessment
Section 5: Mitigation Strategy	Section 4: Mitigation Strategy
Section 6: Plan Maintenance	Appendix B: Plan Maintenance
Section 7: Action Plan	Section 4: Mitigation Strategy
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 Natchitoches Parish and its municipalities. The extent of this risk is dictated primarily by its geographic location. Most significantly, Natchitoches 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.

2. Hazard Identification and Parish-Wide Risk Assessment

This section assesses the various hazard risks that Natchitoches 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 Natchitoches 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			
Drought	X		X
Earthquakes			
Expansive Soils			
Fog			
Flooding	X	X	X
Extreme Heat			
Sinkholes			
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			
Levee Failure			

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

- a) Drought
- b) Flooding (backwater, riverine, localized stormwater event)
- c) Thunderstorms (hail, lightning, wind)
- d) Tornadoes
- e) Tropical Cyclones (flooding and high winds)
- f) Wildfires
- g) Winter Storms

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 and wildfires

The potential destructive power of tropical cyclones and flooding were determined to be the most prevalent hazards to the parish. Fourteen of the eighteen Presidential Declarations Natchitoches Parish has received resulted from either tropical cyclones (7 declarations) or flooding (7 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 assess 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 Natchitoches Parish is included in the hurricane risk assessment.

Natchitoches Parish is also susceptible to tornadoes. Tornadoes can spawn from tropical cyclones or severe weather systems that pass through Natchitoches 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 Natchitoches Parish since 1965. Information includes names, dates, and types of disaster.

Table 2-2: Natchitoches Parish Major Disaster Declarations

Disaster Declaration Number	Date	Type of Disaster
3031	2/22/1977	Drought and Freezing
675	1/11/1983	Severe Storms and Flooding
829	5/20/1989	Severe Storms and Flooding
835	7/17/1989	Tropical Cyclone - Tropical Storm Allison
902	4/23/1991	Severe Storms and Flooding
904	5/3/1991	Severe Storms, Tornadoes, and Flooding
1264	1/21/1999	Severe Ice Storm
2337	9/11/2000	LA – Western Louisiana Fire Complex – 9/8/00
1437	10/3/2002	Tropical Cyclone – Hurricane Lili
3172	2/1/2003	Loss of Space Shuttle Columbia
1603	8/29/2005	Tropical Cyclone – Hurricane Katrina
1607	9/24/2005	Tropical Cyclone – Hurricane Rita
1668	11/2/2006	Severe Storms and Flooding
1786	9/2/2008	Tropical Cyclone – Hurricane Gustav
1792	9/13/2008	Tropical Cyclone – Hurricane Ike
1863	12/10/2009	Severe Storms, Tornadoes, and Flooding
4080	8/29/2012	Tropical Cyclone – Hurricane Isaac
4228	7/13/2015	Severe Storms and Flooding

Probability of Future Hazard Events

The probability of a hazard event occurring in Natchitoches 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 assess 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				
	Natchitoches Parish (Unincorporated)	Ashland	Campti	Clarence	Goldonna
Drought	4%	4%	4%	4%	4%
Flooding	84%	8%	20%	8%	8%
Thunderstorms (Hail)	84%	84%	84%	84%	84%
Thunderstorms (Lightning)	16%	16%	16%	16%	16%
Thunderstorms (Wind)	100%	100%	100%	100%	100%
Tornadoes	100%	100%	100%	100%	100%
Tropical Cyclones	12%	12%	12%	12%	12%
Wildfires	8%	8%	8%	8%	8%
Winter Storms	64%	64%	64%	64%	64%

Table 2-3: Probability of Future Hazard Reoccurrence (Continued)

Hazard	Probability				
	Natchez	Natchitoches	Powhatan	Provencal	Robeline
Drought	4%	4%	4%	4%	4%
Flooding	16%	92%	12%	12%	8%
Thunderstorms (Hail)	84%	84%	84%	84%	84%
Thunderstorms (Lightning)	16%	16%	16%	16%	16%
Thunderstorms (Wind)	100%	100%	100%	100%	100%
Tornadoes	100%	100%	100%	100%	100%
Tropical Cyclones	12%	12%	12%	12%	12%
Wildfires	8%	8%	8%	8%	8%
Winter Storms	64%	64%	64%	64%	64%

As shown in the previous tables, thunderstorm winds and tornadoes for the entire planning area, have the highest annual chance of occurrence in the parish (100%), followed by flooding for the incorporated area of Natchitoches (92%). Flood events in the remaining incorporated areas have a slightly lower chance of occurring annually. Hailstorms have an 84% annual chance of reoccurrence, followed by winter storms (64%), lightning (16%), tropical cyclones (12%), wildfires (8%), and drought (4%).

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 \$5,628,435,000 in structures throughout the parish. The tables below provide the total estimated value for each type of structure by occupancy.

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

Occupancy	Natchitoches Parish	Unincorporated Natchitoches	Ashland	Campti	Clarence	Goldonna
Agricultural	\$35,838,000	\$23,012,000	\$0	\$0	\$200,000	\$0
Commercial	\$900,677,000	\$205,460,000	\$3,088,000	\$11,572,000	\$1,992,000	\$1,220,000
Government	\$55,499,000	\$8,000,000	\$168,000	\$7,174,000	\$84,000	\$338,000
Industrial	\$127,556,000	\$78,487,000	\$0	\$915,000	\$256,000	\$340,000
Religion	\$215,378,000	\$87,536,000	\$922,000	\$8,884,000	\$3,348,000	\$856,000
Residential	\$4,152,620,000	\$1,852,440,000	\$30,623,000	\$106,661,000	\$39,002,000	\$36,784,000
Education	\$140,867,000	\$23,909,000	\$3,750,000	\$16,000	\$0	\$2,352,000
Total	\$5,628,435,000	\$2,278,844,000	\$38,551,000	\$135,222,000	\$44,882,000	\$41,890,000

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

Occupancy	Natchez	Natchitoches	Powhatan	Provencal	Robeline
Agricultural	\$0	\$12,082,000	\$272,000	\$0	\$272,000
Commercial	\$2,374,000	\$670,229,000	\$618,000	\$202,000	\$3,922,000
Government	\$0	\$36,371,000	\$1,606,000	\$0	\$1,758,000
Industrial	\$0	\$42,640,000	\$4,258,000	\$0	\$660,000
Religion	\$0	\$105,212,000	\$1,382,000	\$1,382,000	\$5,856,000
Residential	\$50,496,000	\$1,934,495,000	\$12,187,000	\$69,473,000	\$20,459,000
Education	\$0	\$110,006,000	\$0	\$834,000	\$0
Total	\$52,870,000	\$2,911,035,000	\$20,323,000	\$71,891,000	\$32,927,000

Essential Facilities of the Parish

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

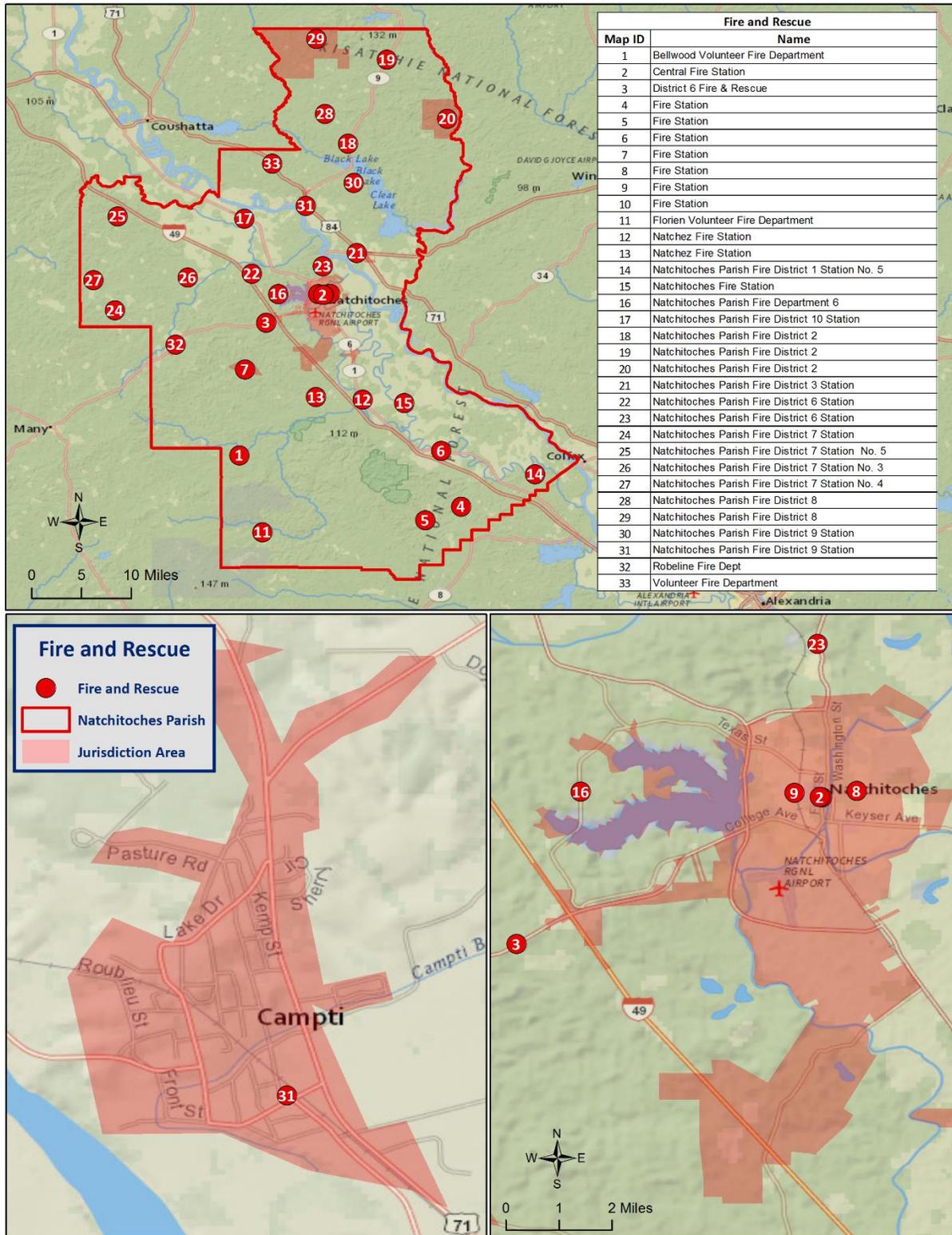


Figure 2-1: Fire and Rescue Buildings in Natchitoches Parish

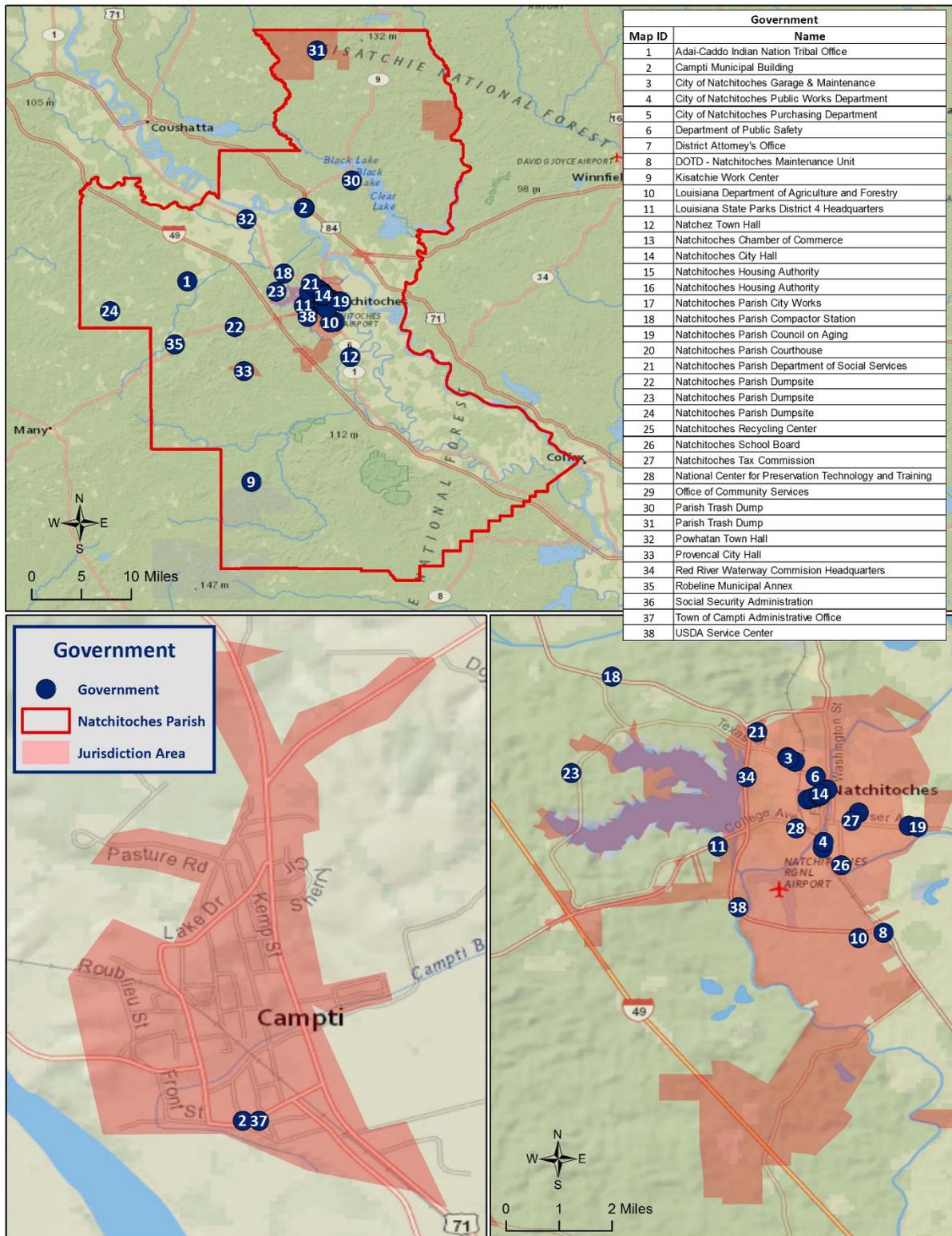


Figure 2-2: Government Buildings in Natchitoches Parish

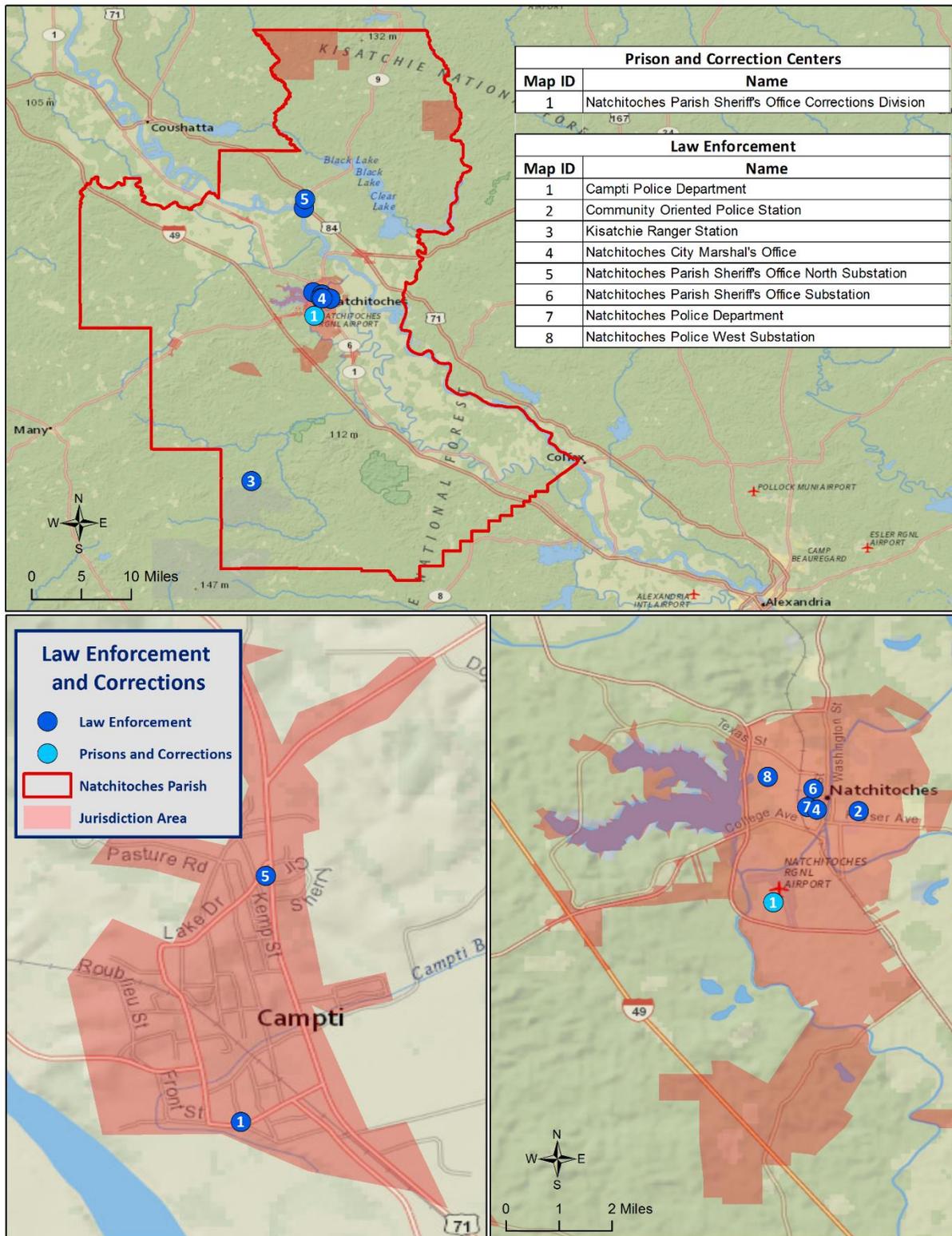


Figure 2-3: Law Enforcement and Correction Buildings in Natchitoches Parish

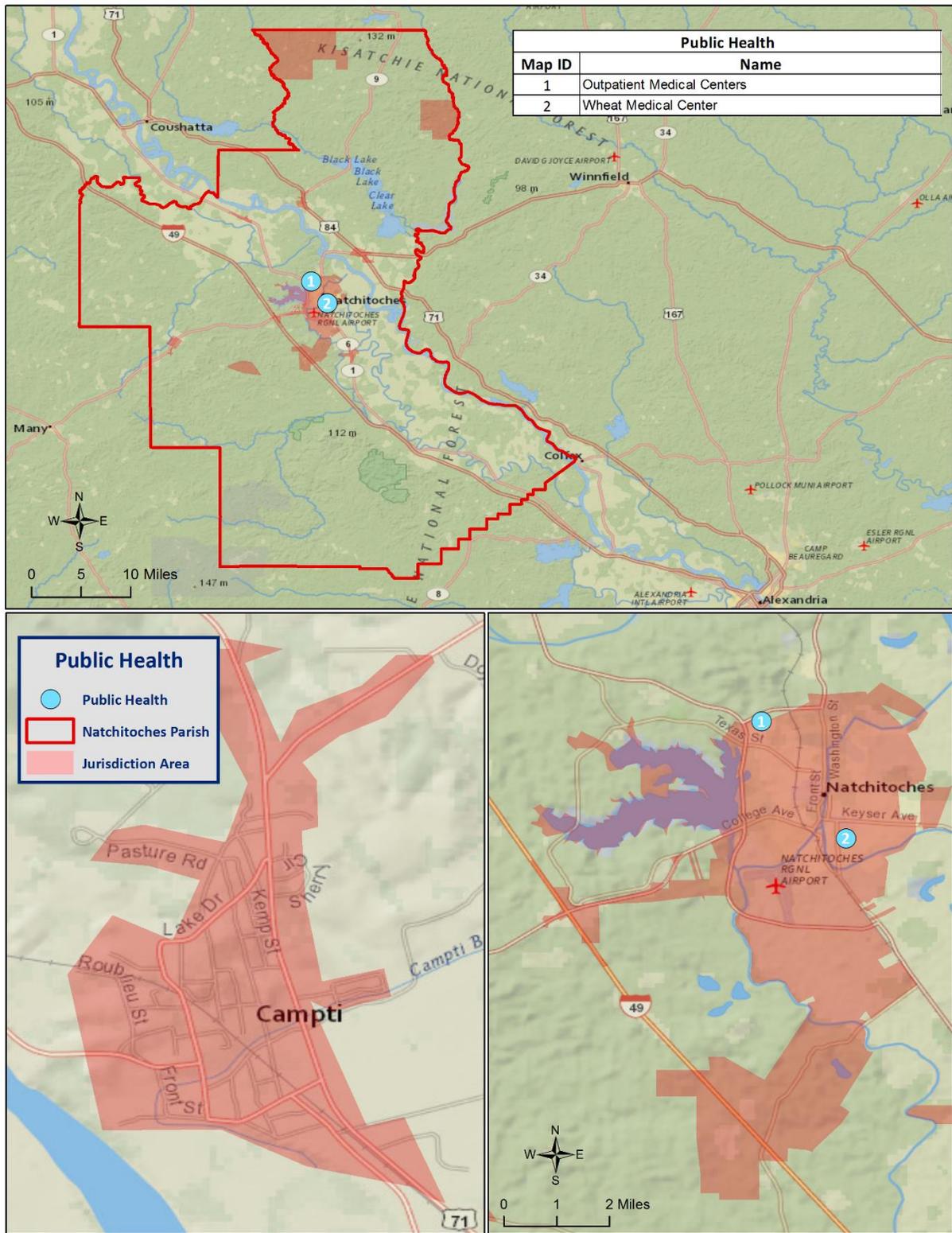


Figure 2-4: Public Health Buildings in Natchitoches Parish

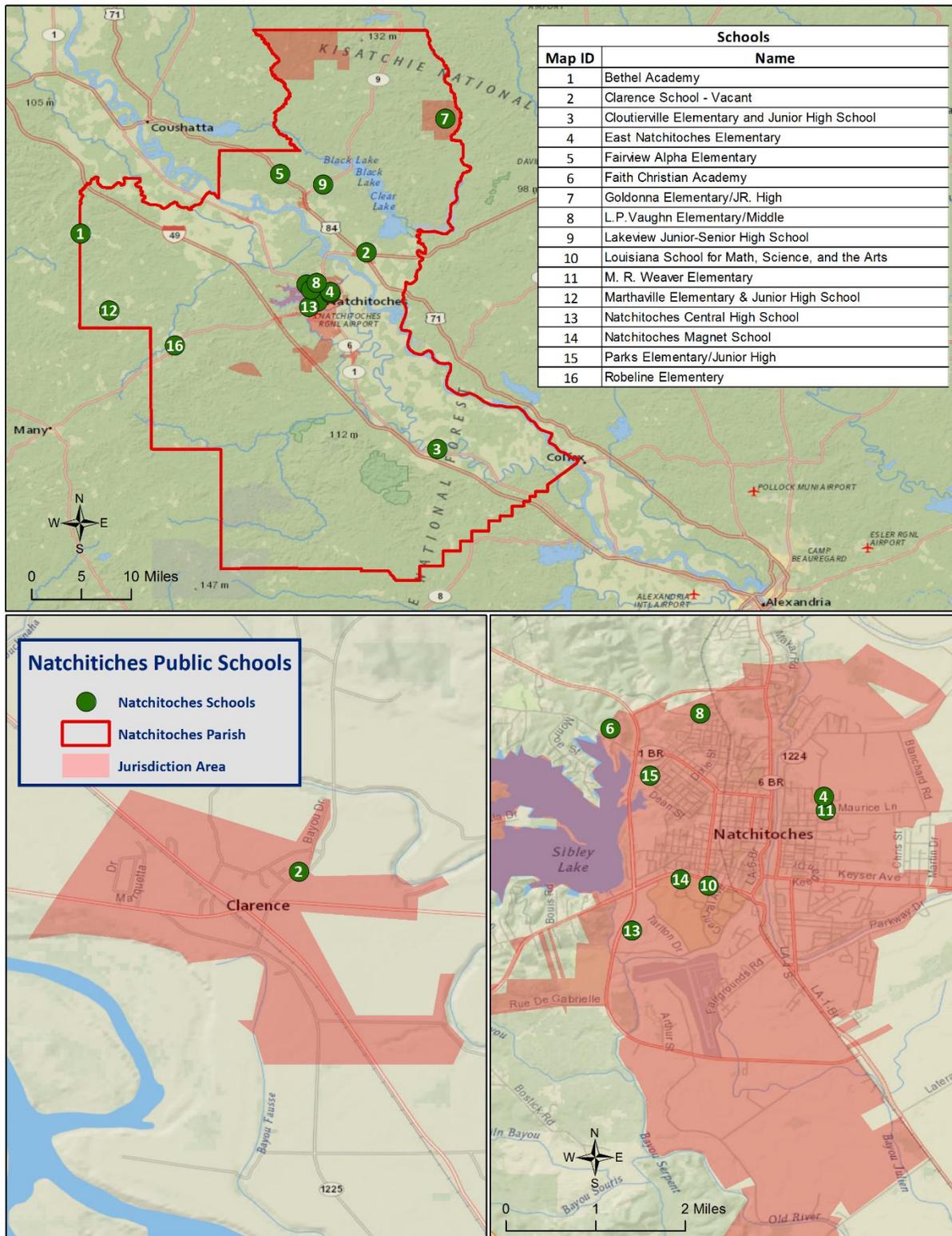


Figure 2-5: School Buildings in Natchitoches Parish

Future Development Trends

Natchitoches Parish experienced a small growth in population and housing between the years of 2000 and 2014, growing from a population of 39,089 with 16,890 housing units in 2000 to a population of 39,359 with 18,681 housing units in 2014. This growth was largely in the unincorporated areas of Natchitoches Parish, and in the incorporated area of Natchez from the years 2000 to 2010, and in the unincorporated areas of Natchitoches Parish and incorporated area of Ashland 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 Natchitoches Parish

Total Population	Natchitoches Parish	Natchitoches (Unincorporated)	Ashland	Campti	Clarence	Goldonna
1-Apr-00	39,089	16,924	288	1,087	502	453
1-Apr-10	39,605	17,490	269	1,057	500	430
1-Jul-14	39,359	17,810	279	853	381	406
Population Growth between 2000 – 2010	1.3%	3.3%	-6.6%	-2.8%	-0.4%	-5.1%
Average Annual Growth Rate between 2000 – 2010	0.1%	0.3%	-0.7%	-0.3%	0.0%	-0.5%
Population Growth between 2010 – 2014	-0.6%	1.8%	3.7%	-19.3%	-23.8%	-5.6%
Average Annual Growth Rate between 2010 – 2014	-0.16%	0.46%	0.93%	-4.82%	-5.95%	-1.40%

Table 2-5: Population Growth Rate for Natchitoches Parish (Continued)

Total Population	Natchez	Natchitoches	Powhatan	Provencal	Robeline
1-Apr-00	584	18,213	142	708	188
1-Apr-10	598	18,340	135	612	174
1-Jul-14	358	18,460	104	602	106
Population Growth between 2000 – 2010	2.4%	0.7%	-4.9%	-13.6%	-7.4%
Average Annual Growth Rate between 2000 – 2010	0.2%	0.1%	-0.5%	-1.4%	-0.7%
Population Growth between 2010 – 2014	-40.1%	0.7%	-23.0%	-1.6%	-39.1%
Average Annual Growth Rate between 2010 – 2014	-10.03%	0.16%	-5.74%	-0.41%	-9.77%

Table 2-6: Housing Growth Rate for Natchitoches Parish

Total Housing Units	Natchitoches Parish	Natchitoches (Unincorporated)	Ashland	Campti	Clarence	Goldonna
1-Apr-00	16,890	8,401	149	462	205	192
1-Apr-10	18,587	8,848	154	526	204	205
1-Jul-14	18,681	8,549	158	451	185	202
Housing Growth between 2000 – 2010	10.0%	5.3%	3.4%	13.9%	-0.5%	6.8%
Average Annual Growth Rate between 2000 – 2010	1.0%	0.5%	0.3%	1.4%	0.0%	0.7%
Housing Growth between 2010 – 2014	0.5%	-3.4%	2.6%	-14.3%	-9.3%	-1.5%
Average Annual Growth Rate between 2010 – 2014	0.1%	-0.8%	0.6%	-3.6%	-2.3%	-0.4%

Table 2-6: Housing Growth Rate for Natchitoches Parish (Continued)

Total Population	Natchez	Natchitoches	Powhatan	Provencal	Robeline
1-Apr-00	264	6,731	81	308	97
1-Apr-10	291	7,906	74	288	91
1-Jul-14	227	8,480	91	258	80
Housing Growth between 2000 – 2010	10.2%	17.5%	-8.6%	-6.5%	-6.2%
Average Annual Growth Rate between 2000 – 2010	1.0%	1.7%	-0.9%	-0.6%	-0.6%
Housing Growth between 2010 – 2014	-22.0%	7.3%	23.0%	-10.4%	-12.1%
Average Annual Growth Rate between 2010 – 2014	-5.5%	1.8%	5.7%	-2.6%	-3.0%

As shown in the previous tables, Natchitoches Parish has experienced slight growth in both population and housing units. Housing growth rates grew at 1% annually from 2000 to 2010, and at 0.1% annually from 2010 to 2014. Population growth rates for the parish were slightly lower at 0.1% annually from 2000 to 2010, and declined at -0.16% annually from 2010 to 2014. From 2000 to 2010, the unincorporated area of Natchitoches Parish had the largest increase in population overall at 3.3%, followed by the incorporated area of Natchez at 2.4%. From 2010 to 2014, Ashland experienced the largest growth in population at 3.7%, followed by the unincorporated area of Natchitoches Parish at 1.8%.

The incorporated area of Natchitoches experienced the largest increase in housing units from 2000 to 2010 at 17.5%, followed by the incorporated area of Campti at 13.9%. The only areas in Natchitoches Parish to experience a decline in housing units during this time period were Clarence and Robeline. From 2010 to 2014, the incorporated area of Powhatan had the largest increase in housing units at 23%, followed by the incorporated area of Natchitoches at 7.3%.

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 Natchitoches 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	18,705	2,250	2,264	2,276
Value of Structures	\$5,693,033,790	\$684,758,323	\$724,966,356	\$758,826,132
# of People	39,398	4,739	4,763	4,782
Tropical Cyclones				
Structures	18,705	18,705	18,823	18,919
Value of Structures	\$5,693,033,790	\$5,693,033,790	\$6,027,320,620	\$6,308,828,479
# of People	39,398	39,398	39,596	39,754

Land Use

The Natchitoches Parish Land Use table is provided below. Residential, commercial, and industrial areas account for only 4% of the parish's land use. Forest land is the largest category at 407,647 acres, accounting for 49% of parish land. At 234,952 acres, agricultural lands account for 28% of parish lands, while 117,482 acres of wetlands account for 14% of parish lands. The parish also consists of 35,387 acres of water areas, accounting for 4% of all parish lands.

Table 2-8: Natchitoches Parish Land Use

(Source: USGS Land Use Map)

Land Use	Acres	Percentage
Agricultural Land, Cropland, and Pasture	234,952	28%
Wetlands	117,482	14%
Forest Land (not including forested wetlands)	407,647	49%
Urban/Development	36,835	4%
Water	35,387	4%

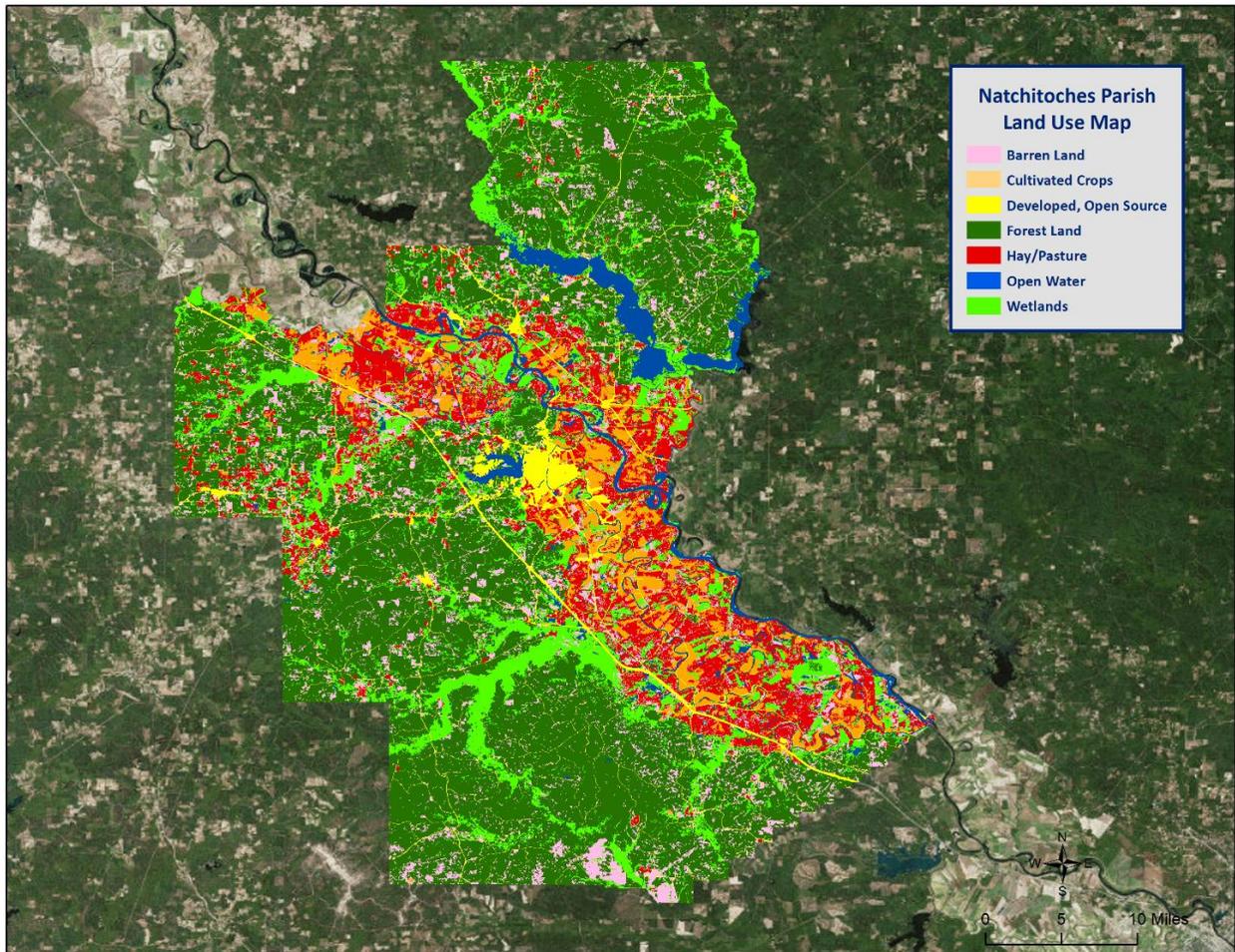


Figure 2-6: Natchitoches Parish Land Use Map
(Source: USGS Land Use Map)

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 Natchitoches Parish at the time this plan went to publication (Figure 2-7).

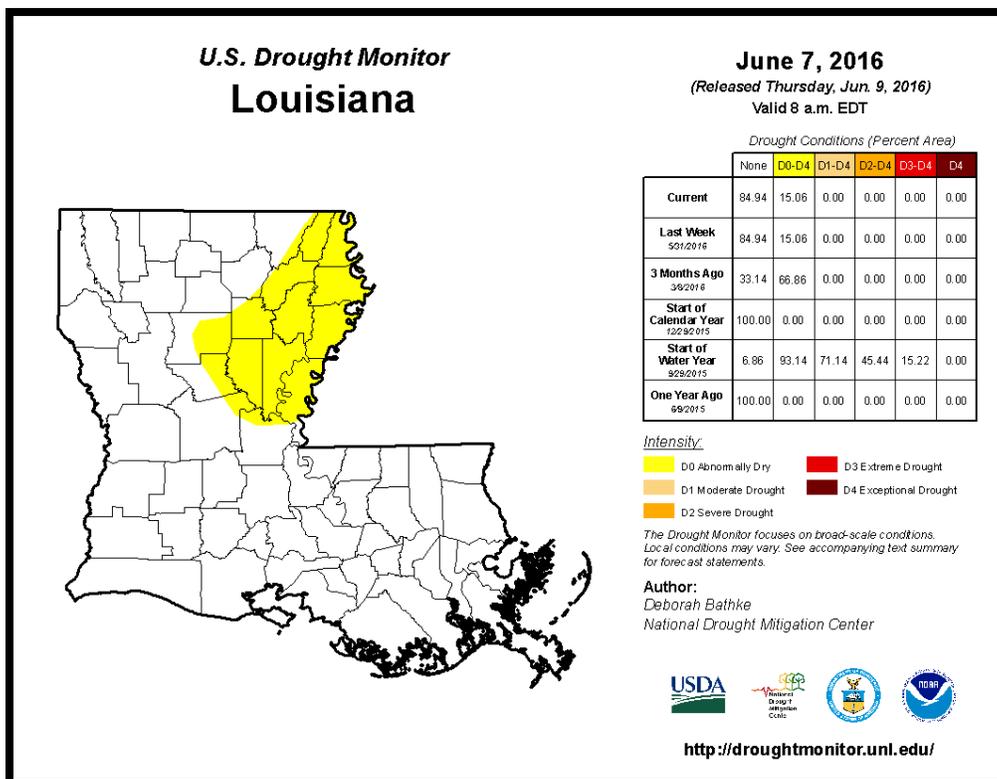


Figure 2-7: United States Drought Monitor for the State of Louisiana and its Parishes (Source: The National Drought Mitigation Center)

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 Natchitoches Parish is on the agricultural community.

Previous Occurrences / Extents

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

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

Date	Crop Damage	Palmer Classification
June 1998	\$1,281,497	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 have been one drought events that have 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 Natchitoches Parish.

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

Agricultural Exposure by Type for Drought						
Hay	Forestry	Cotton	Pecans	Rice	Soybeans	Total
\$5,814,000	\$42,545,569	\$4,619,481	\$2,290,493	\$3,878,202	\$16,564,455	\$75,712,200

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

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 2-8*.

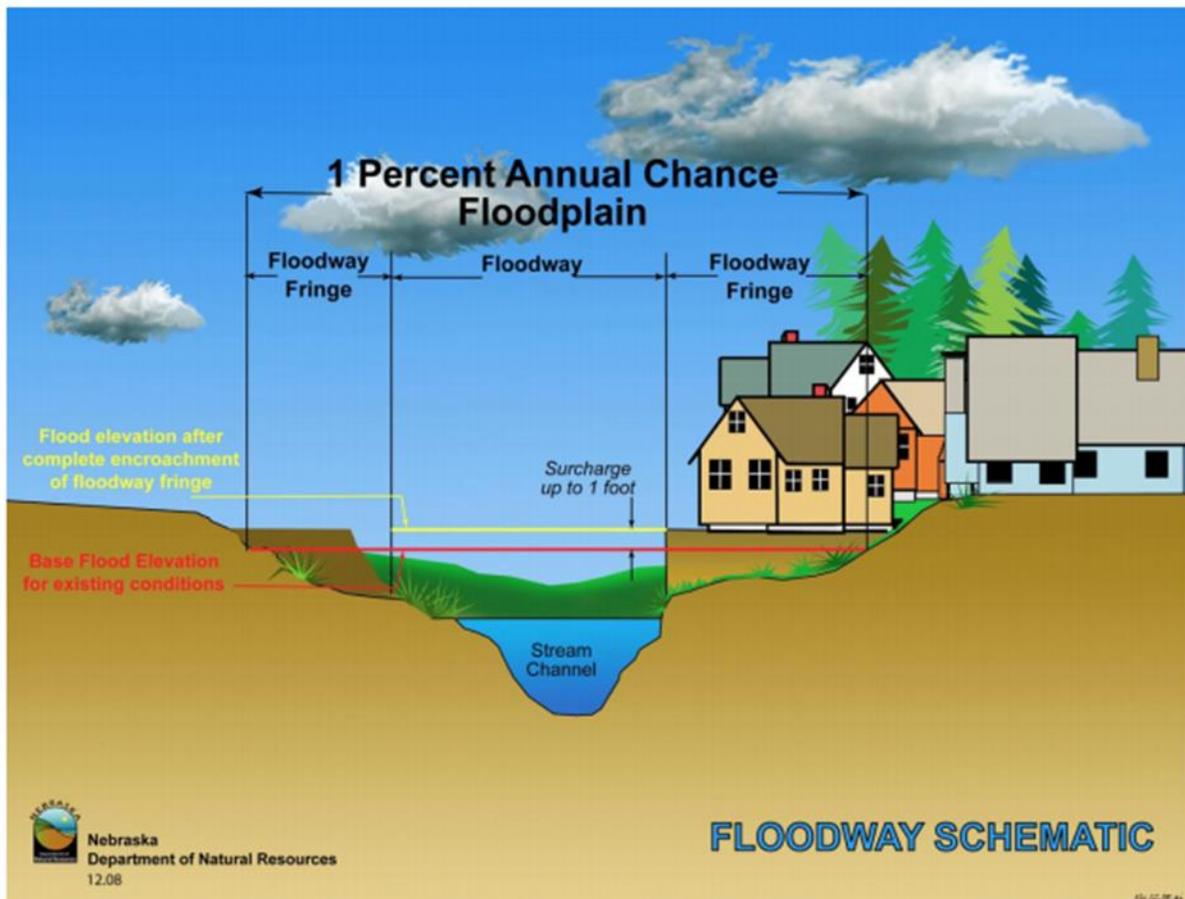


Figure 2-8: Schematic of 100-Year Floodplain. The Special Flood Hazard Area (SFHA) extends to the end of the floodway fringe.

(Source: Nebraska Department of Natural Resources)

A SFHA is the land area covered by the floodwaters of the base flood (red line in *Figure 2-8*), 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 Natchitoches Parish are provided in the table below:

Table 2-12: Repetitive Loss Structures for Natchitoches Parish

Jurisdiction	Number of Structures	Residential	Commercial	Government	Total Claims	Total Claims Paid	Average Claim Paid
Natchitoches Parish (Unincorporated)	40	39	1	0	126	\$1,661,573	\$13,187
Ashland	0	0	0	0	0	\$0	\$0
Campti	1	1	0	0	2	\$14,920	\$7,460
Clarence	3	3	0	0	16	\$177,765	\$11,110
Goldonna	0	0	0	0	0	\$0	\$0
Natchez	1	1	0	0	4	\$9,090	\$2,272
Natchitoches	6	5	1	0	20	\$291,917	\$14,596
Powhatan	0	0	0	0	0	\$0	\$0
Provencal	0	0	0	0	0	\$0	\$0
Robeline	0	0	0	0	0	\$0	\$0
Total	51	49	2	0	168	\$2,155,264	\$12,829

Of the 51 repetitive loss structures, 47 were able to be geocoded in order to provide an overview of where the repetitive loss structures were located throughout the parish. Figure 2-9 shows the approximate location of the 47 structures, while Figure 2-10 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 unincorporated areas of the parish.

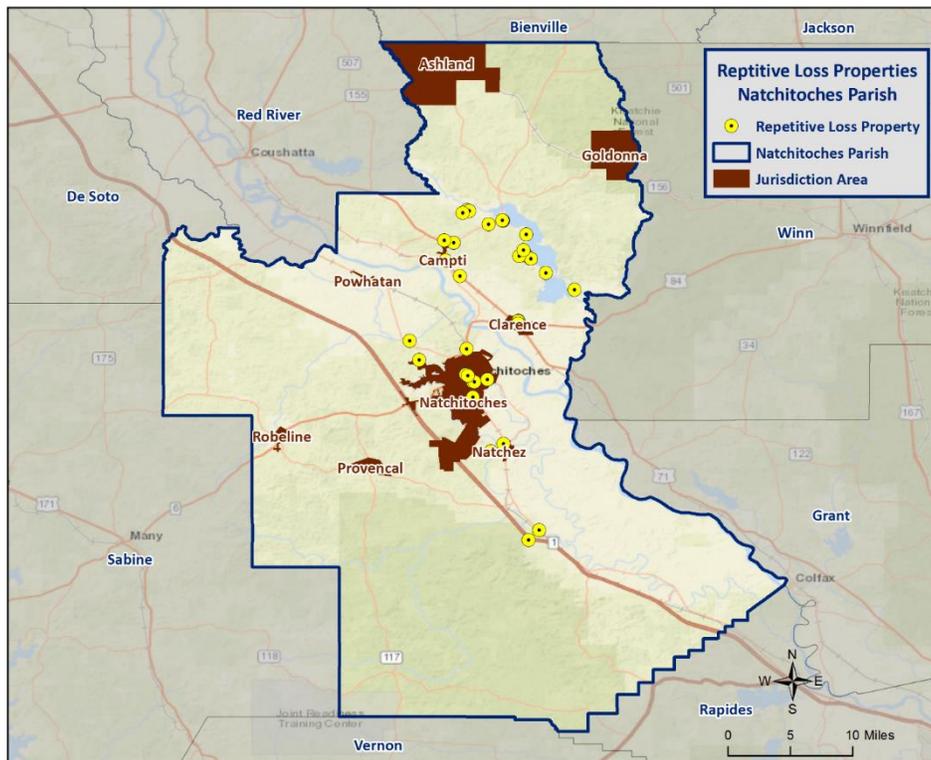


Figure 2-9: Repetitive Loss Properties in Natchitoches Parish

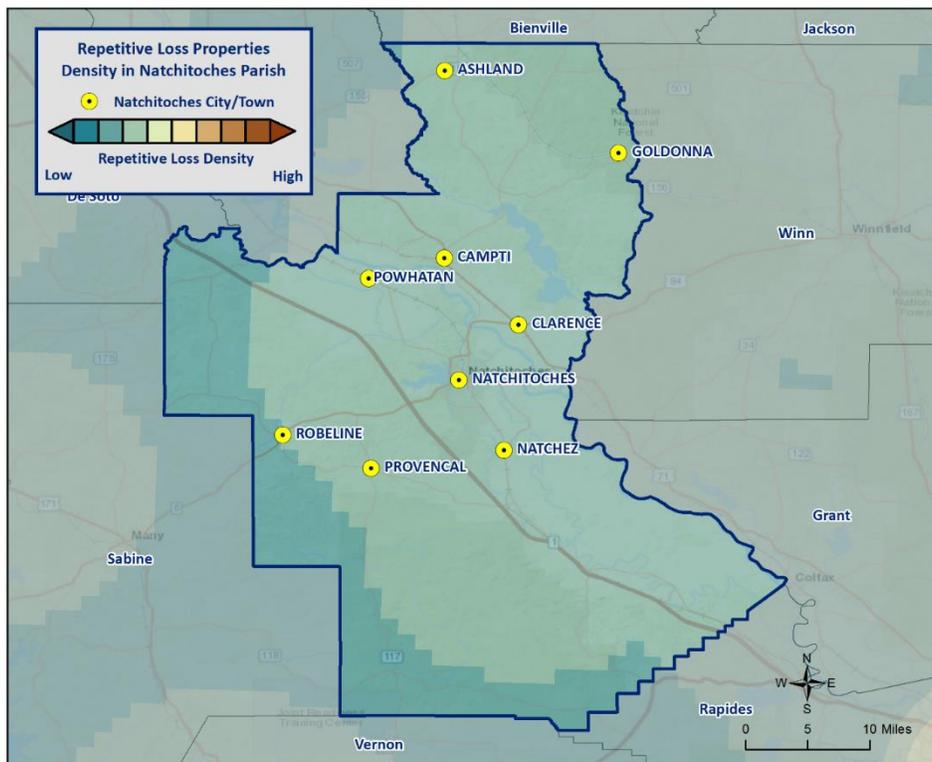


Figure 2-10: Repetitive Loss Property Densities in Natchitoches Parish

National Flood Insurance Program

Flood insurance statistics indicate that Natchitoches Parish has 553 flood insurance policies with the NFIP, with total annual premiums of \$379,584. Natchitoches Parish and the incorporated areas of Ashland, Campti, Clarence, Goldonna, Natchez, Natchitoches, Powhatan, Provencal, and Robeline are all participants in the NFIP. Natchitoches 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 Natchitoches Parish are provided in the tables to follow.

Natchitoches 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 community floodplain managers will continue to seek and attend floodplain management and NFIP continuing education.

Table 2-13: Summary of NFIP Policies for Natchitoches Parish

Location	No. of Insured Structures	Total Insurance Coverage Value	Annual Premiums Paid	No. of Insurance Claims Filed Since 1978	Total Loss Payments
Natchitoches Parish (Unincorporated)	370	\$65,369,900	\$242,420	411	\$5,005,438
Ashland	0	\$0	\$0	0	\$0
Campti	1	\$280,000	\$348	2	\$9,461
Clarence	52	\$3,082,100	\$33,525	43	\$347,712
Goldonna	0	\$0	\$0	0	\$0
Natchez	6	\$644,000	\$4,211	9	\$102,681
Natchitoches	123	\$33,299,100	\$98,866	59	\$759,826
Powhatan	0	\$0	\$0	0	\$0
Provencal	0	\$0	\$0	0	\$0
Robeline	1	\$70,000	\$214	5	\$52,393
Total	553	\$102,745,100	\$379,584	529	\$6,277,510

*While the Villages of Ashland, Goldonna, Powhatan, and Provencal do not have any active NFIP policies, the jurisdictions will continue to promote NFIP participation through education and outreach.

Table 2-14: Summary of Community Flood Maps for Natchitoches Parish

CID	Community Name	Initial FHBM Identified	Initial FIRM Identified	Current Effective Map Date	Date Joined the NFIP	Tribal
220263A	Ashland	3/7/1978	9/18/1987	7/6/2015	3/7/1979	No
220401A	Campti	3/7/1978	9/18/1987	7/6/15 (M)	7/3/2003	No
220130A	Clarence	3/1/1974	9/18/1987	7/6/2015	9/18/1987	No
220290A	Goldonna	9/19/1975	6/29/1982	7/16/15 (M)	6/29/1982	No
220370A	Natchez	6/19/1979	9/18/1987	7/6/2015	9/18/1987	No
220129A	Natchitoches Parish	3/7/1978	9/18/1987	7/6/2015	9/18/1987	No
220131A	Natchitoches	7/19/1974	9/18/1987	7/6/2015	9/18/1987	No
220306A	Powhatan	3/7/1978	9/18/1987	7/6/2015	3/7/1979	No
220132A	Provencal	5/24/1974	11/1/1992	7/16/15 (M)	11/1/1992	No
220133A	Robeline	4/12/1974	8/5/1985	7/6/2015	8/5/1985	No

According to the Community Rating System (CRS) list of eligible communities dated June 1, 2014, Natchitoches Parish and all of its incorporated areas 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 Natchitoches 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 Natchitoches 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 Red River crests at flood stage levels, causing extensive flooding in low-lying areas.

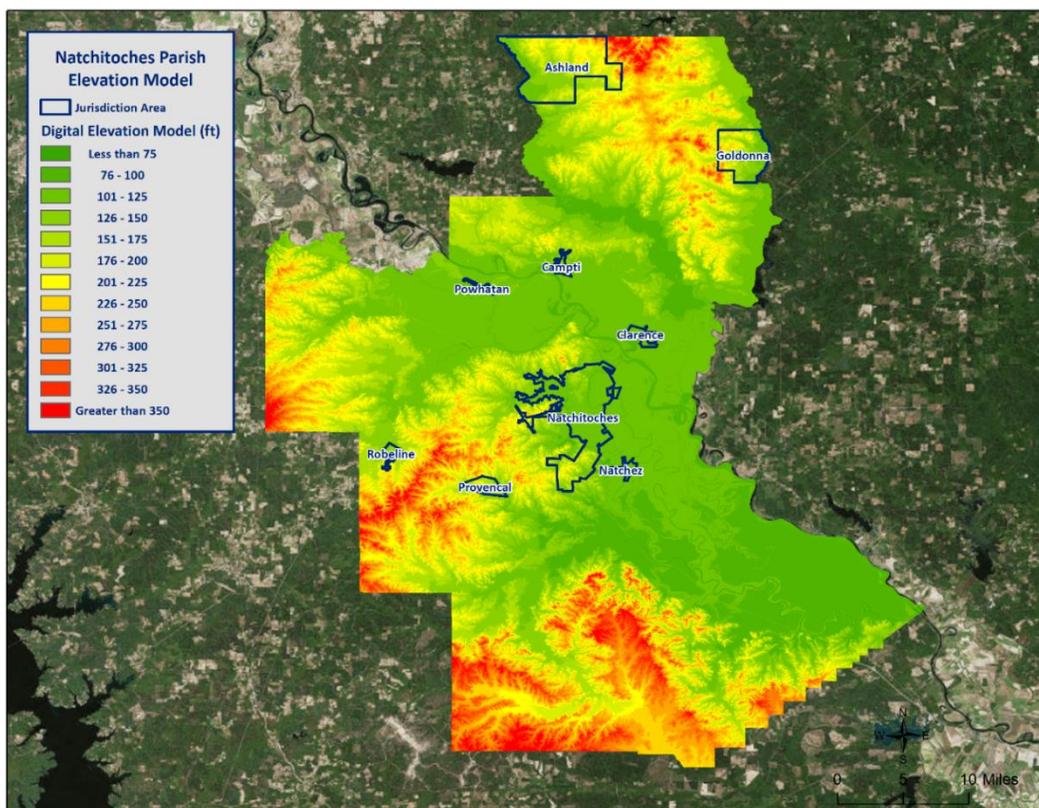


Figure 2-11: Elevation throughout Natchitoches Parish

Looking at the digital elevation model (DEM) in the figure above for Natchitoches Parish is instructive in visualizing where the low lying and high risk areas are for the parish. Elevations in the parish range from approximately 75 feet to over 350 feet. The highest elevations in the parish are approximately 350 feet, located in the unincorporated areas of the parish. The incorporated areas range in elevation from 105 to 226 feet, with Natchez averaging 105 feet, Clarence averaging 115 feet, Natchitoches averaging 118 feet, Powhatan averaging 121 feet, Campti averaging 128 feet, Goldonna averaging 144 feet, Robeline averaging 169 feet, Provencal averaging 171 feet, and Ashland averaging 226 feet.

Location

Natchitoches Parish has experienced significant flooding in its history and can expect more in the future. The parish is located almost entirely within the Red River Basin. The topography consists of hills in the western portion and the broad alluvial valley of the Red River in the eastern portion. The flooding that does occur in the parish is primarily experienced in the alluvial valley, where drainage is poor and where most of the population is centered.

There are two main drainage outlets for Natchitoches Parish. Bayou Pierre drains the northern part of the parish, and the lower Cane River drains the southern part of the Parish. Flooding problems in Natchitoches Parish most often occur when the Red River is at flood stage and can back up into the Cane River. However, large amounts of local rain in a short period of time can cause isolated flooding, regardless of the stage of the Red River.

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

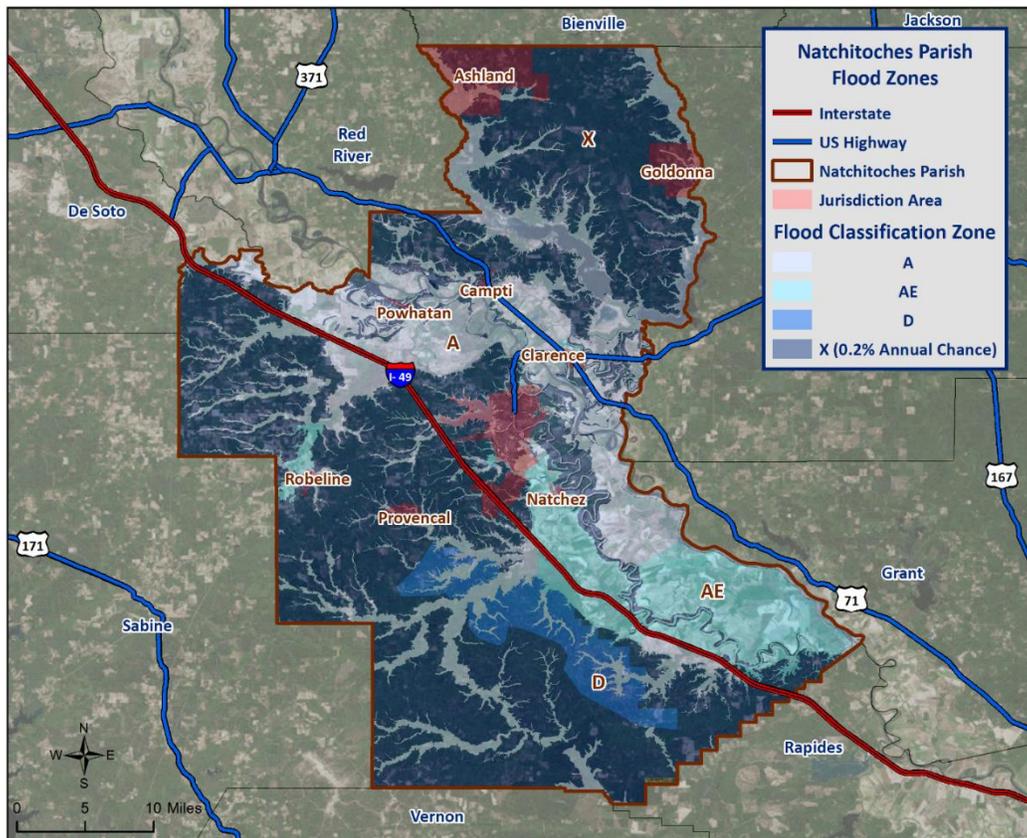


Figure 2-12: Natchitoches Parish Areas within the Flood Zones

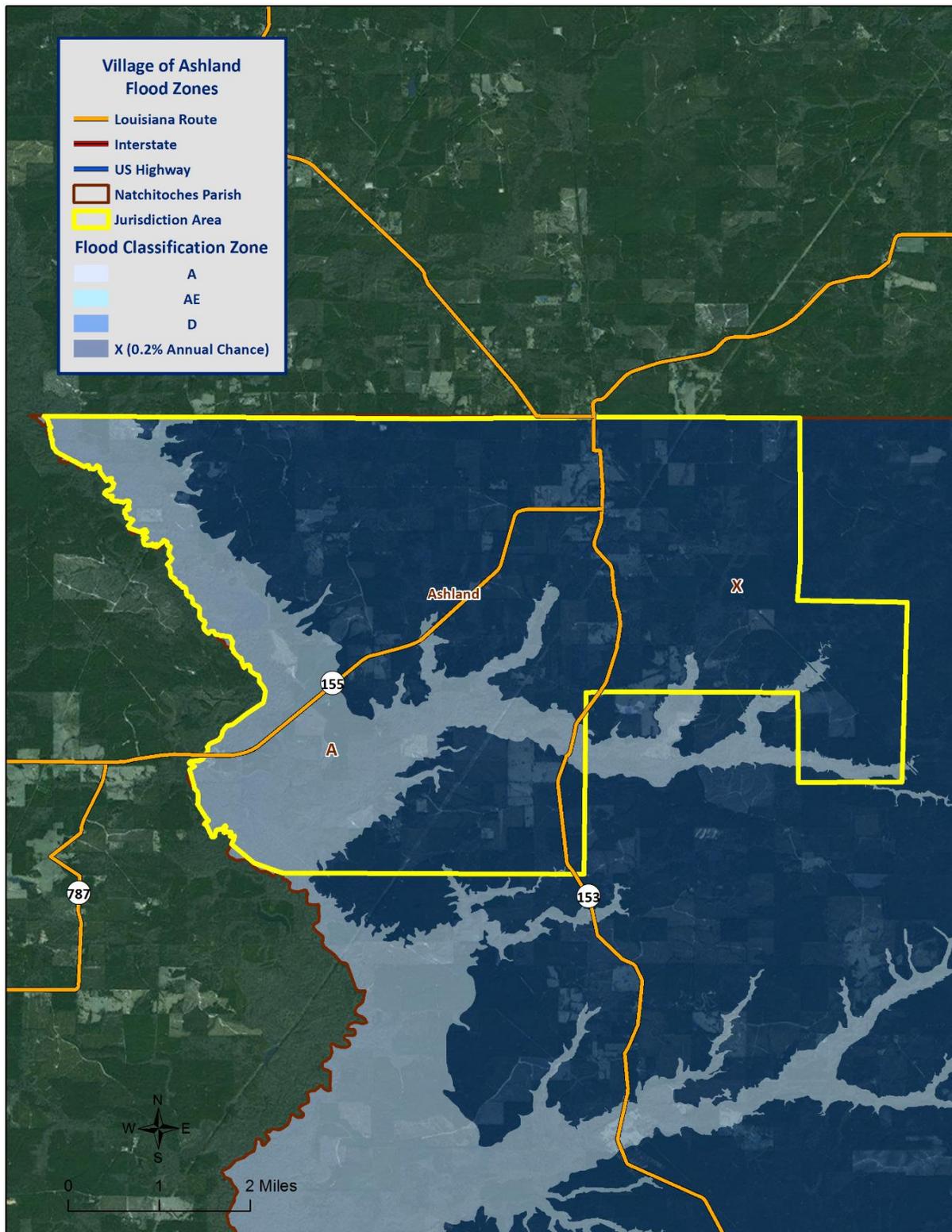


Figure 2-13: Village of Ashland Areas within the Flood Zones

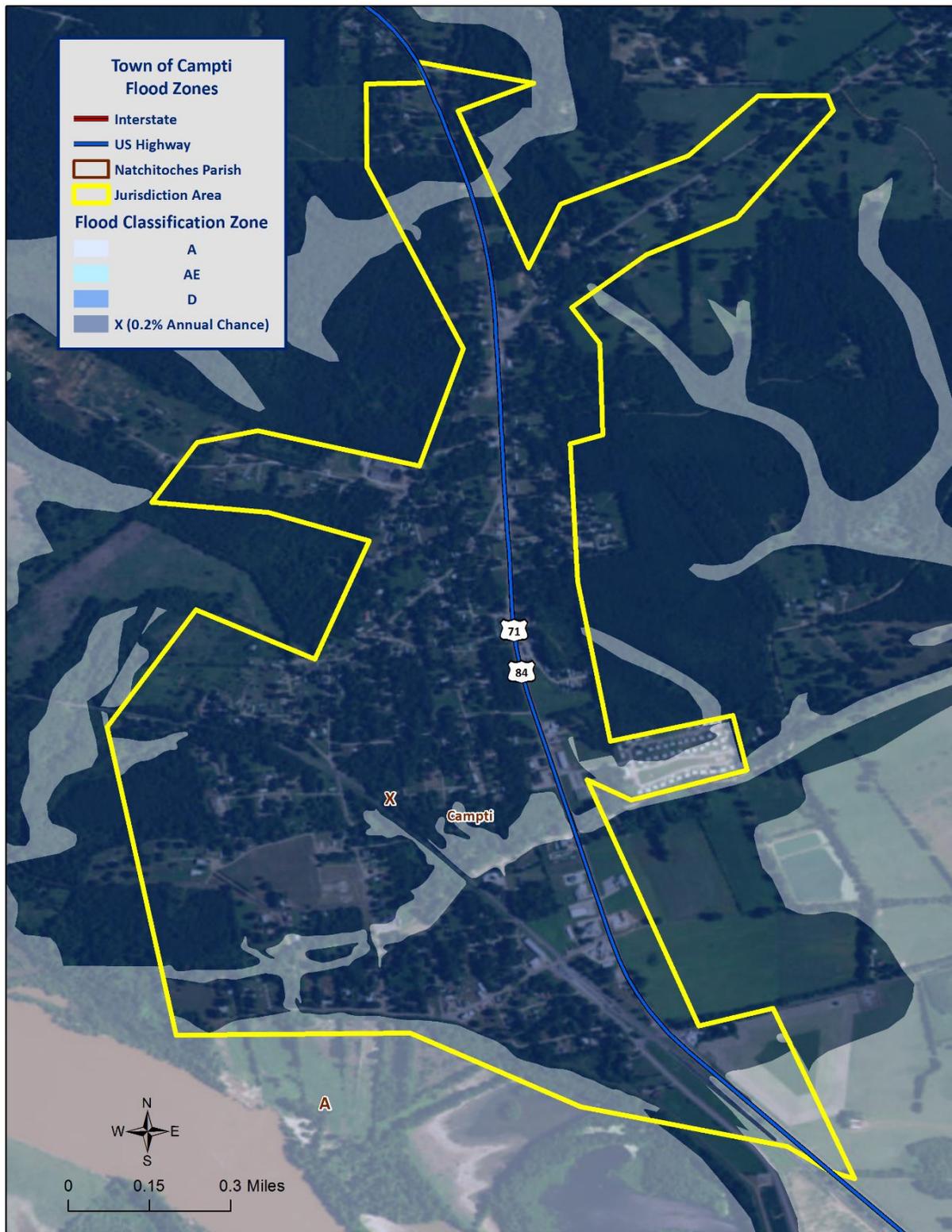


Figure 2-14: Town of Campti Areas within the Flood Zones

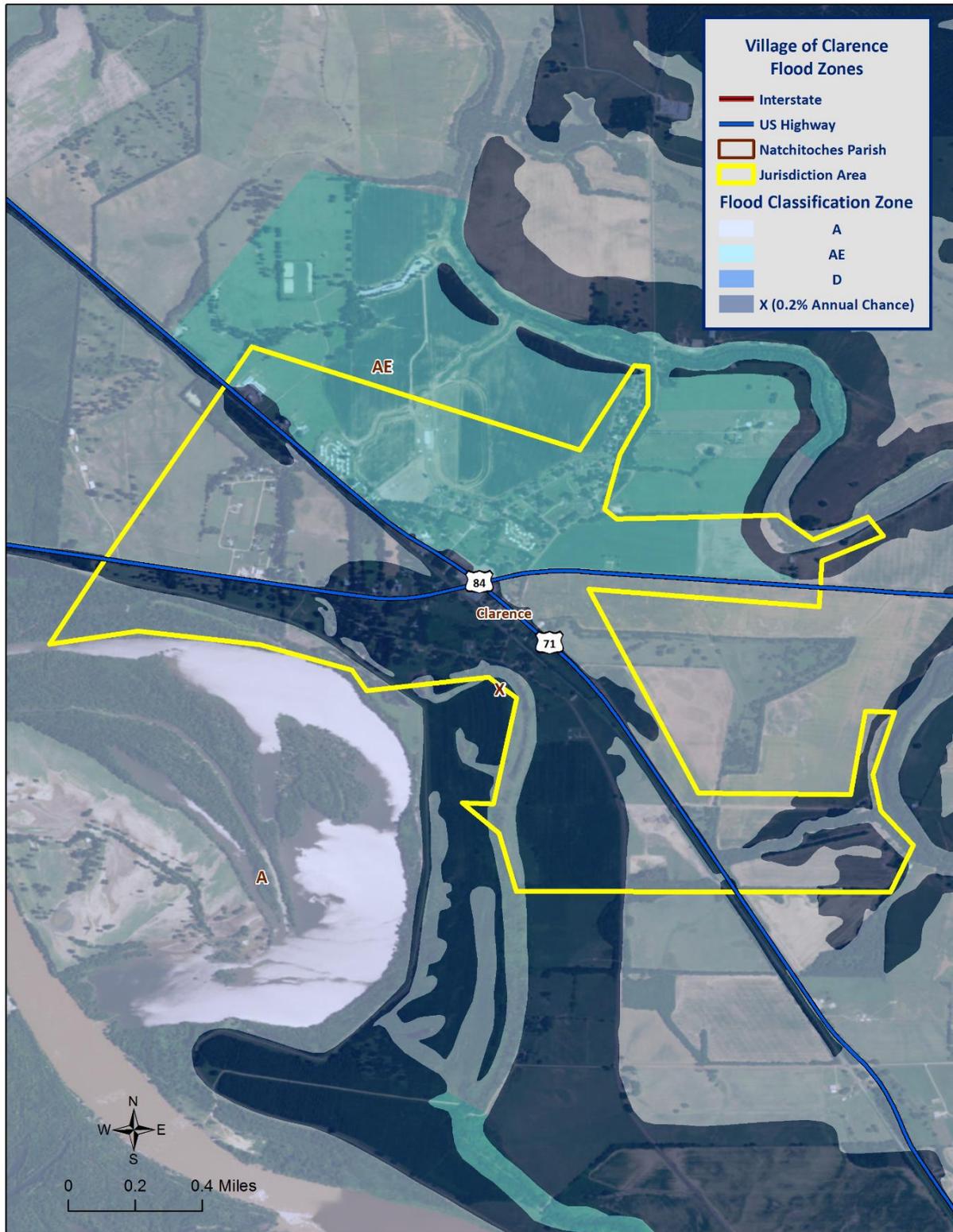


Figure 2-15: Village of Clarence Areas within the Flood Zones

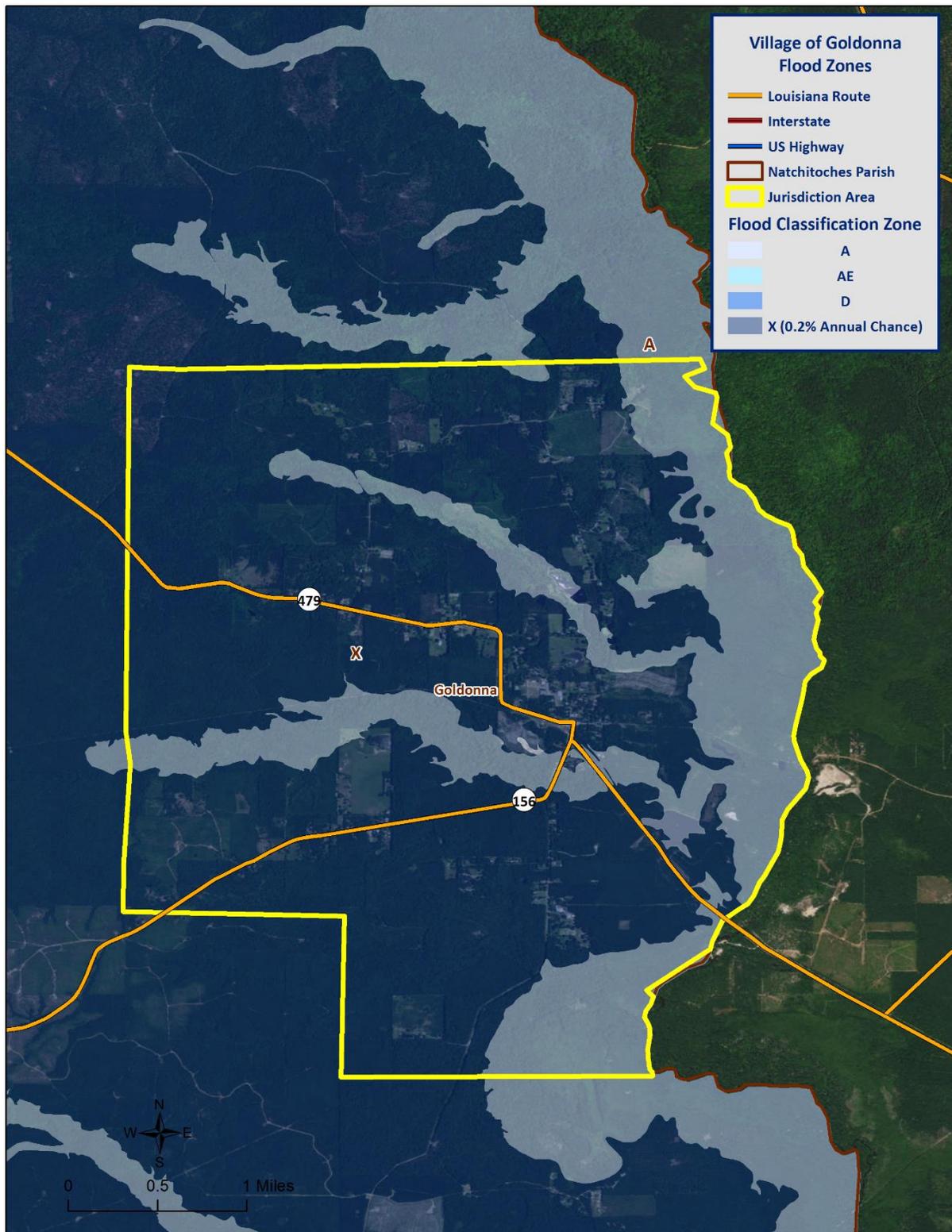


Figure 2-16: Village of Goldonna Areas within the Flood Zones



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

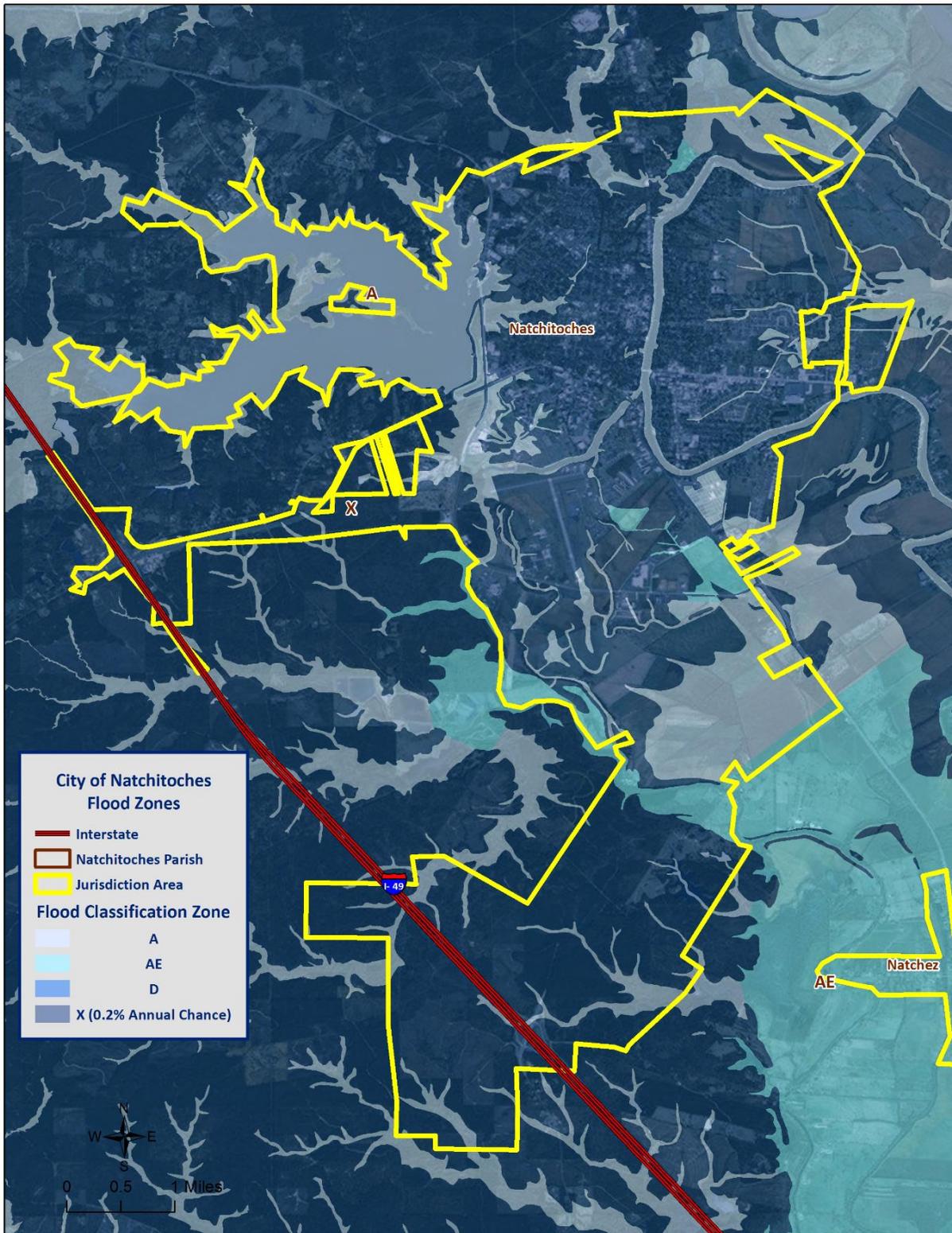


Figure 2-18: City of Natchitoches Areas within the Flood Zones

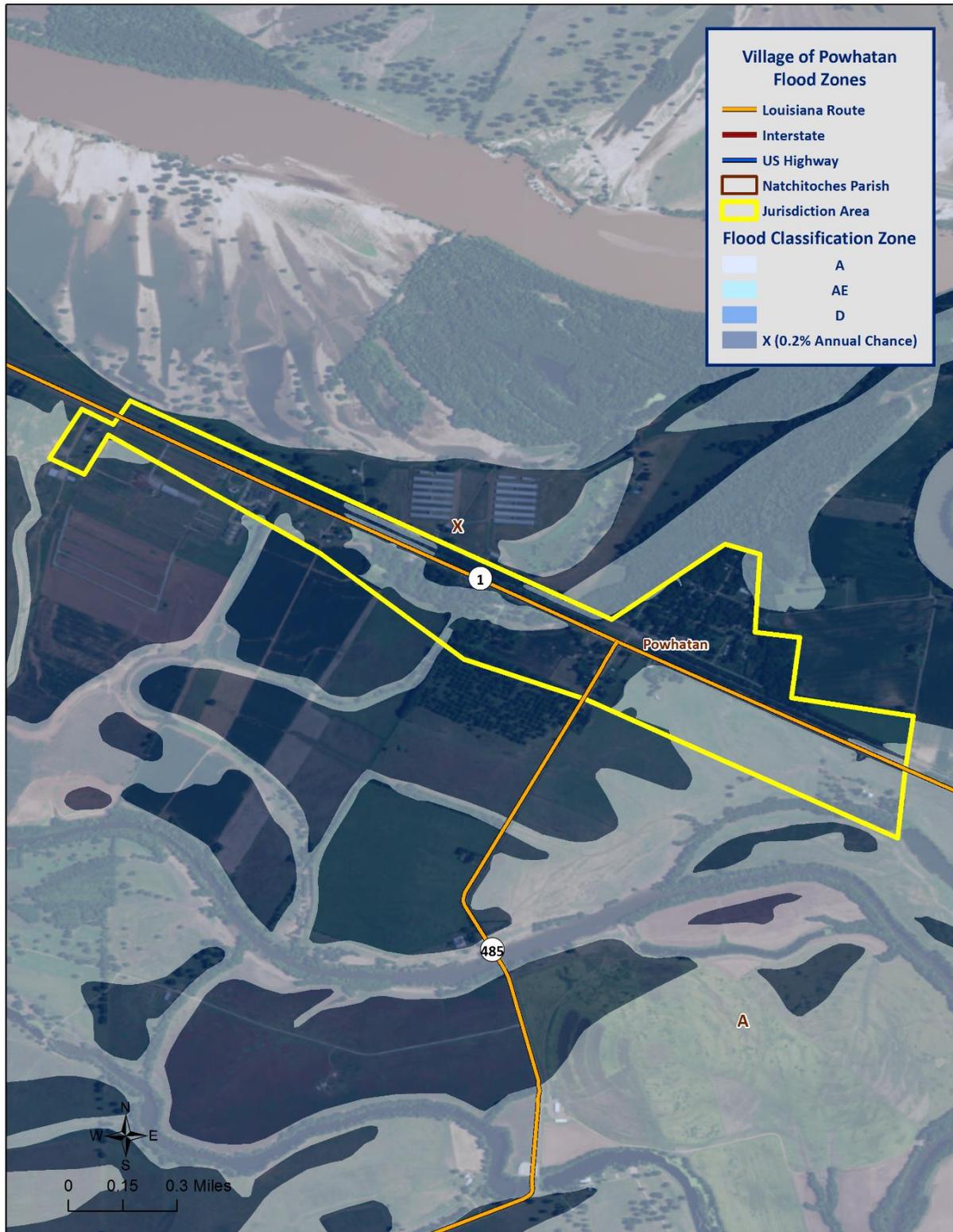


Figure 2-19: Village of Powhatan Areas within the Flood Zones

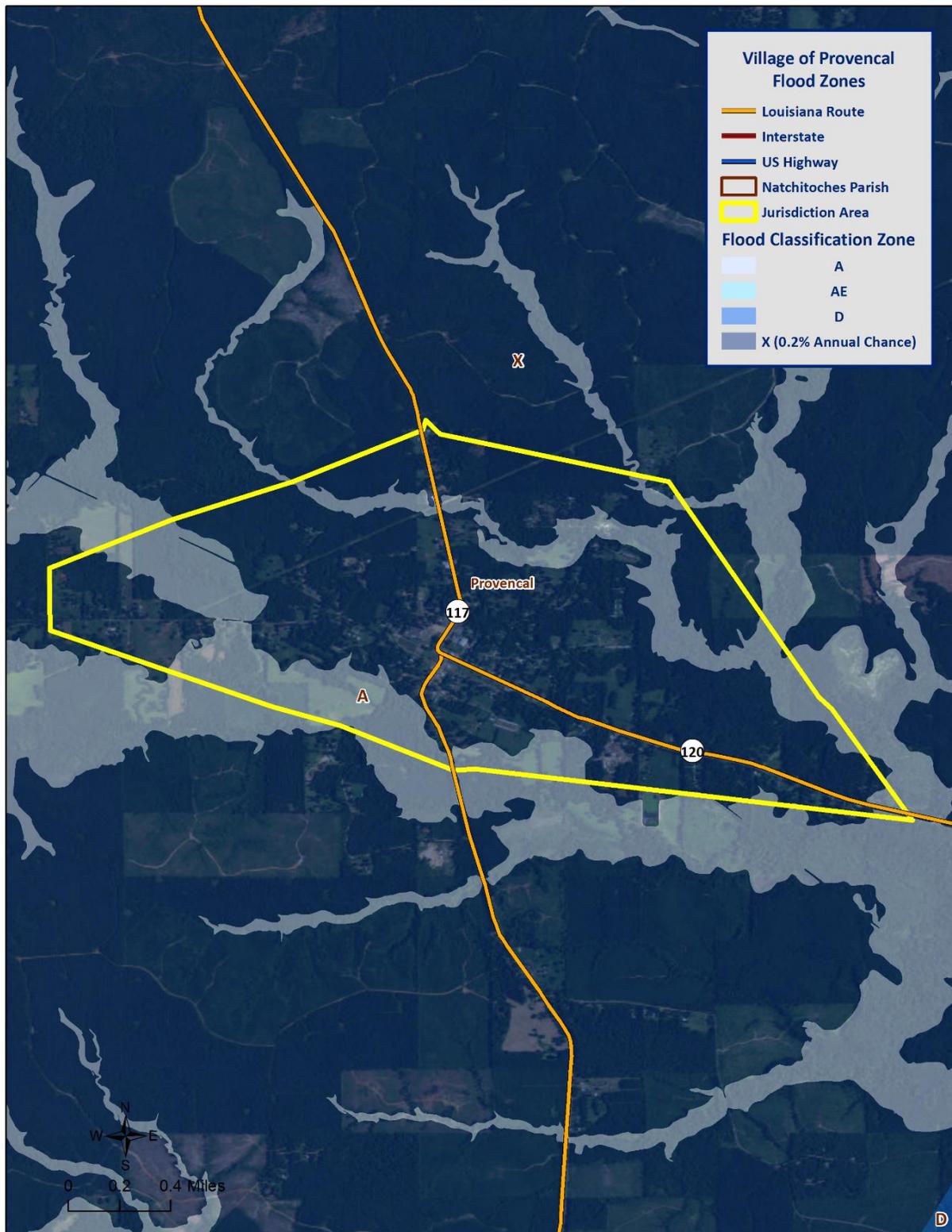


Figure 2-20: Village of Provencal Areas within the Flood Zones

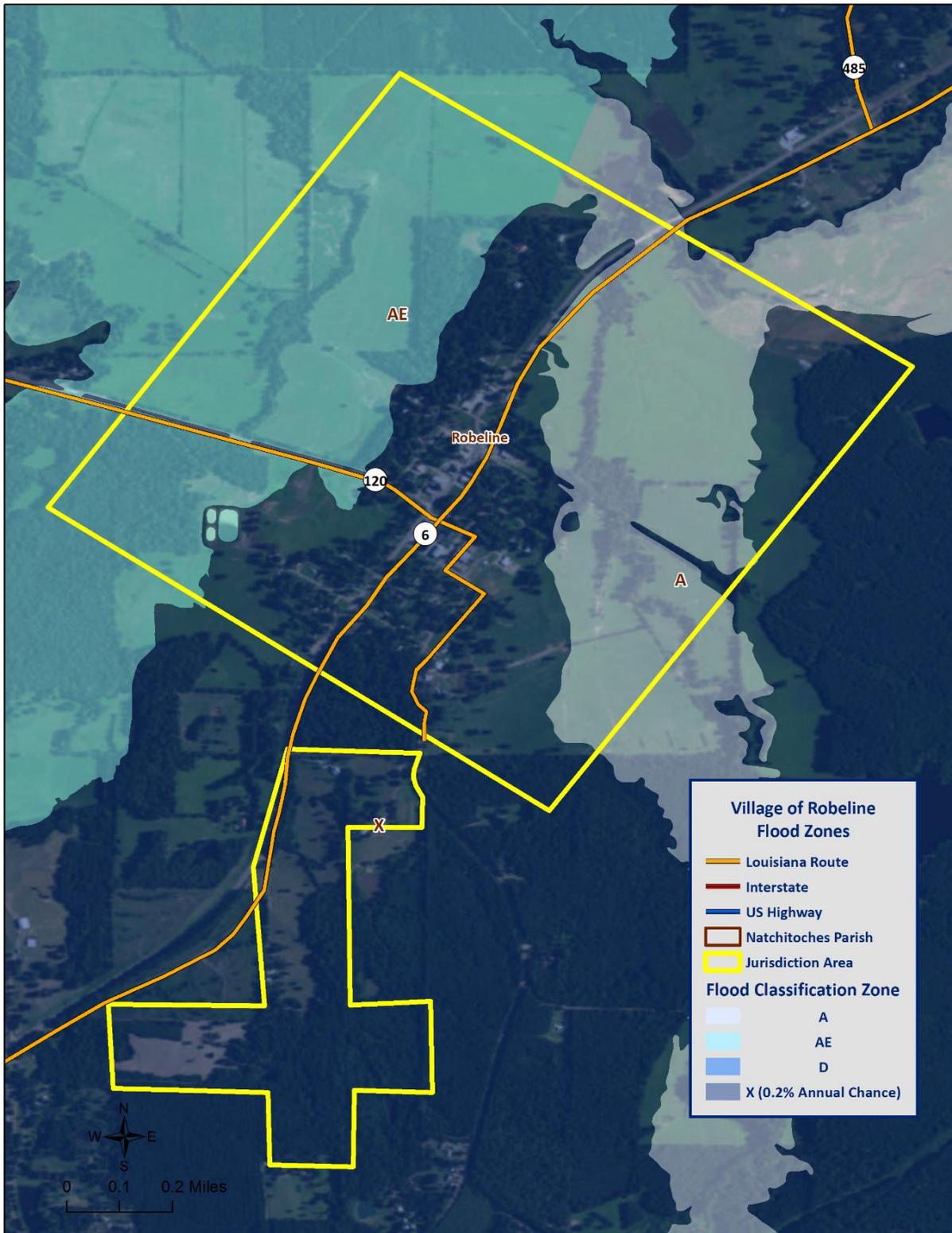


Figure 2-21: Village of Robeline Areas within the Flood Zones

Previous Occurrences / Extents

Historically, there have been 49 flooding events that have created significant flooding in Natchitoches Parish between 1990 and 2015. Below is a brief synopsis of the eight flooding events that have occurred since 2010, including flooding events that have occurred since the parish's last planning update.

Table 2-15: Historical Floods in Natchitoches Parish with Locations from 2010 - 2015

Date	Extents	Type of Flooding	Estimated Damages	Location
March 20, 2012	A large rain area encompassed Northwest Louisiana and produced flash floods throughout the parish. Several mobile homes were flooded on Cedar Grove Drive.	Flash Flood	\$200,000	PARISHWIDE
March 21, 2012	Heavy rainfall cause flash floods throughout the parish. Water completely covered Highway 3191 and Texas Street at the Sibley Lake boat launch. Boat houses along the Cane River flooded and high water approached the Rouge House in the downtown area of Natchitoches.	Flash Flood	\$1,400,000	PARISHWIDE
June 6, 2013	Heavy rains caused flash flooding in the unincorporated area east of Natchez. High water was over the roadway on Highway 119 in three different locations.	Flash Flood	\$0	UNINCORPORATED AREA
October 31, 2013	Allen-Marthaville Road was covered in 1 to 2 feet of swift moving water. Holly Grove in Robeline closed due to floodwaters. The Kisatchie Bayou Slough Bridge on Highway 181 closed due to damage from the floods.	Flash Flood	\$0	UNINCORPORATED AREA AND ROBELINE
April 6, 2014	Excessive heavy rainfall resulted in the closure of Highway 9 at Jim Bell Road.	Flash Flood	\$0	UNINCORPORATED AREA
June 10, 2014	A portion of Richard Jordan Loop Road was washed out near Highway 120 northwest of Robeline due to flash floods caused by heavy rainfall.	Flash Flood	\$0	UNINCORPORATED AREA
May 18, 2015	Heavy rains caused flash floods throughout the parish. Numerous roads were flooded and closed all throughout Natchitoches Parish.	Flash Flood	\$0	PARISHWIDE

Date	Extents	Type of Flooding	Estimated Damages	Location
June 1, 2015	Excessive rainfall resulted in high river levels on the Red River. 15,000 acres of farmland was inundated and approximately 4,000 heads of cattle had to be relocated with many lost in the flood waters.	Flood	\$500,000	UNINCORPORATED AREA

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. The incorporated areas of Natchitoches, Natchez, and Campti can expect flood depths from four to six feet, while the incorporated areas of Ashland, Clarence, Goldonna, Powhatan, Provencal, and Robeline can expect flooding levels of approximately two to four feet.

Frequency / Probability

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

Table 2-16: Annual Flood Probabilities for Natchitoches Parish

Jurisdiction	Annual Probability	Return Frequency
Natchitoches Parish (Unincorporated)	84%	1 – 2 years
Ashland	8%	12 – 13 years
Campti	20%	5 years
Clarence	8%	12 – 13 years
Goldonna	8%	12 – 13 years
Natchez	16%	6 - 7 years
Natchitoches	92%	1 – 2 years
Powhatan	12%	8 – 9 years
Provencal	12%	8 – 9 years
Robeline	8%	12 – 13 years

Based on historical record, the overall flooding probability for the entire Natchitoches Parish planning area is 100%, with 49 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 2-17* shows the total economic losses that would result from this occurrence.

*Table 2-17: Estimated Losses in Natchitoches Parish from a 100-Year Flood Event
(Source: Hazus 2.2)*

Jurisdiction	Estimated Total Losses from 100-Year Flood Event
Natchitoches Parish (Unincorporated)	\$30,661,000
Ashland	\$196,000
Campti	\$0
Clarence	\$0
Goldonna	\$365,000
Natchez	\$769,000
Natchitoches	\$5,087,000
Powhatan	\$0
Provencal	\$1,715,000
Robeline	\$940,000
Total	\$39,733,000

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:

*Table 2-18: Estimated Losses in Unincorporated Natchitoches Parish for a 100-Year Flood Event
(Source: Hazus 2.2)*

Natchitoches Parish (Unincorporated)	Estimated Total Losses from 100-Year Flood Event
Agricultural	\$767,000
Commercial	\$2,099,000
Government	\$224,000
Industrial	\$485,000
Religious / Non-Profit	\$2,782,000
Residential	\$24,287,000
Schools	\$17,000
Total	\$30,661,000

*Table 2-19: Estimated Losses in Ashland for a 100-Year Flood Event
(Source: Hazus 2.2)*

Ashland	Estimated Total Losses from 100-Year Flood Event
Agricultural	\$0
Commercial	\$15,000
Government	\$5,000
Industrial	\$0
Religious / Non-Profit	\$0
Residential	\$176,000
Schools	\$0
Total	\$196,000

*Table 2-20: Estimated Losses in Goldonna for a 100-Year Flood Event
(Source: Hazus 2.2)*

Goldonna	Estimated Total Losses from 100-Year Flood Event
Agricultural	\$0
Commercial	\$0
Government	\$0
Industrial	\$0
Religious / Non-Profit	\$19,000
Residential	\$346,000
Schools	\$0
Total	\$365,000

*Table 2-21: Estimated Losses in Natchez for a 100-Year Flood Event
(Source: Hazus 2.2)*

Natchez	Estimated Total Losses from 100-Year Flood Event
Agricultural	\$0
Commercial	\$172,000
Government	\$0
Industrial	\$0
Religious / Non-Profit	\$0
Residential	\$597,000
Schools	\$0
Total	\$769,000

*Table 2-22: Estimated Losses in Natchitoches for a 100-Year Flood Event
(Source: Hazus 2.2)*

Natchitoches	Estimated Total Losses from 100-Year Flood Event
Agricultural	\$65,000
Commercial	\$1,579,000
Government	\$514,000
Industrial	\$106,000
Religious / Non-Profit	\$394,000
Residential	\$2,412,000
Schools	\$17,000
Total	\$5,087,000

*Table 2-23: Estimated Losses in Provencal for a 100-Year Flood Event
(Source: Hazus 2.2)*

Provencal	Estimated Total Losses from 100-Year Flood Event
Agricultural	\$0
Commercial	\$0
Government	\$0
Industrial	\$0
Religious / Non-Profit	\$23,000
Residential	\$1,692,000
Schools	\$0
Total	\$1,715,000

*Table 2-24: Estimated Losses in Robeline for a 100-Year Flood Event
(Source: Hazus 2.2)*

Robeline	Estimated Total Losses from 100-Year Flood Event
Agricultural	\$0
Commercial	\$146,000
Government	\$86,000
Industrial	\$0
Religious / Non-Profit	\$580,000
Residential	\$128,000
Schools	\$0
Total	\$940,000

Threat to People

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

*Table 2-25: Vulnerable Populations Susceptible to a 100-Year Flood Event
(Source: Hazus 2.2)*

Number of People Located in 100-Year Flood Hazard			
Location	# in Community	# in Area	% in Area
Natchitoches Parish (Unincorporated)	17,472	3,101	17.7%
Ashland	269	8	3.0%
Campti	1,056	0	0%
Clarence	499	0	0%
Goldonna	430	12	2.8%
Natchez	597	190	31.8%
Natchitoches	18,323	1,384	7.6%
Powhatan	135	0	0%
Provencal	611	46	7.5%
Robeline	174	18	10.3%
Total	39,566	4,759	12.0%

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

*Table 2-26: Vulnerable Populations in Unincorporated Natchitoches Parish for a 100-Year Flood Event
Interaction Area
(Source: 2010 U.S. Census Data)*

Natchitoches (Unincorporated)		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	3,101	17.7%
Persons Under 5 Years	209	6.7%
Persons Under 18 Years	544	17.5%
Persons 65 Years and Over	418	13.5%
White	1,684	54.3%
Minority	1,417	45.7%

*Table 2-27: Vulnerable Populations in Ashland for a 100-Year Flood Event Interaction Area
(Source: 2010 U.S. Census Data)*

Ashland		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	8	3.0%
Persons Under 5 Years	0	5.2%
Persons Under 18 Years	1	14.9%
Persons 65 Years and Over	2	25.3%
White	7	82.9%
Minority	1	17.1%

*Table 2-28: Vulnerable Populations in Goldonna for a 100-Year Flood Event Interaction Area
(Source: 2010 U.S. Census Data)*

Goldonna		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	12	2.8%
Persons Under 5 Years	1	7.2%
Persons Under 18 Years	2	20.7%
Persons 65 Years and Over	2	15.1%
White	12	96.1%
Minority	0	4.0%

*Table 2-29: Vulnerable Populations in Natchez for a 100-Year Flood Event Interaction Area
(Source: 2010 U.S. Census Data)*

Natchez		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	190	31.8%
Persons Under 5 Years	16	8.4%
Persons Under 18 Years	41	21.4%
Persons 65 Years and Over	24	12.7%
White	17	8.7%
Minority	173	91.3%

*Table 2-30: Vulnerable Populations in Natchitoches for a 100-Year Flood Event Interaction Area
(Source: 2010 U.S. Census Data)*

Natchitoches		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	1,384	7.6%
Persons Under 5 Years	100	7.3%
Persons Under 18 Years	227	16.4%
Persons 65 Years and Over	163	11.8%
White	515	37.2%
Minority	869	62.8%

*Table 2-31: Vulnerable Populations in Provencal for a 100-Year Flood Event Interaction Area
(Source: 2010 U.S. Census Data)*

Provencal		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	46	7.5%
Persons Under 5 Years	3	6.4%
Persons Under 18 Years	10	22.3%
Persons 65 Years and Over	6	13.1%
White	43	94.1%
Minority	3	5.9%

*Table 2-32: Vulnerable Populations in Robeline for a 100-Year Flood Event Interaction Area
(Source: 2010 U.S. Census Data)*

Robeline		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	18	10.3%
Persons Under 5 Years	1	6.9%
Persons Under 18 Years	4	19.5%
Persons 65 Years and Over	2	11.5%
White	15	83.9%
Minority	3	16.1%

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 2-33: 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 2-34: 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 2-35: 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 2-36: 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 2-37: 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 Natchitoches Parish is equally at risk for hailstorms.

Previous Occurrences / Extents

The SHELDUS database reports 21 significant hailstorm events occurring within the boundaries of Natchitoches Parish between the years of 1990 - 2015. According to the National Climatic Data Center, hailstorm diameters experienced in Natchitoches Parish have ranged from 0.75 inches to 2.5 inches since 1990. The most frequently recorded hail size has been 0.75 inch diameters. *Figure 2-22* displays the density of hailstorms in Natchitoches Parish and adjacent parishes. Based on the National Climatic Data Center dataset, *Table 2-38* on the next page provides an overview of hailstorms that have impacted the Natchitoches Parish planning area since 2009. Natchitoches Parish can expect to experience hail up to 2.5 inches in diameter for future events.

*Table 2-38: Previous Occurrences of Hailstorms in Natchitoches Parish
(Source: NCDC)*

Date	Recorded Hail Size (inches)	Location
April 23, 2010	0.75	CAMPTI
April 24, 2010	2.5	MARTHAVILLE
May 17, 2010	1	MARTHAVILLE
December 31, 2010	1.75	PROVENCAL
April 4, 2011	1	NATCHITOCHE
April 27, 2011	0.75	NATCHITOCHE
May 25, 2011	1.75	POWHATAN
September 28, 2011	1	NATCHEZ
March 2, 2012	1.25	GRAND ECORE
May 16, 2013	1.5	BLACK LAKE
March 27, 2014	0.75	CLOUTIERVILLE
December 23, 2014	0.75	ROBELINE
April 19, 2015	1.75	BELLWOOD

Since 2010, there have been no significant hailstorm events in the incorporated areas of Ashland, Clarence, Goldonna, and Provencal.

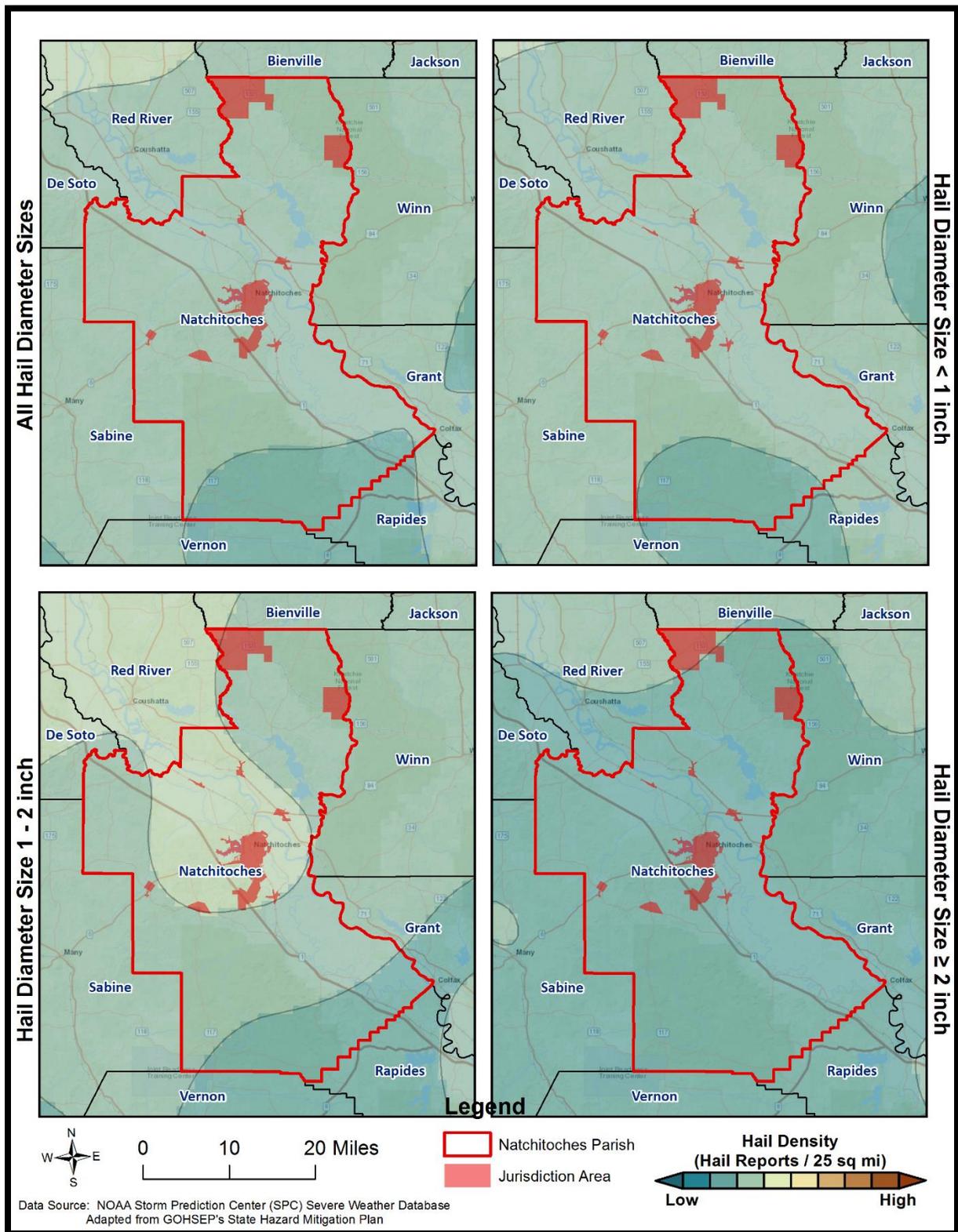


Figure 2-22: Density of Hailstorms by Diameter from 1950-2012
(Source: State of Louisiana Hazard Mitigation Plan 2014)

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 84%. The probability was determined based on a review of significant hail data that has caused damages in the last 25 years, in which Natchitoches Parish has had 21 recorded events.

Estimated Potential Losses

According to the SHELDUS database, property damage due to hailstorms in Natchitoches Parish have totaled approximately \$15,818 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 \$633. *Table 2-39* an estimate of potential property losses for Natchitoches Parish.

Table 2-39: Estimated Annual Losses for Hailstorm Events in Natchitoches Parish

Estimated Annual Potential Losses from Hailstorms for Natchitoches Parish				
Unincorporated Natchitoches Parish (44.2% of Population)	Ashland (0.7% of Population)	Campti (2.7% of Population)	Clarence (1.3% of Population)	Goldonna (1.1% of Population)
\$279	\$4	\$17	\$8	\$7

Table 2-39: Estimated Annual Losses for Hailstorm Events in Natchitoches Parish (Continued)

Estimated Annual Potential Losses from Hailstorms for Natchitoches Parish				
Natchez (1.5% of Population)	Natchitoches (46.3% of Population)	Powhatan (0.3% of Population)	Provencal (1.5% of Population)	Robeline (0.4% of Population)
\$10	\$293	\$2	\$10	\$3

There have been no deaths or injuries due to hailstorms from 1990 – 2015 in Natchitoches 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 Natchitoches Parish is equally at risk for high winds.

Previous Occurrences / Extents

The SHELDUS database reports a total of 171 thunderstorm wind events occurring within the boundaries of Natchitoches Parish between the years of 1990 to 2015. The significant thunderstorm wind events experienced in Natchitoches Parish have ranged in wind speed from 59 mph to 110 mph. Natchitoches Parish can expect to receive thunderstorm winds up to 110 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 2-40: Previous Occurrences for Thunderstorm High Wind Events 2010 - 2015

Location	Date	Recorded Wind Speeds (mph)	Property Damage	Crop Damage
MARTHAVILLE	May 17, 2010	61	\$0	\$0
MARTHAVILLE	May 17, 2010	61	\$0	\$0
NATCHITOCHE	August 16, 2010	59	\$0	\$0
CLARENCE	October 19, 2010	59	\$0	\$0
MARTHAVILLE	February 1, 2011	60	\$0	\$0
CAMPTI	April 25, 2011	61	\$0	\$0
BERMUDA	April 26, 2011	110	\$2,000,000	\$0
NATCHITOCHE	April 27, 2011	90	\$0	\$0
CHESTNUT	May 25, 2011	60	\$0	\$0
NATCHITOCHE	November 8, 2011	62	\$0	\$0
MARCO	January 25, 2012	60	\$20,000	\$0
GALBRAITH	January 25, 2012	61	\$10,000	\$0
MARTHAVILLE	March 20, 2012	61	\$0	\$0
PROVENCAL	March 20, 2012	61	\$0	\$0
ASHLAND	March 20, 2012	61	\$0	\$0
MARTHAVILLE	June 13, 2012	61	\$0	\$0
MELROSE	August 5, 2012	61	\$0	\$0
BELLWOOD	August 5, 2012	61	\$0	\$0
NATCHITOCHE	August 7, 2012	60	\$0	\$0
NATCHITOCHE	August 7, 2012	60	\$0	\$0
NATCHITOCHE	December 20, 2012	62	\$0	\$0
NATCHITOCHE	March 31, 2013	62	\$0	\$0
OSHKOSH	May 21, 2013	62	\$0	\$0
BERMUDA	June 6, 2013	61	\$0	\$0
NATCHITOCHE	June 6, 2013	61	\$10,000	\$0
POWHATAN	July 27, 2013	61	\$0	\$0
NATCHITOCHE	December 21, 2013	66	\$0	\$0
NATCHITOCHE	March 28, 2014	66	\$0	\$0
CLEAR LAKE	March 28, 2014	63	\$0	\$0
CAMPTI	October 13, 2014	63	\$0	\$0
SHAMROCK MILL	January 3, 2015	62	\$0	\$0
CAMPTI	January 3, 2015	61	\$0	\$0
NATCHITOCHE	January 3, 2015	62	\$0	\$0
CAMPTI	May 24, 2015	62	\$0	\$0
KING HILL	July 4, 2015	60	\$3,000	\$0
NATCHEZ	July 9, 2015	60	\$0	\$0
NATCHITOCHE	September 11, 2015	62	\$15,000	\$0
NATCHITOCHE	November 17, 2015	62	\$0	\$0

Location	Date	Recorded Wind Speeds (mph)	Property Damage	Crop Damage
BLACK LAKE	December 13, 2015	62	\$0	\$0
NATCHITOCHES	December 27, 2015	62	\$0	\$0
NATCHITOCHES	February 15, 2016	60	\$0	\$0

Since 2010, there have been no significant high wind events in the incorporated areas of Goldonna, Natchez, and Robeline.

Frequency

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

Estimated Potential Losses

Since 1990, there have been 171 significant wind events that have resulted in property damages according to the SHELDUS database. The total property damages associated with those storms have totaled \$7,645,531. 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 \$305,821. The following table provides an estimate of potential property losses for Natchitoches Parish:

Table 2-41: Estimated Annual Losses for High Wind Events in Natchitoches Parish

Estimated Annual Potential Losses from High Winds for Natchitoches Parish				
Unincorporated Natchitoches Parish (44.2% of Population)	Ashland (0.7% of Population)	Campti (2.7% of Population)	Clarence (1.3% of Population)	Goldonna (1.1% of Population)
\$135,048	\$2,079	\$8,162	\$3,857	\$3,324

Table 2-41: Estimated Annual Losses for Winter Weather Events in Natchitoches Parish (Continued)

Estimated Annual Potential Losses from High Winds for Natchitoches Parish				
Natchez (1.5% of Population)	Natchitoches (46.3% of Population)	Powhatan (0.3% of Population)	Provencal (1.5% of Population)	Robeline (0.4% of Population)
\$4,614	\$141,626	\$1,043	\$4,723	\$1,345

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 Natchitoches Parish.

Previous Occurrences / Extents

The SHELDUS database reports a total of four lightning events occurring within the boundaries of Natchitoches 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 Natchitoches 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 below provides an overview of significant lightning strikes over the last five years:

Table 2-42: Previous Occurrences of Significant Lightning Strikes in Natchitoches Parish from 2010 – 2015
(Source: NCDC and SHELDUS)

Location	Date	Summary	Property Damage
NATCHITOCHESES	July 15, 2014	Lightning struck a home on Mr. Ed Lane near Lake Sibley just northwest of the city of Natchitoches.	\$200,000

Since 2010, there have been no lightning events that have caused property damage or loss of life in the incorporated areas of Ashland, Campti, Clarence, Goldonna, Natchez, Powhatan, Provencal, and Robeline.

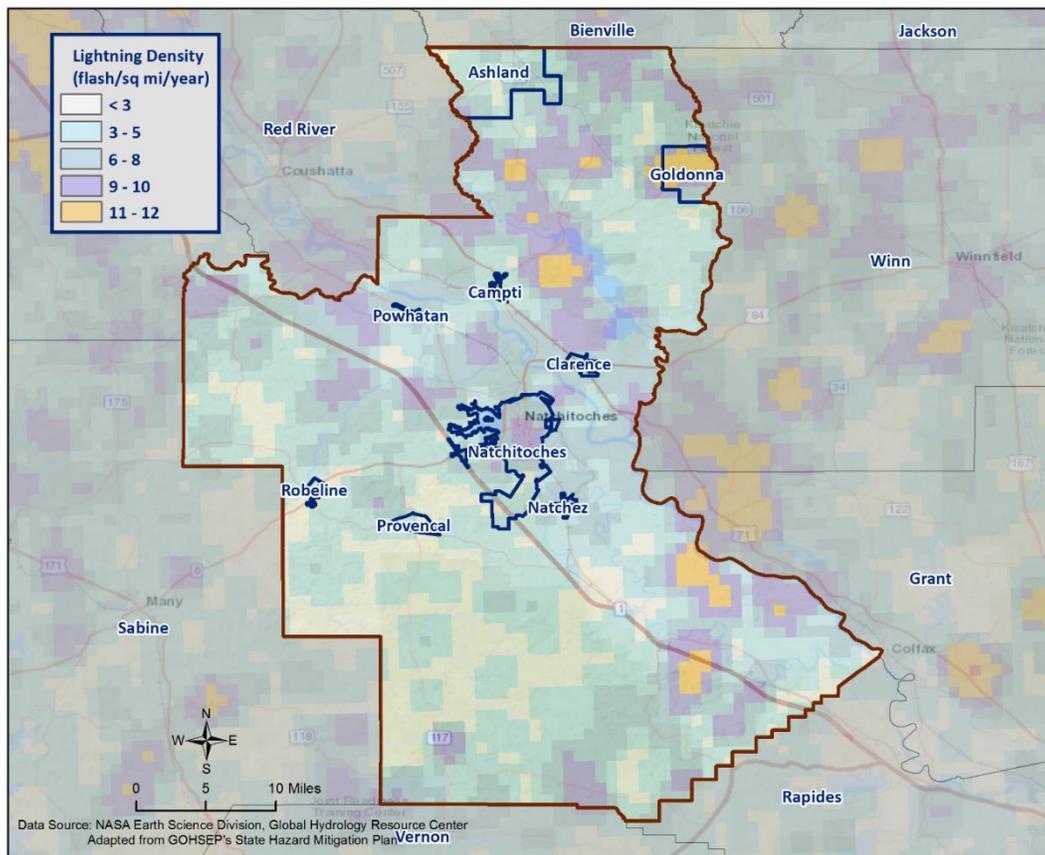


Figure 2-23: Lightning Density Reports for Natchitoches Parish

Frequency

Lightning can strike anywhere and is produced by every thunderstorm, so the chance of lightning occurring in Natchitoches 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 four lightning events that have caused property damages or injuries over the last 25 years, establishing an annual probability of 16%.

Estimated Potential Losses

Since 1990, there have been four significant lightning events that have resulted in property damages according to the SHELDUS database. The total property damages associated with lightning events totaled \$281,908. 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 \$11,276. The tables below provide an estimate of potential property losses for Natchitoches Parish.

Table 2-43: Estimated Annual Losses for Lightning Events in Natchitoches Parish

Estimated Annual Potential Losses from Lightning for Natchitoches Parish				
Unincorporated Natchitoches Parish (44.2% of Population)	Ashland (0.7% of Population)	Campti (2.7% of Population)	Clarence (1.3% of Population)	Goldonna (1.1% of Population)
\$4,980	\$77	\$301	\$142	\$123

Table 2-43: Estimated Annual Losses for Lightning Events in Natchitoches Parish (Continued)

Estimated Annual Potential Losses from Lightning for Natchitoches Parish				
Natchez (1.5% of Population)	Natchitoches (46.3% of Population)	Powhatan (0.3% of Population)	Provencal (1.5% of Population)	Robeline (0.4% of Population)
\$170	\$5,222	\$38	\$174	\$50

There have been no injuries or fatalities in Natchitoches 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 2-44: Comparison of the Enhanced Fujita (EF) Scale to the Fujita (F) Scale

Wind Speed (mph)	Enhanced Fujita Scale					
	EF0	EF1	EF2	EF3	EF4	EF5
	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 2-45: 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 Natchitoches Parish with actual locations, tornadoes in general are a climatological based hazard and have the same approximate probability of occurring in Natchitoches Parish as all of its jurisdictions. Because a tornado has a similar probability of striking anywhere within the planning area for Natchitoches Parish, all jurisdictions are equally at risk for tornadoes.

Previous Occurrences / Extents

SHELDUS reports a total of 31 tornadoes or waterspouts occurring within the boundaries of Natchitoches Parish between the years of 1990 - 2015. The tornadoes experienced in Natchitoches Parish have from ranged EF0 to EF2 on the EF scale, and ranged from F0 to F3 on the F scale. The worst case scenario Natchitoches Parish can expect in the future is an EF3 tornado.

The tornado that caused the most damage to property and resulted in the most injuries and fatalities occurred on April 20, 1976. The F1 tornado was responsible for over \$2 million in damage, 27 injuries, and one direct fatality.

Table 2-46: Historical Tornadoes in Natchitoches Parish with Locations from 2010 - 2015

Date	Impacts	Property Damage	Location	Magnitude
January 20, 2010	4.6 mile path with a width of 300 yards. Topped several large trees.	\$0	HAGEWOOD	EF0
April 26, 2011	7.97 mile path with a width of 880 yards. Numerous homes were damaged and trees uprooted. One of two tornadoes that affected the parish on this day.	\$2,092,788	ROBELINE	EF1
April 26, 2011	12.84 mile path with a width of 880 yards. Moderately damaged a mobile home and fell several trees and power lines.	\$64,725	FLORA	EF2
May 25, 2011	1.39 mile path with a width of 50 yards. Broke off several large branches and uprooted small trees.	\$0	NATCHEZ	EF0
November 8, 2011	1.93 mile path with a width of 200 yards. Knocked down several trees and power lines in Kisatchie National Forest.	\$0	BELLWOOD	EF1
March 20, 2012	0.6 mile path with a width of 75 yards. Snapped several trees and downed a few power lines along Hwy 156.	\$0	GOLDONNA	EF0
March 20, 2012	1.04 mile path with a width of 50 yards. Three homes sustained damage with one sustaining moderate roof damage.	\$61,866	NATCHITOCHES	EF0
February 21, 2013	0.01 mile path with a width of 30 yards. Snapped a large pine and broke a few branches.	\$0	GORUM	EF1

The incorporated areas of Ashland, Campti, Clarence, Powhatan, and Provencal 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, Natchitoches Parish has had three tornadoes touchdown in the unincorporated areas of the parish and in the incorporated areas of Goldonna and Natchitoches. The following is a brief synopsis of these events:

March 20, 2012 – EF0 Tornado in Goldonna

An EFO tornado touched down southeast of Goldonna along State Route 156. Several trees were snapped on both sides of the road and several power lines were downed. Several of the downed trees fell on railroad tracks east of Highway 156.

March 20, 2012 – EF0 Tornado in Natchitoches

An EFO tornado touched down east of Natchitoches near the Cedar Grove Mobile Home Park. A tree was snapped along Highway 494 leading east into the mobile home park. Three homes sustained damage with one sustaining moderate roof damage. Debris was scattered east as the tornado crossed a field and lifted.

February 21, 2013 – EF1 Tornado in Gorum

The National Weather Service determined that a tornado briefly touched down in the Kisatchie National Forest in Southern Natchitoches Parish on Kisatchie-Mora Road. The tornado damage consisted of a large pine tree being snapped and a few broken branches.

Frequency / Probability

Tornadoes are a sporadic occurrence within Natchitoches Parish, with an annual chance of occurrence calculated at 100% 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 Natchitoches Parish and neighboring parishes.

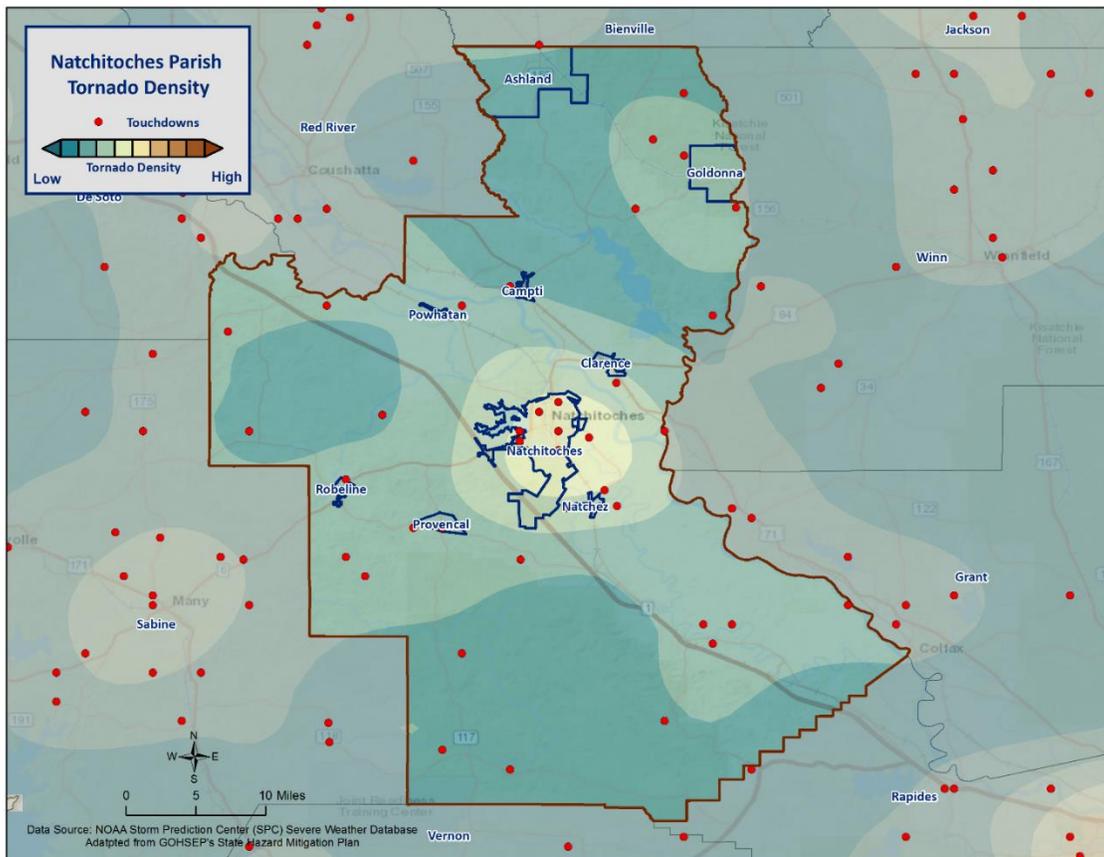


Figure 2-24: Location and Density of Tornadoes to Touch Down in Natchitoches Parish (Source: NOAA/SPC Severe Weather Database)

Estimated Potential Losses

According to the SHELDUS database, there have been 31 tornadoes that have caused some level of property damage. The total damage from the actual claims for property is \$7,699,139, with an average cost of \$549,939 per tornado strike. When annualizing the total cost over the 25-year record, total annual losses based on tornadoes are estimated to be \$307,966. 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 tables on the next page provides an annual estimate of potential losses for Natchitoches Parish.

Table 2-47: Estimated Annual Losses for Tornadoes in Natchitoches Parish

Estimated Annual Potential Losses from Tornadoes for Natchitoches Parish				
Unincorporated Natchitoches Parish (44.2% of Population)	Ashland (0.7% of Population)	Campti (2.7% of Population)	Clarence (1.3% of Population)	Goldonna (1.1% of Population)
\$4,789	\$74	\$289	\$137	\$118

Table 2-47: Estimated Annual Losses for Tornadoes in Natchitoches Parish (Continued)

Estimated Annual Potential Losses from Tornadoes for Natchitoches Parish				
Natchez (1.5% of Population)	Natchitoches (46.3% of Population)	Powhatan (0.3% of Population)	Provencal (1.5% of Population)	Robeline (0.4% of Population)
\$164	\$5,023	\$37	\$167	\$48

Table 2-48 presents an analysis of building exposure that is susceptible to tornadoes by general occupancy type for Natchitoches Parish, along with the percentage of building stock that are mobile homes.

Table 2-48: Building Exposure by General Occupancy Type for Tornadoes in Natchitoches 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 (%)
4,152,620	900,677	127,556	35,838	215,378	55,499	140,867	22.8%

The parish has suffered through a total of three days in which tornadoes or waterspouts have accounted for six injuries and no fatalities during this 25-year period (Table 2-49). The average number of injuries per event for Natchitoches Parish is 0.43 per tornado, with an average of 0.24 per year for the 25-year period.

Table 2-49: Tornadoes in Natchitoches Parish by Magnitude that Caused Injuries or Deaths

Date	Magnitude	Deaths	Injuries
February 2, 1990	F1	0	2
November 11, 2004	F2	0	1
March 30, 2008	EFO	0	3

In assessing the overall risk to population, the most vulnerable population throughout the parish are those residing in manufacturing housing. Approximately 22.8% of all housing in Natchitoches Parish consists of manufactured housing. Based on location data collected in a previous hazard mitigation project, there are 29 known locations where manufactured housing is concentrated. Each of those 29 locations have an overall number of manufactured houses ranging from one to 250. The location and density of manufactured houses can be seen in Figure 2-25.

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 Natchitoches Parish (*Table 2-50*). 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 2-50: Manufactured Home Distribution throughout Natchitoches Parish

Location	Number of Manufactured Home Parks	% of Manufactured Home Parks
Unincorporated	20	69%
Ashland	0	0%
Campti	3	10.3%
Clarence	0	0%
Goldonna	0	0%
Natchez	0	0%
Natchitoches	6	20.7%
Powhatan	0	0%
Provençal	0	0%
Robeline	0	0%

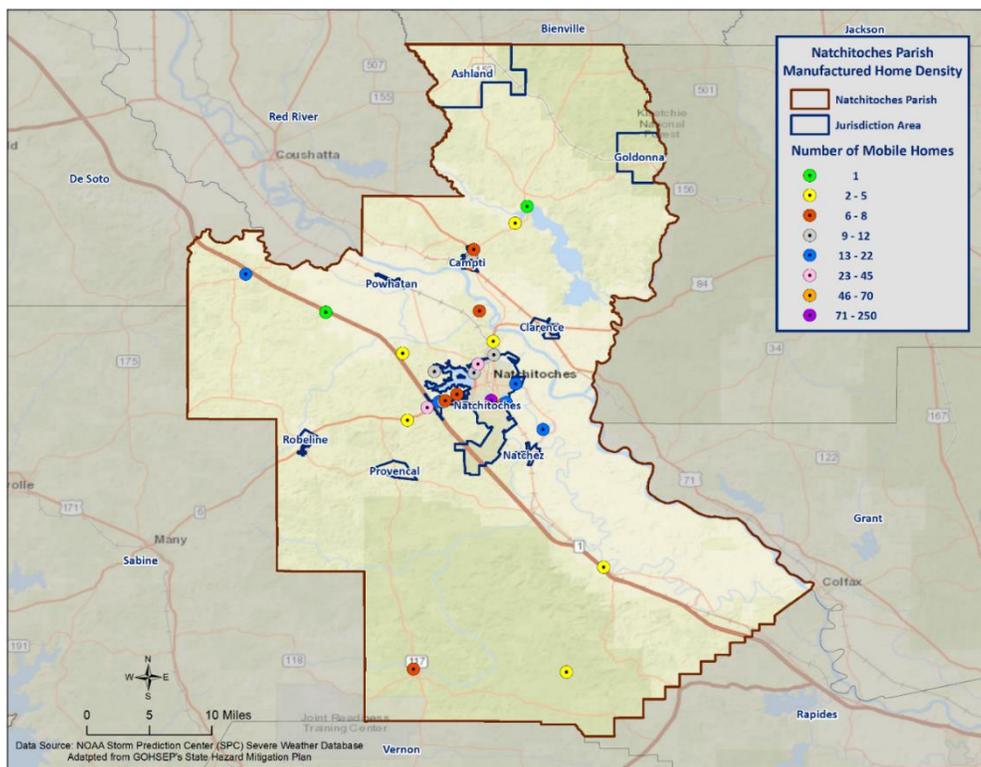


Figure 2-25: Location and Approximate Number of Units in Manufactured Housing Locations throughout Natchitoches Parish

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 2-51: 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 all 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 Natchitoches 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 Natchitoches Parish between the years 2002 and 2014 (*Table 2-52*). The tropical cyclone events experienced in Natchitoches Parish include depressions, storms, and hurricanes. As a worst case scenario, Natchitoches Parish can expect to experience hurricanes at the Category 1 level in the future.

*Table 2-52: Historical Tropical Cyclone Events in Natchitoches Parish from 2002-2015
(Source: SHELDUS)*

Date	Name	Storm Type At Time of Impact
September 24, 2005	Rita	Tropical Storm
September 1, 2008	Gustav	Tropical Storm
September 12, 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 Natchitoches Parish, several trees and power lines were downed. Localized flooding was experienced along the eastern border of the parish.

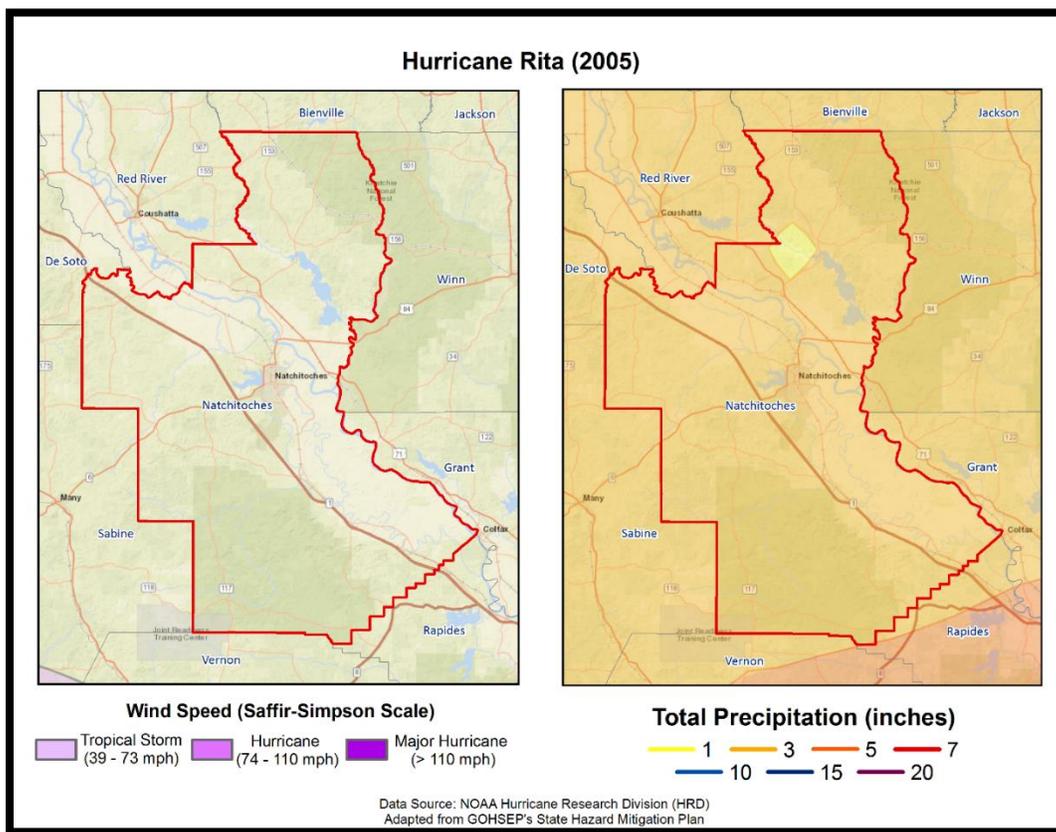


Figure 2-26: Wind Speed and Precipitation Totals in Natchitoches Parish for Hurricane Rita

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 Natchitoches Parish, Hurricane Gustav produced tropical storm force winds and gusts that resulted in numerous trees and power lines being downed across the entire parish. Wind gusts upwards of 70 mph were experienced in several portions of the parish. Many parish roads were impassable from debris and fallen trees during the height of the storm. A tree fell across a vehicle in the town of Goldonna, but no injuries were reported. Other structural damage in the parish include roof damage to businesses on Horn Street, St. Dennis Street, and Second Street. A tree was downed on a home on North Williams Avenue and another tree was downed on a home on Hancock Street.

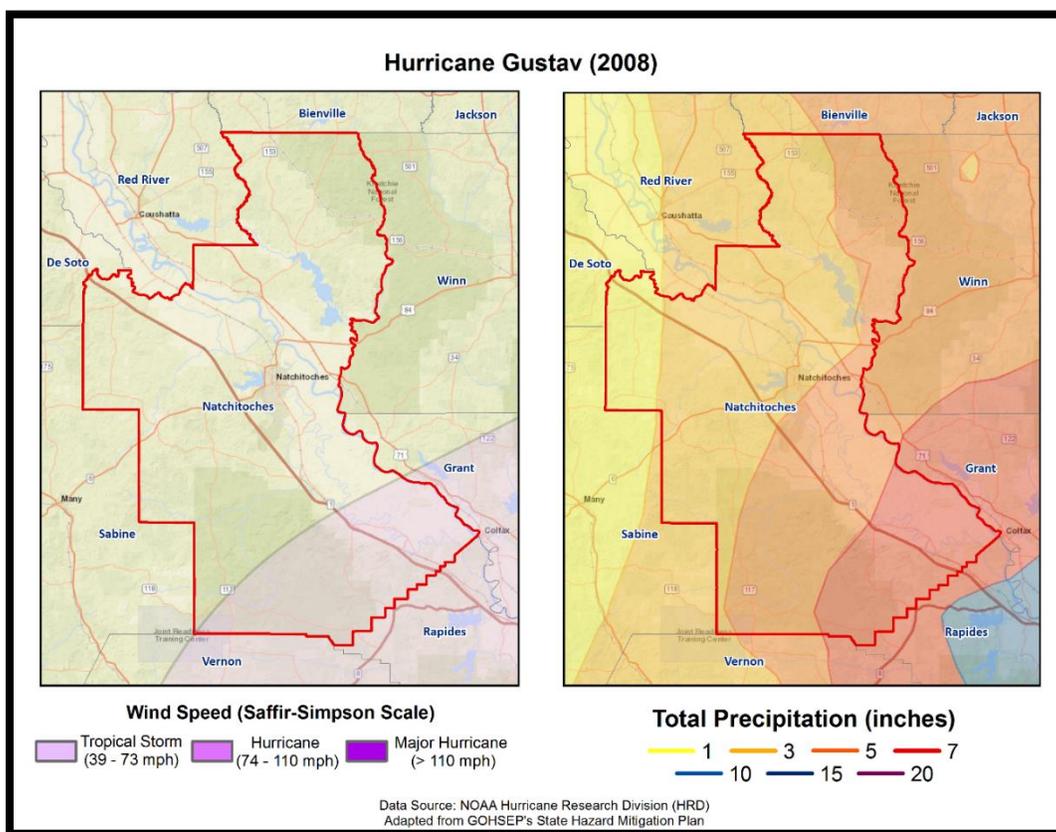


Figure 2-27: Wind Speed and Precipitation Totals in Natchitoches Parish for Hurricane Gustav

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.

In Natchitoches Parish, tropical storm force winds were responsible for widespread tree and power line damage throughout the parish. The southern portion of the parish was the hardest hit, with numerous trees and power lines downed which led to widespread power outages.

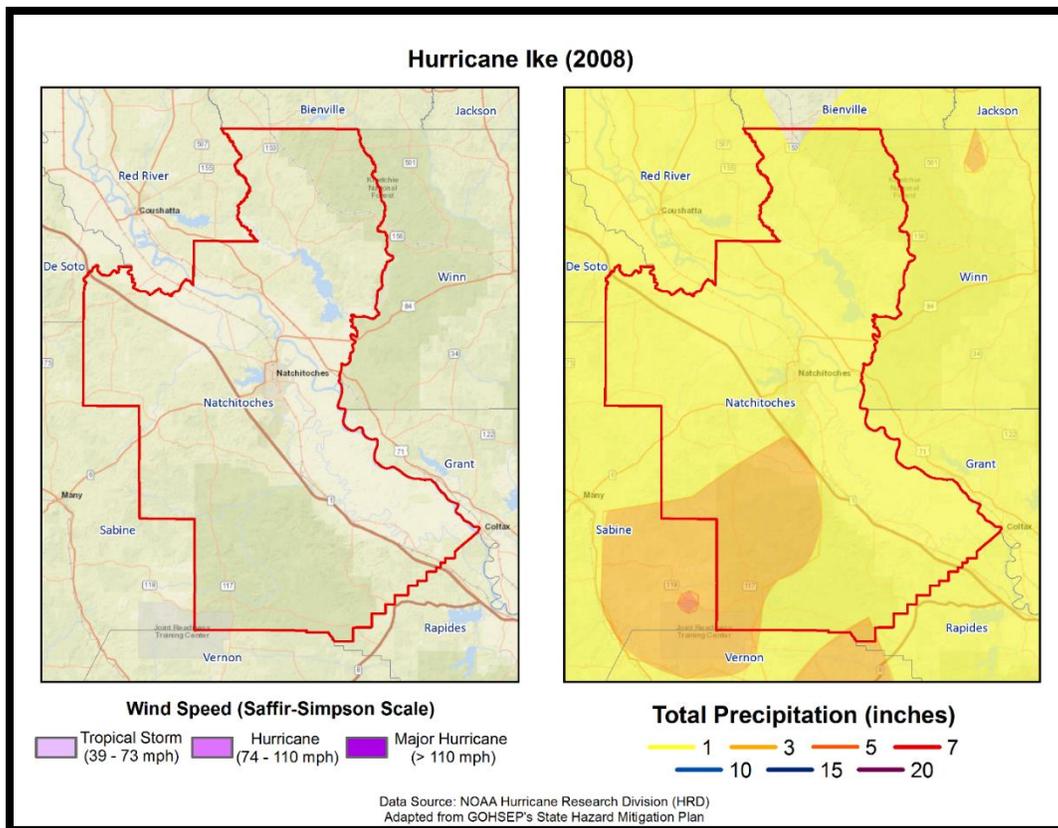


Figure 2-28: Wind Speed and Precipitation Totals in Natchitoches Parish for Hurricane Ike

The following figure displays the wind zones that affect Natchitoches Parish in relation to critical facilities throughout the parish.

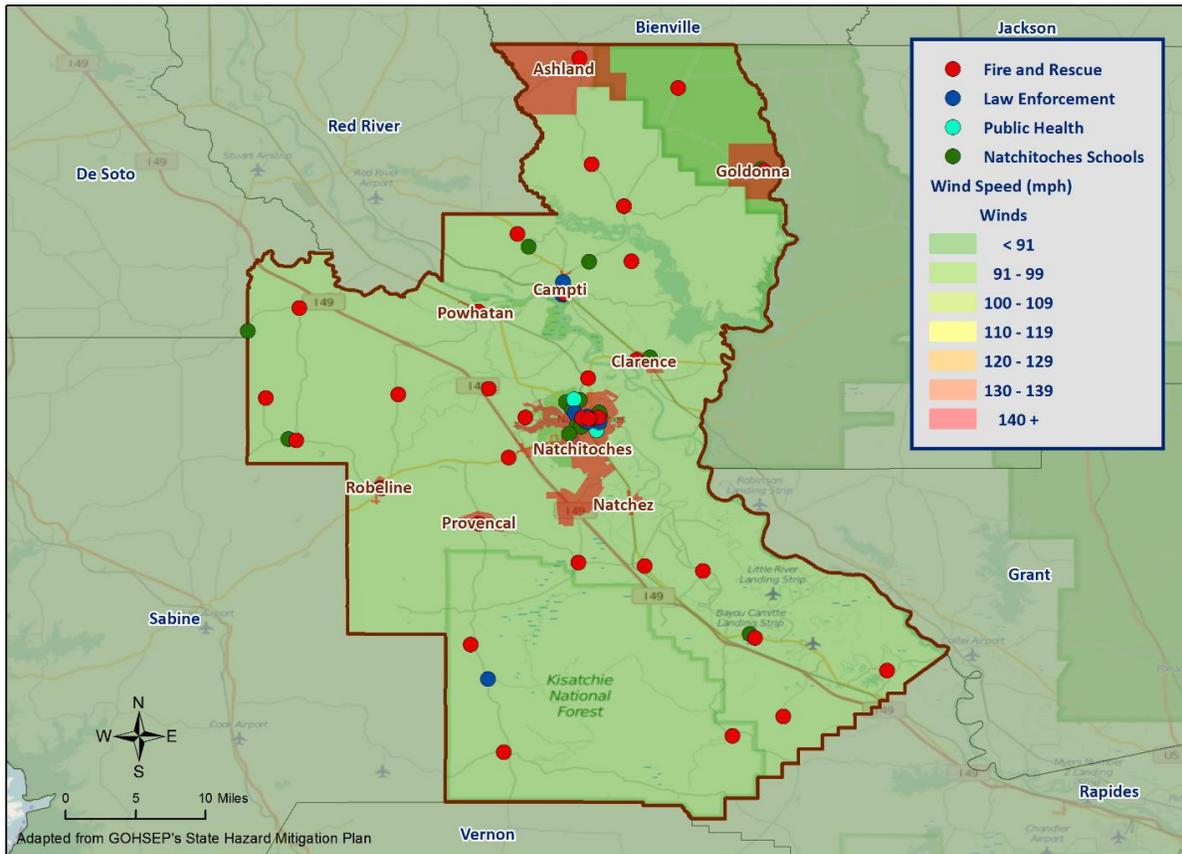


Figure 2-29: Winds Zones for Natchitoches Parish in Relation to Critical Facilities

Frequency / Probability

Tropical cyclones are large natural hazard events that regularly impact Natchitoches Parish. The annual chance of occurrence for a tropical cyclone is estimated at 12% for Natchitoches 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 table on the next page shows the total economic losses that would result from this occurrence.

*Table 2-53: Total Estimated Losses for a 100-Year Hurricane Event
(Source: Hazus 2.2)*

Jurisdiction	Estimated Total Losses from 100-Year Hurricane Event
Natchitoches Parish (Unincorporated)	\$1,961,943
Ashland	\$30,206
Campti	\$118,579
Clarence	\$56,033
Goldonna	\$48,285
Natchez	\$67,038
Natchitoches	\$2,057,503
Powhatan	\$15,159
Provencal	\$68,610
Robeline	\$19,539
Total	\$4,442,895

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 2-54: Ratio of Total Losses to Total Estimated Value of Assets for each Jurisdiction in Natchitoches 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	\$1,961,943	\$2,278,844,000	0.1%
Ashland	\$30,206	\$38,551,000	0.1%
Campti	\$118,579	\$135,222,000	0.1%
Clarence	\$56,033	\$44,882,000	0.1%
Goldonna	\$48,285	\$41,890,000	0.1%
Natchez	\$67,038	\$52,870,000	0.1%
Natchitoches	\$2,057,503	\$2,911,035,000	0.1%
Powhatan	\$15,159	\$20,323,000	0.1%
Provencal	\$68,610	\$71,891,000	0.1%
Robeline	\$19,539	\$32,927,000	0.1%

Based on the Hazus 2.2 Hurricane Model, estimated total losses were 0.1% of the total estimated value of all assets for Natchitoches Parish and its incorporated areas.

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 tables on the following pages.

*Table 2-55: Estimated Losses in Unincorporated Natchitoches Parish for a 100-Year Hurricane Event
(Source: Hazus 2.2)*

Natchitoches Parish (Unincorporated)	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$734
Commercial	\$22,426
Government	\$1,129
Industrial	\$2,307
Religious / Non-Profit	\$4,540
Residential	\$1,928,127
Schools	\$2,681
Total	\$1,961,943

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

Ashland	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$11
Commercial	\$345
Government	\$17
Industrial	\$36
Religious / Non-Profit	\$70
Residential	\$29,686
Schools	\$41
Total	\$30,206

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

Campti	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$44
Commercial	\$1,355
Government	\$68
Industrial	\$139
Religious / Non-Profit	\$274
Residential	\$116,535
Schools	\$162
Total	\$118,579

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

Clarence	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$21
Commercial	\$640
Government	\$32
Industrial	\$66
Religious / Non-Profit	\$130
Residential	\$55,067
Schools	\$77
Total	\$56,033

*Table 2-59: Estimated Losses in Goldonna for a 100-Year Hurricane Event
(Source: Hazus 2.2)*

Goldonna	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$18
Commercial	\$552
Government	\$28
Industrial	\$57
Religious / Non-Profit	\$112
Residential	\$47,453
Schools	\$66
Total	\$48,285

*Table 2-60: Estimated Losses in Natchez for a 100-Year Hurricane Event
(Source: Hazus 2.2)*

Natchez	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$25
Commercial	\$766
Government	\$39
Industrial	\$79
Religious / Non-Profit	\$155
Residential	\$65,882
Schools	\$92
Total	\$67,038

*Table 2-61: Estimated Losses in Natchitoches for a 100-Year Hurricane Event
(Source: Hazus 2.2)*

Natchitoches	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$770
Commercial	\$23,518
Government	\$1,183
Industrial	\$2,419
Religious / Non-Profit	\$4,761
Residential	\$2,022,039
Schools	\$2,812
Total	\$2,057,503

*Table 2-62: Estimated Losses in Powhatan for a 100-Year Hurricane Event
(Source: Hazus 2.2)*

Powhatan	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$6
Commercial	\$173
Government	\$9
Industrial	\$18
Religious / Non-Profit	\$35
Residential	\$14,898
Schools	\$21
Total	\$15,159

*Table 2-63: Estimated Losses in Provençal for a 100-Year Hurricane Event
(Source: Hazus 2.2)*

Provençal	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$26
Commercial	\$784
Government	\$39
Industrial	\$81
Religious / Non-Profit	\$159
Residential	\$67,427
Schools	\$94
Total	\$68,610

Table 2-64: Estimated Losses in Robeline for a 100-Year Hurricane Event
(Source: Hazus 2.2)

Robeline	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$7
Commercial	\$223
Government	\$11
Industrial	\$23
Religious / Non-Profit	\$45
Residential	\$19,202
Schools	\$27
Total	\$19,539

Threat to People

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

Table 2-65: Number of People Susceptible to a 100-Year Hurricane Event in Natchitoches Parish
(Source: Hazus 2.2)

Number of People Exposed to Hurricane Hazards			
Location	# in Community	# in Hazard Area	% in Hazard Area
Parish (Unincorporated)	17,472	17,472	100%
Ashland	269	269	100%
Campti	1,056	1,056	100%
Clarence	499	499	100%
Goldonna	430	430	100%
Natchez	597	597	100%
Natchitoches	18,323	18,323	100%
Powhatan	135	135	100%
Provencal	611	611	100%
Robeline	174	174	100%
Total	39,566	39,566	100.0%

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

*Table 2-66: Vulnerable Populations in Unincorporated Natchitoches Parish for a 100-Year Hurricane Event Interaction Area
(Source: 2010 U.S. Census Data)*

Natchitoches (Unincorporated)		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	17,472	100.0%
Persons Under 5 Years	1,176	6.7%
Persons Under 18 Years	3,065	17.5%
Persons 65 Years and Over	2,353	13.5%
White	9,491	54.3%
Minority	7,981	45.7%

*Table 2-67: Vulnerable Populations in Ashland for a 100-Year Hurricane Event
(Source: 2010 U.S. Census Data)*

Ashland		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	269	100.0%
Persons Under 5 Years	14	5.2%
Persons Under 18 Years	40	14.9%
Persons 65 Years and Over	68	25.3%
White	223	82.9%
Minority	46	17.1%

*Table 2-68: Vulnerable Populations in Campti for a 100-Year Hurricane Event
(Source: 2010 U.S. Census Data)*

Campti		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	1,056	100.0%
Persons Under 5 Years	75	7.1%
Persons Under 18 Years	249	23.6%
Persons 65 Years and Over	101	9.6%
White	289	27.4%
Minority	767	72.6%

*Table 2-69: Vulnerable Populations in Clarence for a 100-Year Hurricane Event
(Source: 2010 U.S. Census Data)*

Clarence		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	499	100.0%
Persons Under 5 Years	32	6.4%
Persons Under 18 Years	113	22.7%
Persons 65 Years and Over	60	12.0%
White	116	23.3%
Minority	383	76.8%

*Table 2-70: Vulnerable Populations in Goldonna for a 100-Year Hurricane Event
(Source: 2010 U.S. Census Data)*

Goldonna		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	430	100.0%
Persons Under 5 Years	31	7.2%
Persons Under 18 Years	89	20.7%
Persons 65 Years and Over	65	15.1%
White	413	96.1%
Minority	17	4.0%

*Table 2-71: Vulnerable Populations in Natchez for a 100-Year Hurricane Event
(Source: 2010 U.S. Census Data)*

Natchez		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	597	100.0%
Persons Under 5 Years	50	8.4%
Persons Under 18 Years	128	21.4%
Persons 65 Years and Over	76	12.7%
White	52	8.7%
Minority	545	91.3%

*Table 2-72: Vulnerable Populations in Natchitoches for a 100-Year Hurricane Event
(Source: 2010 U.S. Census Data)*

Natchitoches		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	18,323	100.0%
Persons Under 5 Years	1,328	7.3%
Persons Under 18 Years	3,007	16.4%
Persons 65 Years and Over	2,160	11.8%
White	6,823	37.2%
Minority	11,500	62.8%

*Table 2-73: Vulnerable Populations in Powhatan for a 100-Year Hurricane Event
(Source: 2010 U.S. Census Data)*

Powhatan		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	135	100.0%
Persons Under 5 Years	4	3.0%
Persons Under 18 Years	34	25.2%
Persons 65 Years and Over	36	26.7%
White	34	25.2%
Minority	101	74.8%

*Table 2-74: Vulnerable Populations in Provencal for a 100-Year Hurricane Event
(Source: 2010 U.S. Census Data)*

Provencal		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	611	100.0%
Persons Under 5 Years	39	6.4%
Persons Under 18 Years	136	22.3%
Persons 65 Years and Over	80	13.1%
White	575	94.1%
Minority	36	5.9%

Table 2-75: Vulnerable Populations in Robeline for a 100-Year Hurricane Event
(Source: 2010 U.S. Census Data)

Robeline		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	174	100.0%
Persons Under 5 Years	12	6.9%
Persons Under 18 Years	34	19.5%
Persons 65 Years and Over	20	11.5%
White	146	83.9%
Minority	28	16.1%

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 2-30* displays the areas of wildland-urban interaction in Natchitoches 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 2-76: 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 Natchitoches Parish and its jurisdictions.

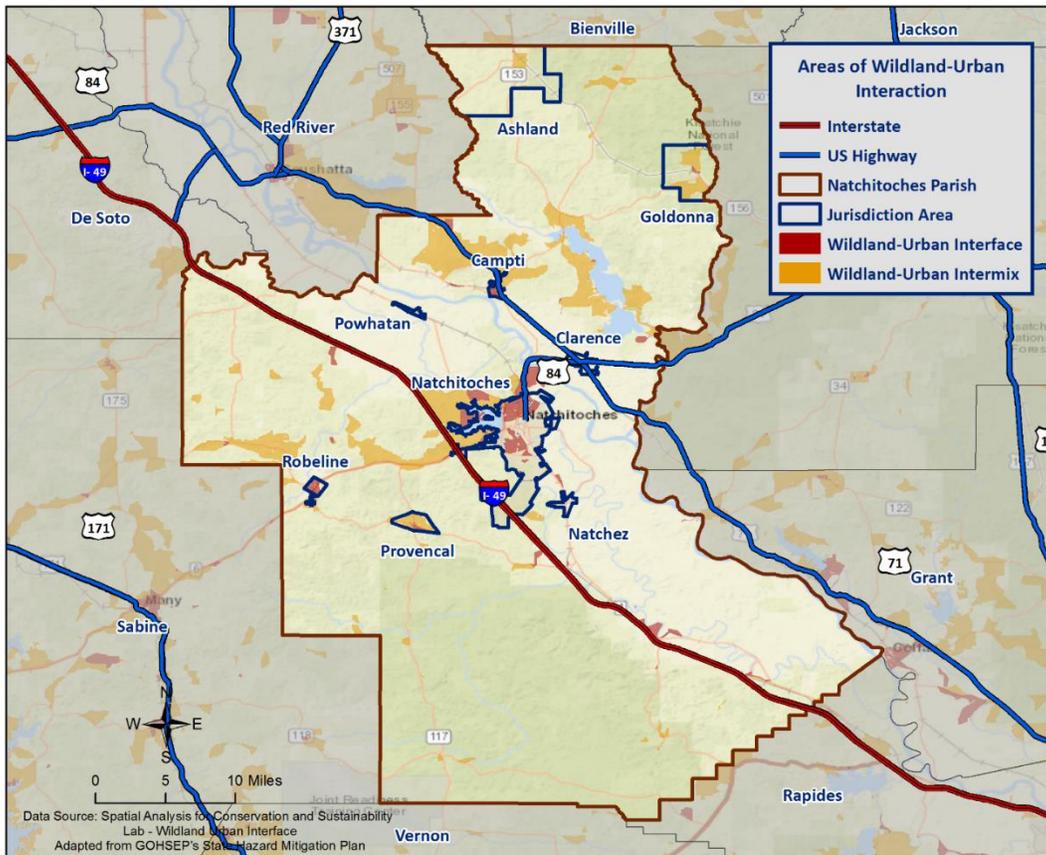


Figure 2-30: Wildland-Urban Interaction in Natchitoches Parish

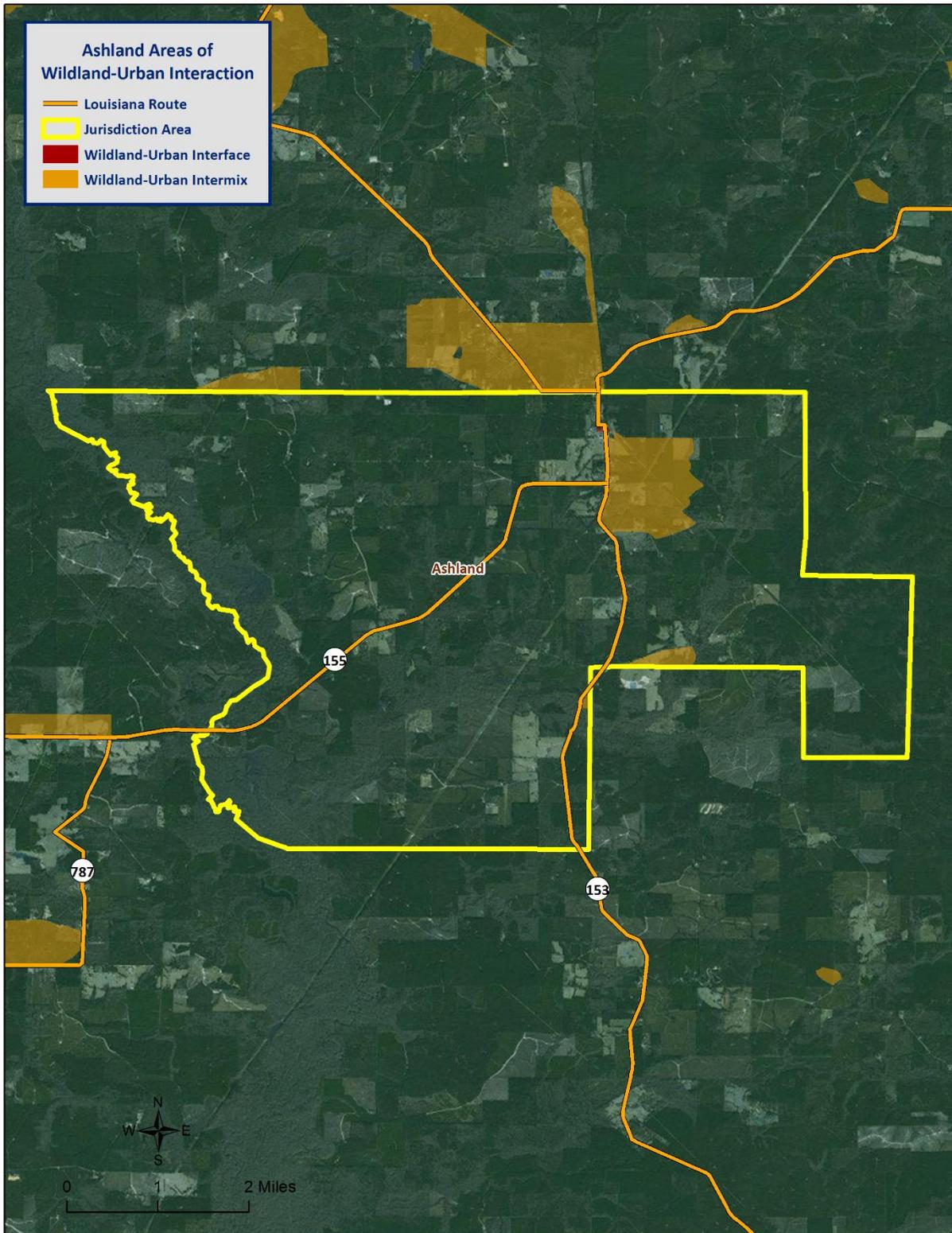


Figure 2-31: Wildland-Urban Interaction in Ashland

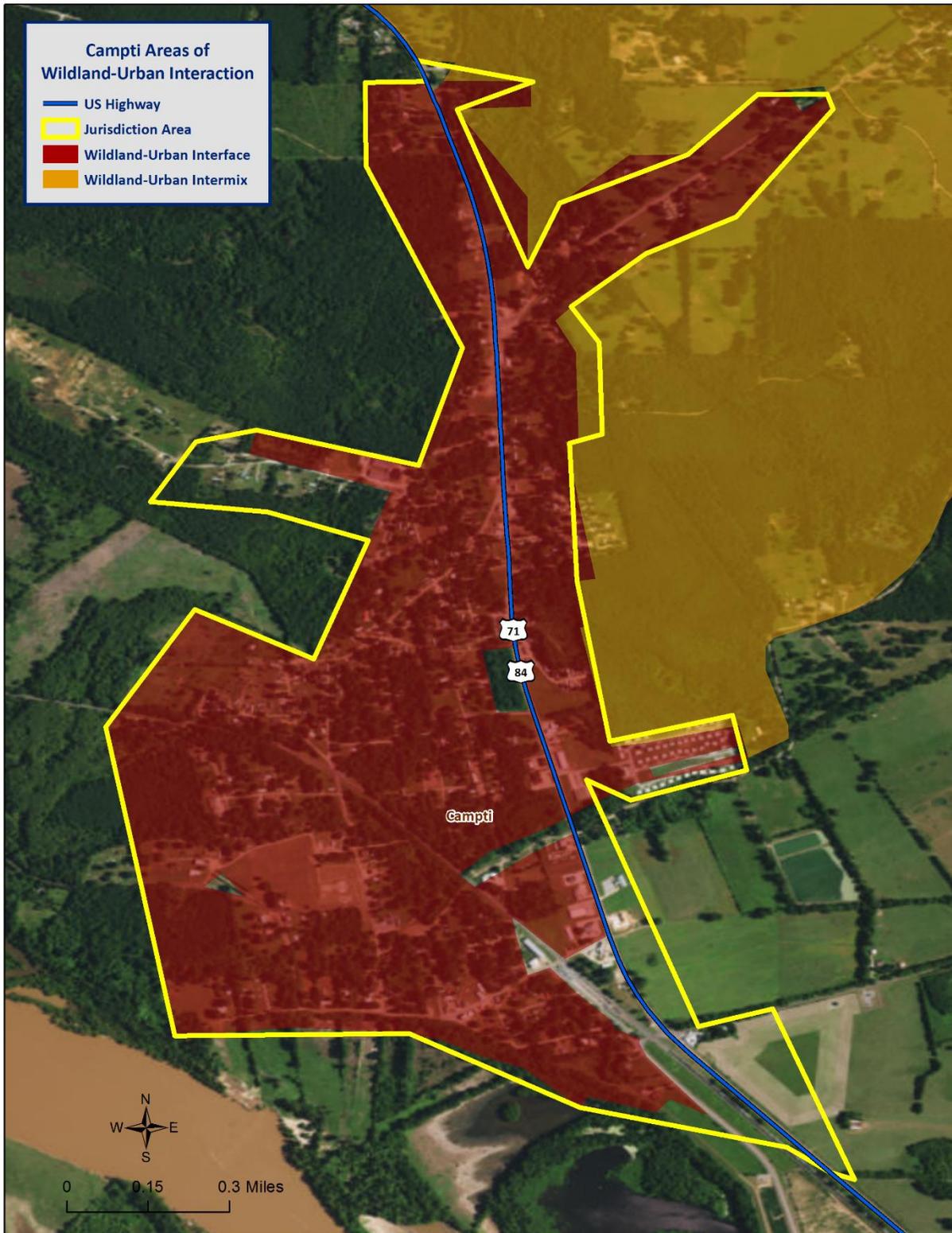


Figure 2-32: Wildland-Urban Interaction in Campti

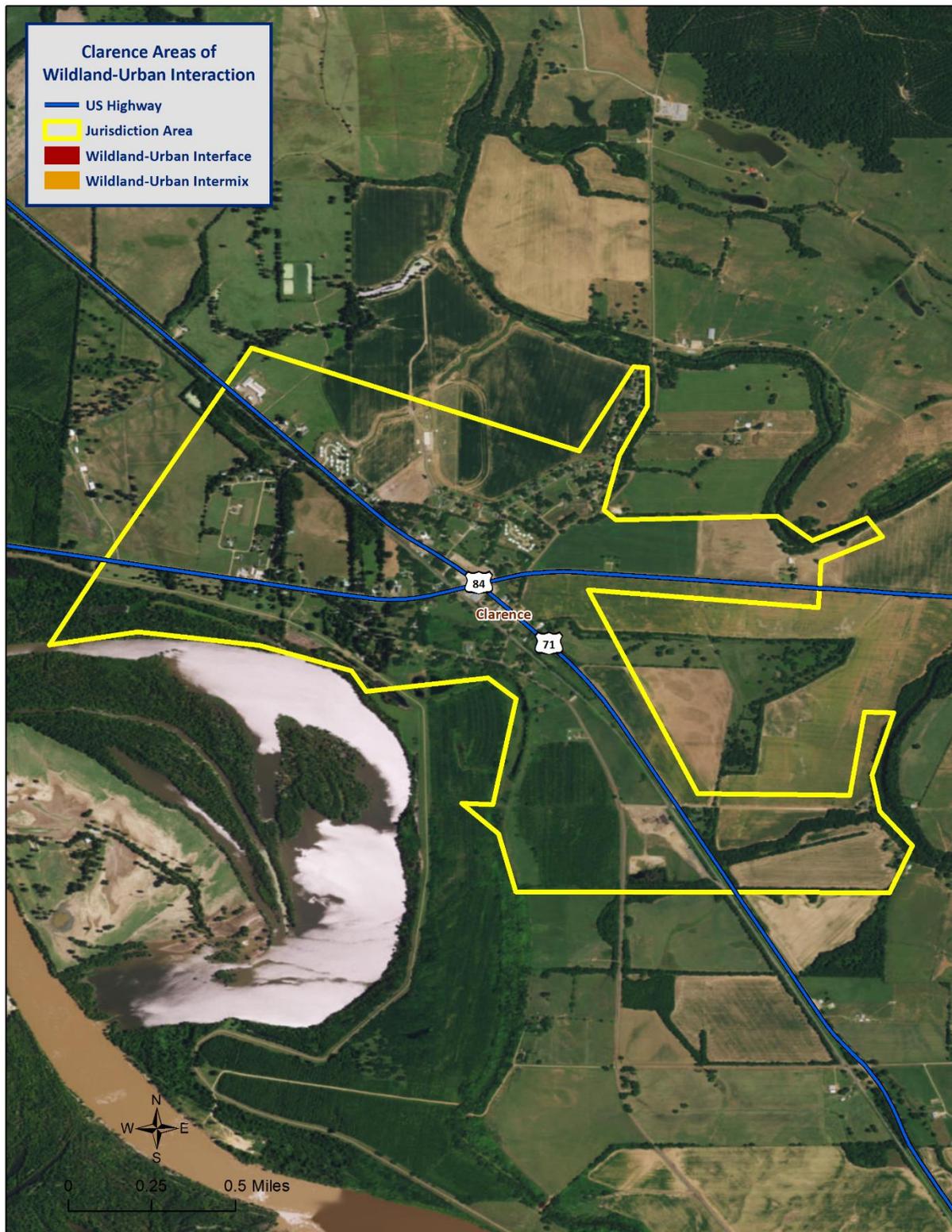


Figure 2-33: Wildland-Urban Interaction in Clarence

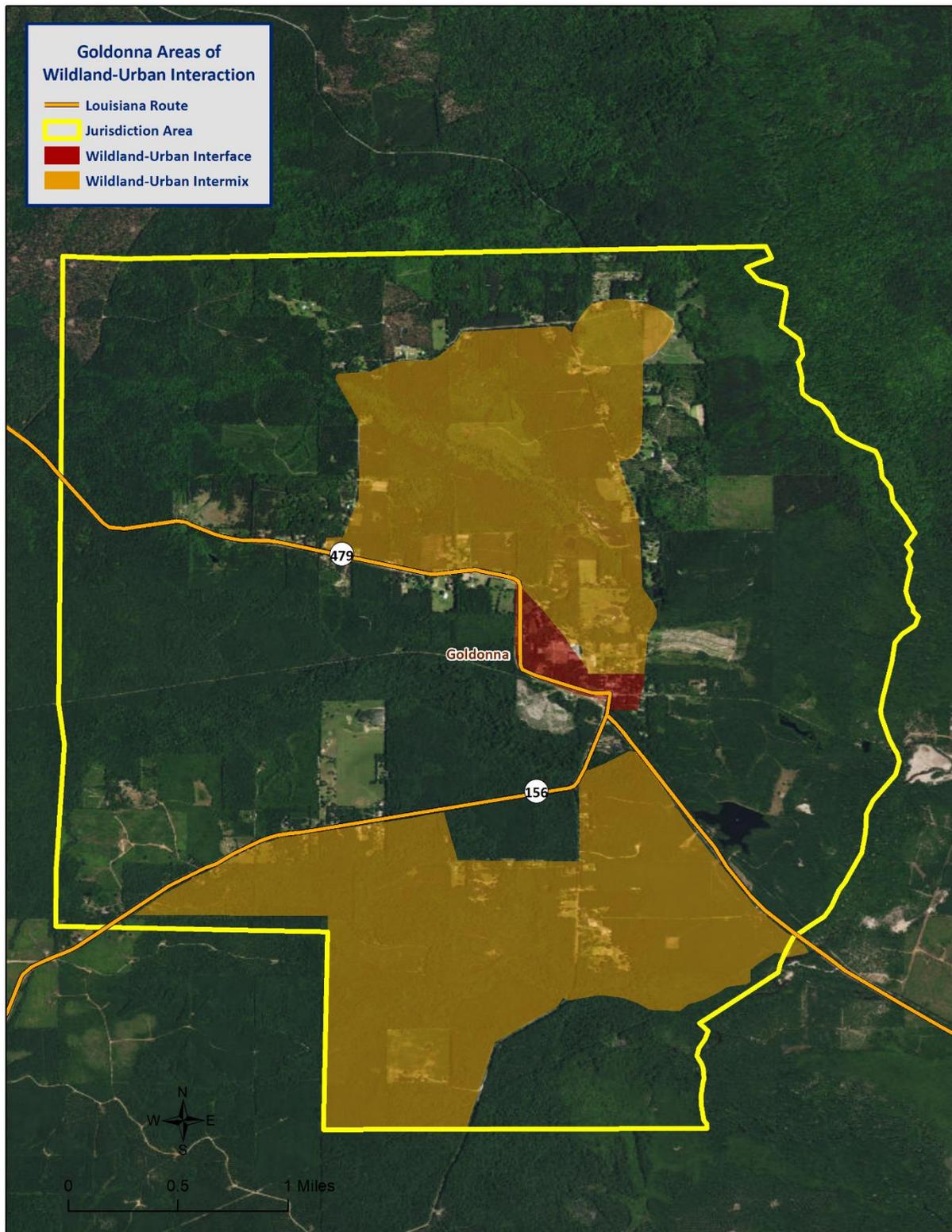


Figure 2-34: Wildland-Urban Interaction in Goldonna

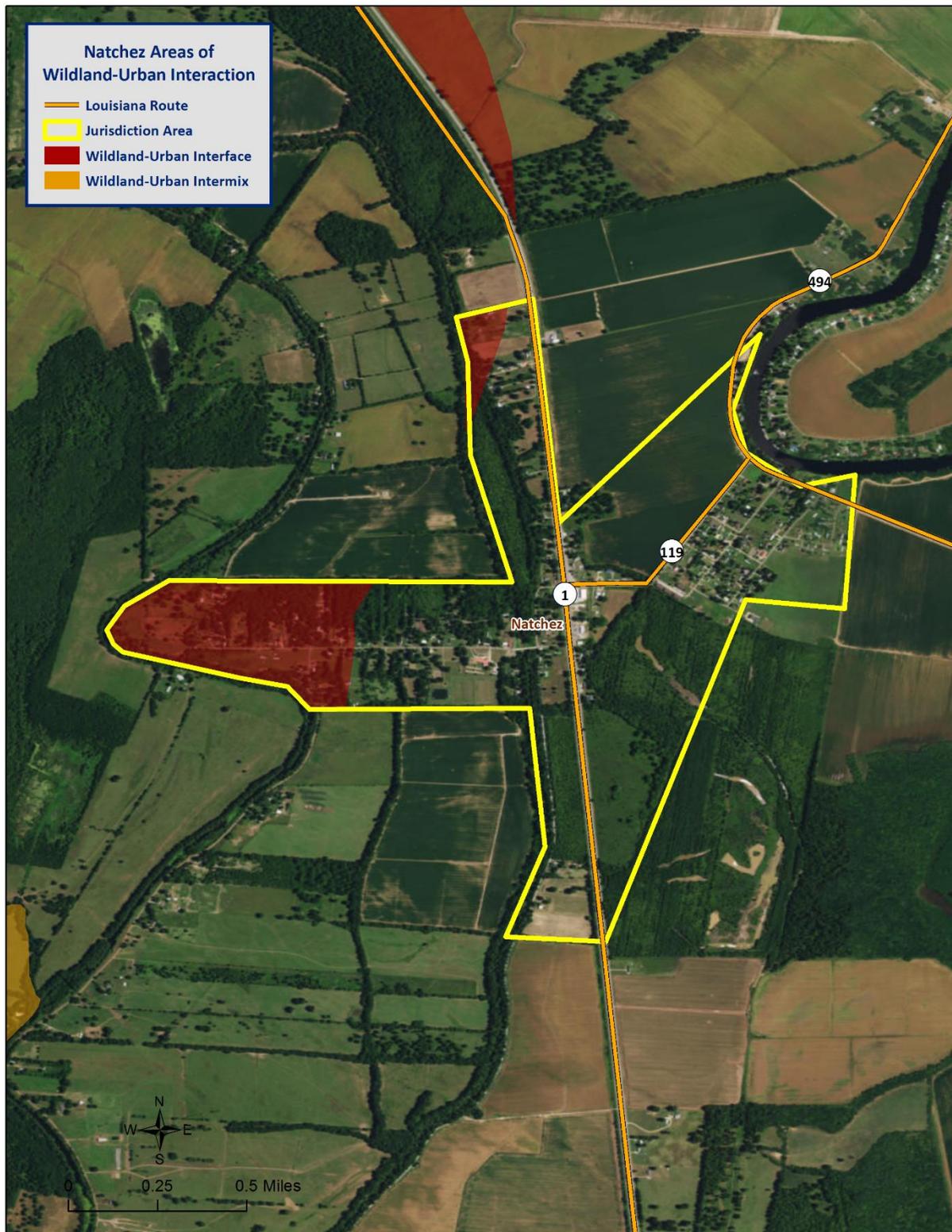


Figure 2-35: Wildland-Urban Interaction in Natchez

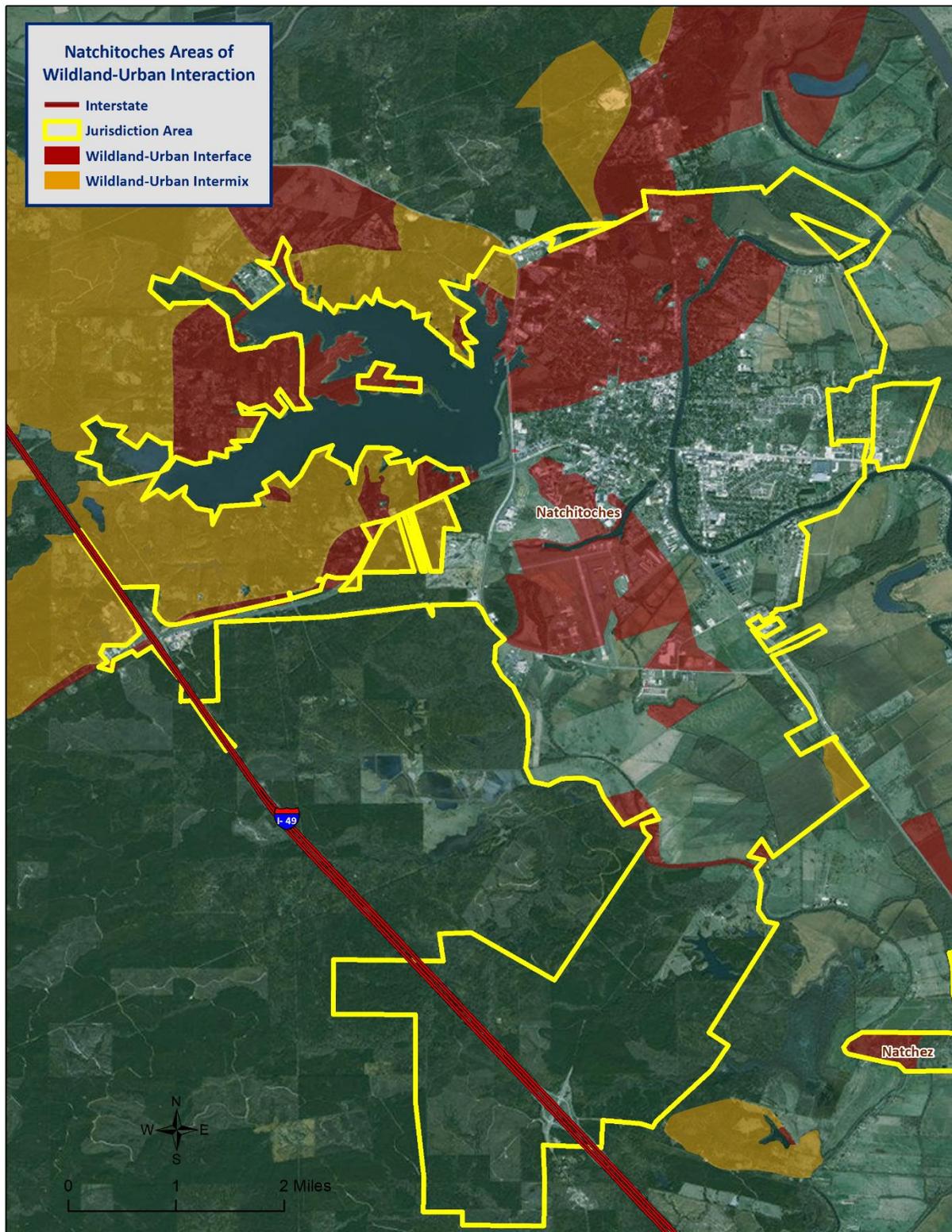


Figure 2-36: Wildland-Urban Interaction in Natchitoches

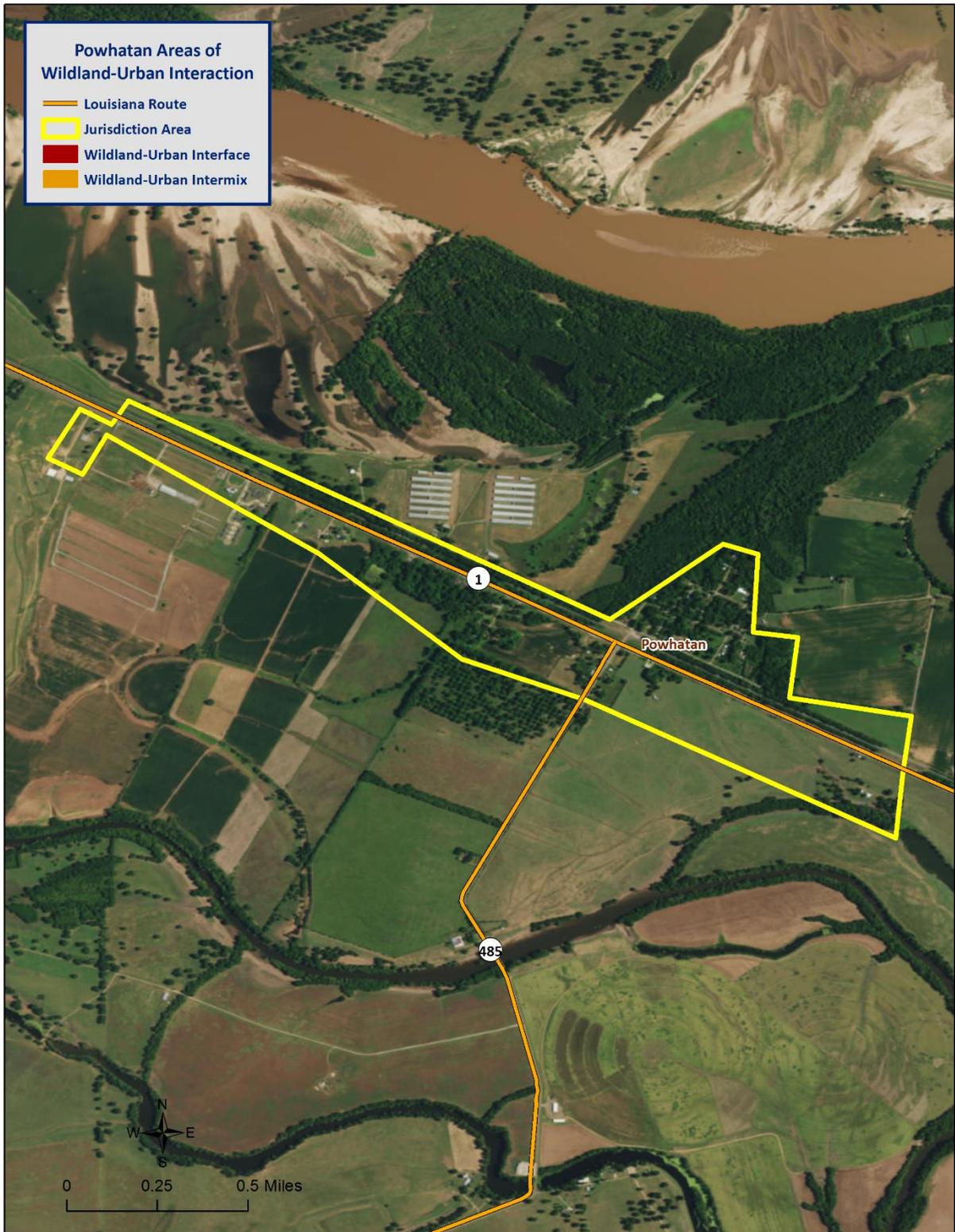


Figure 2-37: Wildland-Urban Interaction in Powhatan

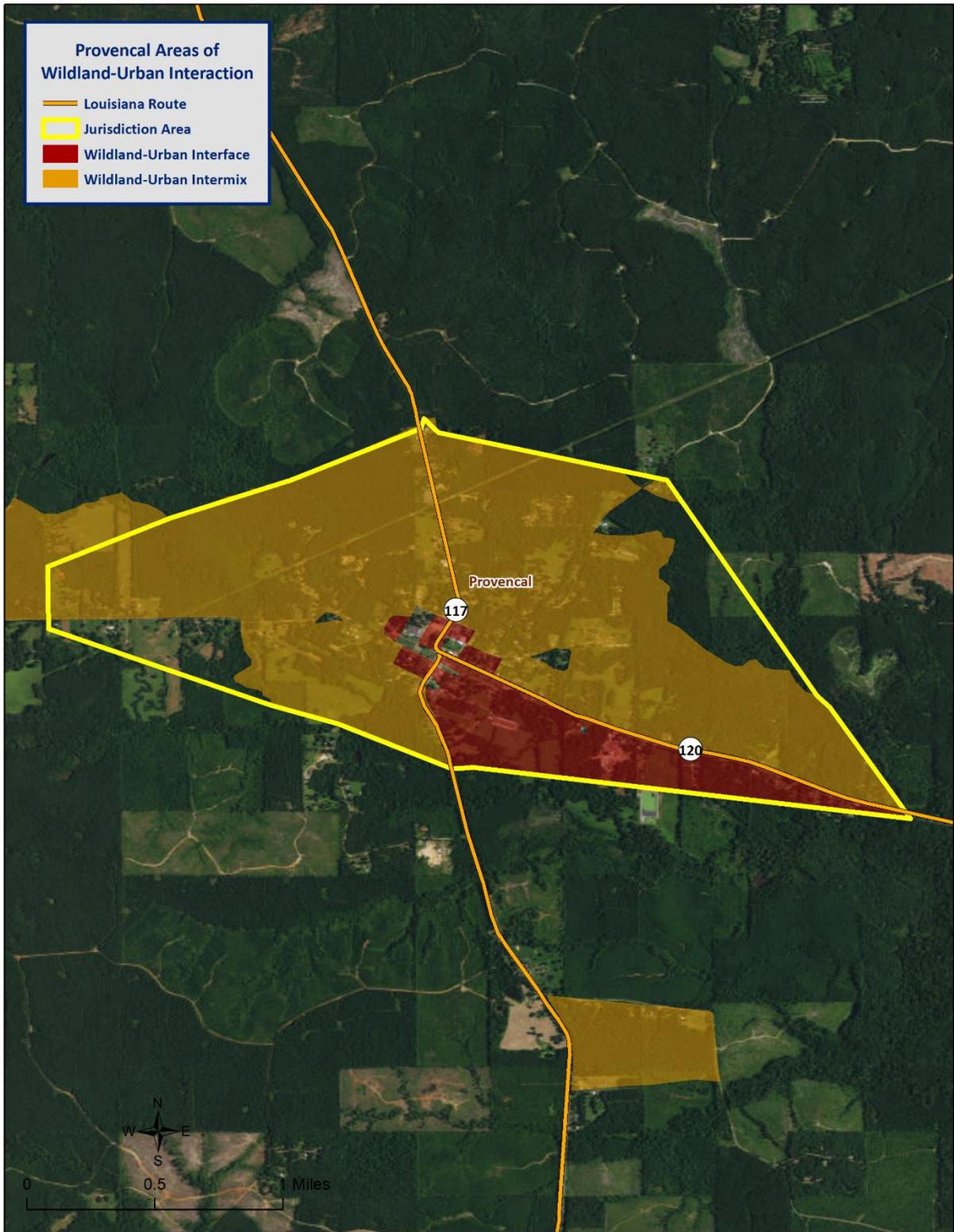


Figure 2-38: Wildland-Urban Interaction in Provençal

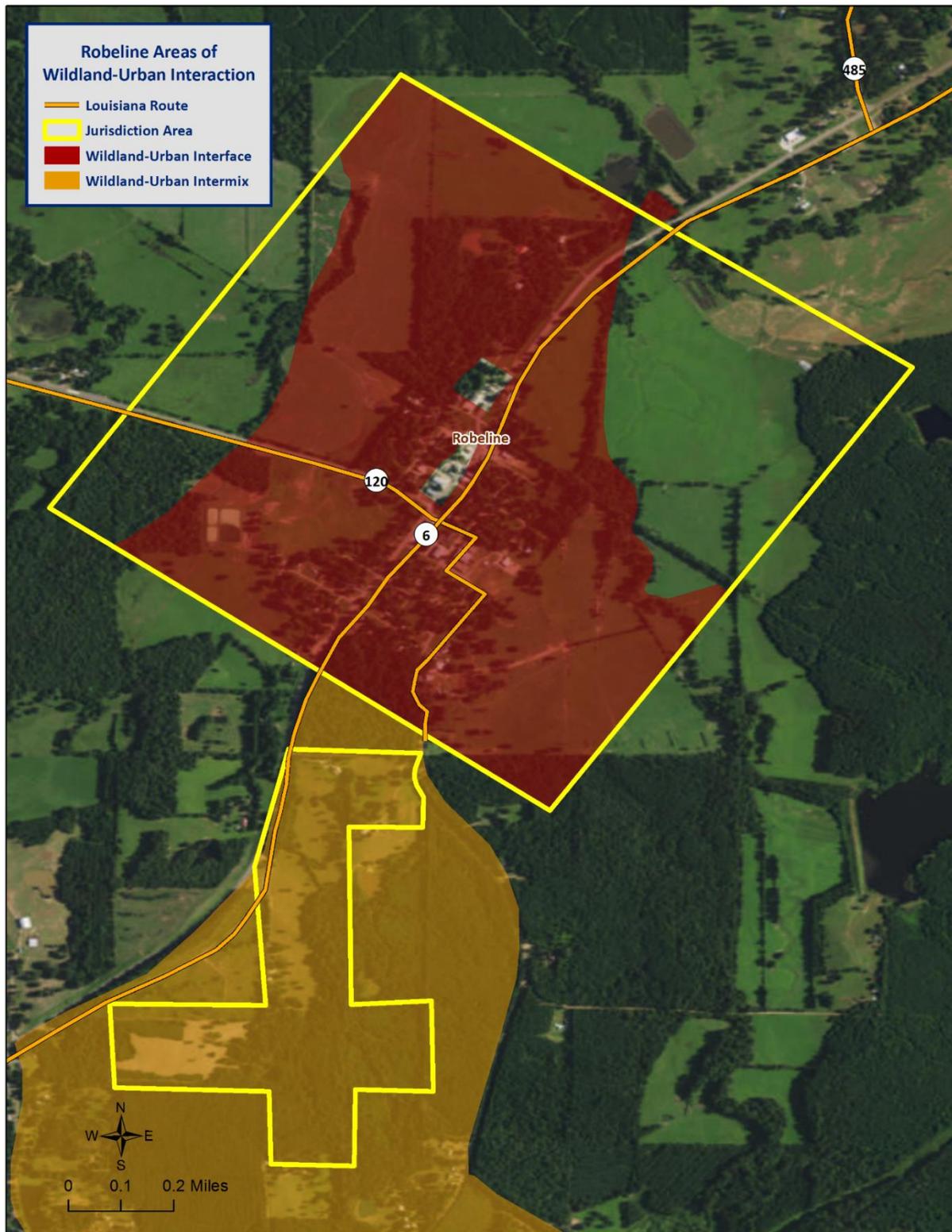


Figure 2-39: Wildland-Urban Interaction in Robeline

Previous Occurrences / Extents

According to SHEL DUS, there have been two reported wildfire events that have occurred within the boundaries of Natchitoches Parish between the years of 1990 and 2015. The following table provides a brief synopsis of each event.

Table 2-77: Previous Occurrences for Wildfire Events

Date	Synopsis	Property Damage	Crop Damage
October 11, 2010	A wildfire started by a lightning strike occurred within the Kisatchie National Forest approximately 20 miles southeast of the City of Natchitoches. Approximately 4,363 acres of timberland were engulfed by the fire. There were no structures damaged or destroyed by the wildfire.	\$0	\$2,041,052
September 2, 2011	A wildfire started near Ashland and consumed approximately 5,000 acres of timber and destroying 10 structures. Some livestock was also lost during the fire.	\$526,223	\$0

Since 2010, there have been no reported wildfire events in the incorporated areas of Ashland, Campti, Clarence, Goldonna, Natchez, Natchitoches, Powhatan, Provencal, and Robeline.

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

*Table 2-78: Potential Wildfire Intensity Levels for Natchitoches Parish
(Source: Southern Wildfire Assessment Portal)*

Potential Wildfire Intensity	
Natchitoches Parish (Unincorporated)	Highest Intensity Level 5
Ashland	Moderate Intensity Level 3
Campti	Moderate Intensity Level 3
Clarence	Lowest Intensity Level 1
Goldonna	Low Intensity Level 2
Natchez	Moderate Intensity Level 3
Natchitoches	Moderate to High Intensity Level 3.5
Powhatan	Lowest Intensity Level 1
Provencal	Moderate Intensity Level 3
Robeline	Highest Intensity Level 5

Frequency / Probability

With two recorded events in 25 years, wildfire events within the boundaries of Natchitoches Parish have an annual chance of occurrence calculated at 8% based on the SHEL DUS dataset.

Estimated Potential Losses

According to the SHELATUS database, there have been two wildfire events that have caused property damage, crop damage, injuries, or fatalities in Natchitoches 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 2-30* displays the areas of wildland-urban interaction in Natchitoches 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 2-79: Total Building Exposure by Wildland-Urban Interaction Areas
(Source: Hazus 2.2)*

Jurisdiction	Estimated Total Building Exposure
Natchitoches Parish (Unincorporated)	\$1,439,163,976
Ashland	\$10,554,000
Campti	\$142,131,000
Clarence	\$0
Goldonna	\$37,873,000
Natchez	\$16,183,024
Natchitoches	\$1,146,533,000
Powhatan	\$0
Provencal	\$71,322,000
Robeline	\$32,927,000
Total	\$2,896,487,000

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 2-80: Estimated Exposure for Unincorporated Natchitoches Parish by Sector
(Source: Hazus 2.2)*

Natchitoches Parish (Unincorporated)	Estimated Total Building Exposure by Sector
Agricultural	\$11,598,000
Commercial	\$118,679,976
Government	\$4,010,000
Industrial	\$24,779,000
Religious / Non-Profit	\$57,326,000
Residential	\$1,203,796,000
Schools	\$18,975,000
Total	\$1,439,163,976

*Table 2-81: Estimated Exposure for Ashland by Sector
(Source: Hazus 2.2)*

Ashland	Estimated Total Building Exposure by Sector
Agricultural	\$0
Commercial	\$1,636,000
Government	\$0
Industrial	\$0
Religious / Non-Profit	\$0
Residential	\$7,334,000
Schools	\$1,584,000
Total	\$10,554,000

*Table 2-82: Estimated Exposure for Campti by Sector
(Source: Hazus 2.2)*

Campti	Estimated Total Building Exposure by Sector
Agricultural	\$188,000
Commercial	\$12,022,000
Government	\$7,174,000
Industrial	\$2,193,000
Religious / Non-Profit	\$10,358,000
Residential	\$109,894,000
Schools	\$302,000
Total	\$142,131,000

*Table 2-83: Estimated Exposure for Goldonna by Sector
(Source: Hazus 2.2)*

Goldonna	Estimated Total Building Exposure by Sector
Agricultural	\$0
Commercial	\$1,220,000
Government	\$338,000
Industrial	\$340,000
Religious / Non-Profit	\$152,000
Residential	\$33,471,000
Schools	\$2,352,000
Total	\$37,873,000

*Table 2-84: Estimated Exposure for Natchez by Sector
(Source: Hazus 2.2)*

Natchez	Estimated Total Building Exposure by Sector
Agricultural	\$0
Commercial	\$1,024
Government	\$0
Industrial	\$0
Religious / Non-Profit	\$0
Residential	\$16,182,000
Schools	\$0
Total	\$16,183,024

*Table 2-85: Estimated Exposure for Natchitoches by Sector
(Source: Hazus 2.2)*

Natchitoches	Estimated Total Building Exposure by Sector
Agricultural	\$4,852,000
Commercial	\$184,103,000
Government	\$9,032,000
Industrial	\$18,091,000
Religious / Non-Profit	\$53,776,000
Residential	\$845,534,000
Schools	\$31,145,000
Total	\$1,146,533,000

*Table 2-86: Estimated Exposure for Provençal by Sector
(Source: Hazus 2.2)*

Provençal	Estimated Total Building Exposure by Sector
Agricultural	\$0
Commercial	\$202,000
Government	\$200,000
Industrial	\$0
Religious / Non-Profit	\$1,382,000
Residential	\$68,704,000
Schools	\$834,000
Total	\$71,322,000

Table 2-87: Estimated Exposure for Robeline by Sector
(Source: Hazus 2.2)

Robeline	Estimated Total Building Exposure by Sector
Agricultural	\$272,000
Commercial	\$3,922,000
Government	\$1,758,000
Industrial	\$660,000
Religious / Non-Profit	\$5,856,000
Residential	\$20,459,000
Schools	\$0
Total	\$32,927,000

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 2-88: 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
Natchitoches Parish (Unincorporated)	17,472	1,955	11.2%
Ashland	269	45	16.7%
Campti	1,056	776	73.5%
Clarence	499	0	0.0%
Goldonna	430	41	9.5%
Natchez	597	70	11.7%
Natchitoches	18,323	7,686	41.9%
Powhatan	135	0	0.0%
Provencal	611	101	16.5%
Robeline	174	132	75.9%
Total	39,566	10,806	27.3%

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 tables on the following pages.

Table 2-89: Population in Unincorporated Natchitoches Parish Located within a Wildland-Urban Interaction Area

(Source: 2010 U.S. Census Data)

Natchitoches (Unincorporated)		
Category	Total Numbers	Percentage of People in Wildland-Urban Interaction Area
Number in Hazard Area	1,955	11.2%
Persons Under 5 Years	132	6.7%
Persons Under 18 Years	343	17.5%
Persons 65 Years and Over	263	13.5%
White	1,062	54.3%
Minority	893	45.7%

Table 2-90: Population in Ashland Located within a Wildland-Urban Interaction Area

(Source: 2010 U.S. Census Data)

Ashland		
Category	Total Numbers	Percentage of People in Wildland-Urban Interaction Area
Number in Hazard Area	45	16.7%
Persons Under 5 Years	2	5.2%
Persons Under 18 Years	7	14.9%
Persons 65 Years and Over	11	25.3%
White	37	82.9%
Minority	8	17.1%

Table 2-91: Population in Campti Located within a Wildland-Urban Interaction Area

(Source: 2010 U.S. Census Data)

Campti		
Category	Total Numbers	Percentage of People in Wildland-Urban Interaction Area
Number in Hazard Area	776	73.5%
Persons Under 5 Years	55	7.1%
Persons Under 18 Years	183	23.6%
Persons 65 Years and Over	74	9.6%
White	212	27.4%
Minority	564	72.6%

Table 2-92: Population in Goldonna Located within a Wildland-Urban Interaction Area
(Source: 2010 U.S. Census Data)

Goldonna		
Category	Total Numbers	Percentage of People in Wildland-Urban Interaction Area
Number in Hazard Area	41	9.5%
Persons Under 5 Years	3	7.2%
Persons Under 18 Years	8	20.7%
Persons 65 Years and Over	6	15.1%
White	39	96.1%
Minority	2	4.0%

Table 2-93: Population in Natchez Located within a Wildland-Urban Interaction Area
(Source: 2010 U.S. Census Data)

Natchez		
Category	Total Numbers	Percentage of People in Wildland-Urban Interaction Area
Number in Hazard Area	70	11.7%
Persons Under 5 Years	6	8.4%
Persons Under 18 Years	15	21.4%
Persons 65 Years and Over	9	12.7%
White	6	8.7%
Minority	64	91.3%

Table 2-94: Population in Natchitoches Located within a Wildland-Urban Interaction Area
(Source: 2010 U.S. Census Data)

Natchitoches		
Category	Total Numbers	Percentage of People in Wildland-Urban Interaction Area
Number in Hazard Area	7,686	41.9%
Persons Under 5 Years	557	7.3%
Persons Under 18 Years	1,261	16.4%
Persons 65 Years and Over	906	11.8%
White	2,862	37.2%
Minority	4,824	62.8%

*Table 2-95: Population in Provençal Located within a Wildland-Urban Interaction Area
(Source: 2010 U.S. Census Data)*

Provençal		
Category	Total Numbers	Percentage of People in Wildland-Urban Interaction Area
Number in Hazard Area	101	16.5%
Persons Under 5 Years	6	6.4%
Persons Under 18 Years	22	22.3%
Persons 65 Years and Over	13	13.1%
White	95	94.1%
Minority	6	5.9%

*Table 2-96: Population in Robeline Located within a Wildland-Urban Interaction Area
(Source: 2010 U.S. Census Data)*

Robeline		
Category	Total Numbers	Percentage of People in Wildland-Urban Interaction Area
Number in Hazard Area	132	75.9%
Persons Under 5 Years	9	6.9%
Persons Under 18 Years	26	19.5%
Persons 65 Years and Over	15	11.5%
White	111	83.9%
Minority	21	16.1%

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 2-97: 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 Natchitoches Parish as all of the adjacent parishes, the entire planning area for Natchitoches Parish is equally at risk for winter storms.

Previous Occurrences / Extents

According to SHEL DUS, there have been 16 reported winter storm events that have occurred within the boundaries of Natchitoches Parish between the years of 1990 and 2015. The table on the next page provides a brief synopsis of each event. Based on historic data, Natchitoches Parish can expect an ice damage index of 2 on the Sperry-Piltz Ice Accumulation Index.

Table 2-98: Previous Occurrences for Winter Storm Events from 2010 - 2015

Date	Synopsis	Property Damage	Crop Damage
January 7, 2010	Bitterly cold temperatures swept into the region causing temperatures to drop into the teens during the daytime hours. The cold temperatures froze water pipes of many homes throughout the parish. Some city and parish water lines burst.	\$250,000	\$0
February 11, 2010	Snow began accumulating during the morning outs and snow totals ranged from 4 to 7 inches with 6 inches measured in Natchitoches, Provençal, and Campti. Schools and some businesses were closed and the wet nature of the snow resulted in large tree branches being downed.	\$0	\$0
February 3, 2011	A cold arctic mass caused freezing rain throughout the parish. Approximately 0.5 inches of freezing rain fell throughout the parish.	\$0	\$0
January 15, 2013	A mix of freezing rain, sleet, and snow fell across the area. The parish received around one tenth to nearly one quarter of an inch of ice accumulation.	\$0	\$0
January 5, 2014	An arctic airmass infiltrated the region causing temperatures to fall throughout the region. The extreme cold resulted in many underground water lines freezing.	\$0	\$0
January 23, 2014	Approximately 1 inch of wintery mix fell throughout the parish when a strong ridge of arctic high pressure moved across the region.	\$0	\$0
January 28, 2014	A wintery mix of snow and rain fell throughout the parish. Approximately 1.5 inches fell in the parish.	\$0	\$0
February 10, 2014	Freezing rain fell throughout the parish when a very cold, shallow airmass passed through the region.	\$0	\$0
February 11, 2014	Moderate snow fell across the parish when a very cold system moved into the area.	\$0	\$0
February 23, 2015	A mix of freezing rain, sleet, and snow fell across the area.	\$0	\$0
February 25, 2015	A mix of freezing rain, sleet, and snow fell across the area.	\$0	\$0
March 4, 2015	A cold, arctic airmass entered the region bringing a wintery mix of rain and sleet. Freezing rain amounts in the parish were less than one tenth of an inch with sleet amounts near one half an inch.	\$0	\$0

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

Frequency / Probability

With 16 recorded events in 25 years, winter storm events within the boundaries of Natchitoches Parish have an annual chance of occurrence calculated at 64% based on the SHELDUS dataset.

Estimated Potential Losses

Since 1990, there have been 16 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 \$271,142. 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 \$10,846. 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 tables provides an estimate of potential property losses for Natchitoches Parish based on the 2010 Census data:

Table 2-99: Estimated Annual Losses for Winter Weather Events in Natchitoches Parish

Estimated Annual Potential Losses from Winter Weather for Natchitoches Parish				
Unincorporated Natchitoches Parish (44.2% of Population)	Ashland (0.7% of Population)	Campti (2.7% of Population)	Clarence (1.3% of Population)	Goldonna (1.1% of Population)
\$4,789	\$74	\$289	\$137	\$118

Table 2-99: Estimated Annual Losses for Winter Weather Events in Natchitoches Parish (Continued)

Estimated Annual Potential Losses from Winter Weather for Natchitoches Parish				
Natchez (1.5% of Population)	Natchitoches (46.3% of Population)	Powhatan (0.3% of Population)	Provencal (1.5% of Population)	Robeline (0.4% of Population)
\$164	\$5,023	\$37	\$167	\$48

From 1990 to 2015, there have been three injuries and one fatality as a result of winter weather in Natchitoches Parish.

Vulnerability

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

3. Capability Assessment

This section summarizes the results of the Natchitoches 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, Natchitoches 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

Natchitoches 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 Natchitoches 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 Natchitoches Parish and its jurisdictions are shown in the table on the following page.

Table 3-1: Natchitoches Parish Planning and Regulatory Capabilities

Planning and Regulatory											
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.											
	Natchitoches Parish	Ashland	Campti	Clarence	Goldonna	Natchez	Natchitoches	Powhatan	Provençal	Robeline	Comments
Plans	Yes / No										
Comprehensive / Master Plan	No	Yes	No	No	Yes	No	Yes	No	No	No	
Capital Improvements Plan	No	No	No	No	Yes	No	Yes	No	No	No	
Economic Development Plan	Yes	No	No	No	Yes	No	Yes	No	No	Bo	
Local Emergency Operations Plan	Yes	Yes	No	No	Yes	No	Yes	No	No	No	
Continuity of Operations Plan	Yes	No	No	No	Yes	No	Yes	No	No	No	
Transportation Plan	No	No	No	No	No	No	Yes	No	No	No	
Stormwater Management Plan	No	Yes	No	No	No	No	Yes	No	No	No	
Community Wildfire Protection Plan	Yes	Yes	No	No	No	No	Yes	No	No	No	
Other plans (redevelopment, recovery, coastal zone management)	No	No	No	No	No	No	No	No		No	
Building Code, Permitting and Inspections	Yes / No										
Building Code	Yes	Yes	Yes	No	No	Yes	Yes	No	Yes	No	
Building Code Effectiveness Grading Schedule (BCEGS) Score	Yes	Yes	Yes	No	No	Yes	Yes	No	No	No	
Fire Department ISO/PIAL rating	Yes	Yes	5	6	8	4	2	10	5	6	
Site plan review requirements	No	Yes	Yes	No	No	Yes	Yes	No	No	No	
Land Use Planning and Ordinances	Yes / No										
Zoning Ordinance	Yes	No	Yes	No	No	Yes	Yes	No	No	No	
Subdivision Ordinance	Yes	No	No	No	No	No	Yes	No	No	No	
Floodplain Ordinance	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	No	No	No	No	No	Yes	Yes	No	No	No	
Flood Insurance Rate Maps	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Acquisition of land for open space and public recreation uses	Yes	Yes	Yes	No	Yes	Ye	Yes	No	No	No	
Other											

Building Codes, Permitting, Land Use Planning and Ordinances

The Natchitoches Parish Government provides oversight for building permits and codes for the unincorporated areas of the parish, as well as the jurisdictions of Ashland, Campti, Natchez, Natchitoches, and Provençal. The Natchitoches Parish Government also provides oversight for all parish ordinances and land use planning for the unincorporated areas and the jurisdictions of Campti, Natchez, and Natchitoches.

As of the 2016 update, Natchitoches 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 Natchitoches Parish Government is also responsible for enforcing the Parish Ordinances relating to health and safety, property maintenance standards, condemnation of unsafe structures, and zoning compliance.

The Natchitoches Parish Government 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, Natchitoches Parish as a whole has a system in place to coordinate and share these capabilities through Natchitoches 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, Natchitoches 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 Natchitoches Parish and its jurisdictions.

Table 3-2: Natchitoches 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.											
	Natchitoches Parish	Ashland	Campati	Clarence	Goldonna	Natchez	Natchitoches	Powhatan	Provençal	Robeline	Comments
Administration											
Planning Commission	Yes-Parish Gov	No	No	No	No	Yes	Yes	No	No	No	
Mitigation Planning Committee	Yes-Parish Gov	Yes	Yes	No	No	No	Yes	No	No	No	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Parish Gov	No	Yes	No	No	Yes	Yes	No	No	Yes	
Staff											
Chief Building Official	Parish Government	Yes	No	No	No	No	Yes	No	No	No	
Floodplain Administrator	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Emergency Manager	Parish OEP	Yes	No	No	No	No	Yes	No	No	No	
Community Planner	Parish Government	Yes	No	Yes	No	Yes	Yes	No	No	No	
Civil Engineer	Parish Government	No	No	No	No	Yes	Yes	No	No	No	
GIS Coordinator	Parish Government	No	No	No	No	Yes	Yes	No	No	No	
Grant Writer		Yes	No	Yes	No	Yes	Yes	No	No	No	
Other										No	
Technical											
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Hazard Data & Information		No	No	No	No	No	Yes	No	No	No	
Grant Writing	No	Yes	Yes	No	No	No	Yes	No	No	No	
Hazus Analysis	No	No	No	No	No	No	No	No	No	No	
Other											

Financial capabilities are the resources that Natchitoches 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.

In some cases, the jurisdictions rely on Natchitoches Parish OHSEP and/or Natchitoches 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 in Appendix E in the jurisdictional specific worksheets.

As reflected in the aforementioned existing regulatory mechanisms, programs, and resources within each jurisdiction, Natchitoches 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 Natchitoches 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:

- Unincorporated Natchitoches Parish
- Village of Ashland
- Town of Campti
- Village of Clarence
- Village of Goldonna
- Village of Natchez
- City of Natchitoches
- Village of Powhatan
- Village of Provencal
- Village of Robeline

Flood Insurance and Community Rating System

Natchitoches 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, including Lake Charles (class 8) and Calcasieu Parish (class 8). 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.*
 Non-SFHA (Zones B, C, X, D): 10% discount for Classes 1-6; 5% discount for Classes 7-9.

* In determining CRS Premium Discounts, all AR and A99 Zones are treated as non-SFHAs.

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 2011¹, 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.

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

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.

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.

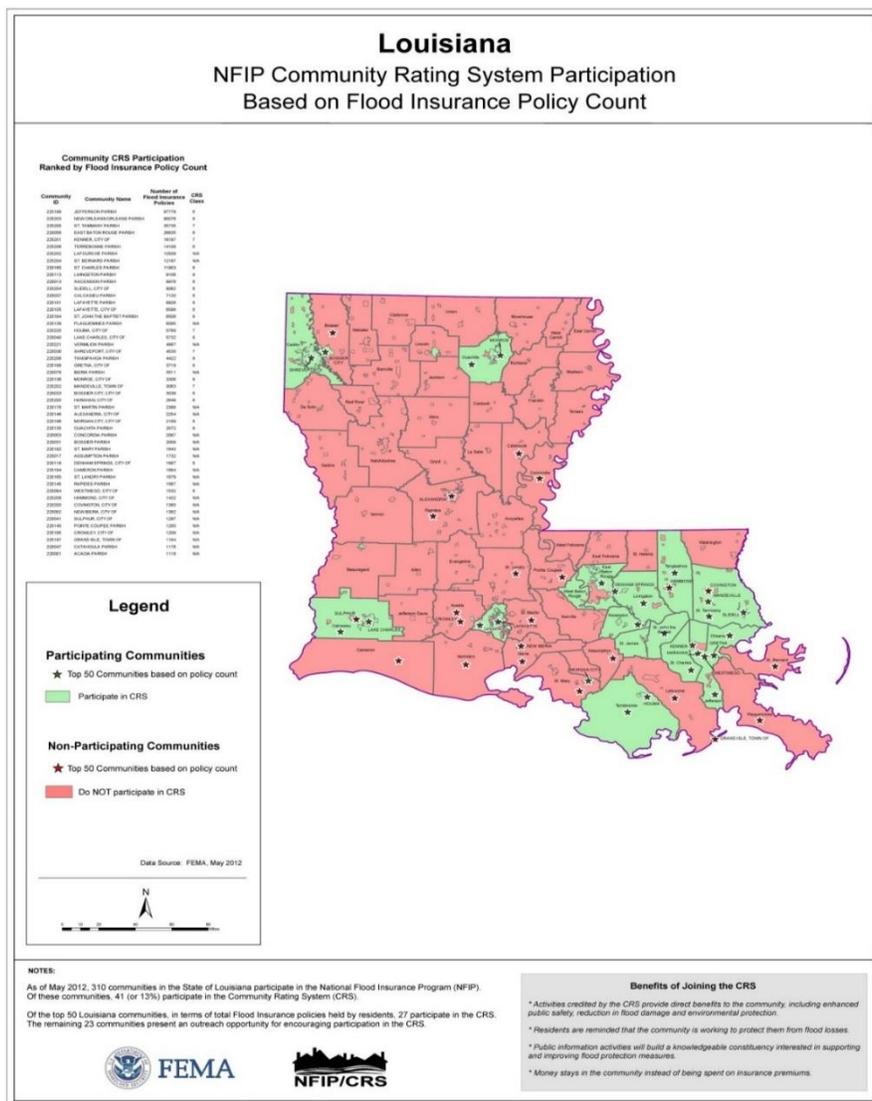


Figure 3-2: Louisiana CRS NFIP Participation
(Source: FEMA²)

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 can be found in Appendix E: State Required Worksheets

4. Mitigation Strategy

Introduction

Natchitoches 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.

Natchitoches 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 Natchitoches Parish Hazard Mitigation Plan Steering Committee, under the coordination of the Natchitoches 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 February 2016 – September 2016.

An online public opinion survey was conducted of Natchitoches Parish residents between February and August 2016. The survey was designed to capture public perceptions and opinions regarding natural hazards in Natchitoches 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 Natchitoches Parish Hazard Mitigation Plan Steering Committee are representative of the outlook of the community at large. However, because there were so few responses to the survey, an accurate depiction of the public's opinion could not be gathered. Therefore, this public feedback could not be incorporated into the plan. The full Natchitoches Parish survey can be found at the following link:

<https://www.surveymonkey.com/r/NatchitochesParish>

During the public meeting in August, 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 Natchitoches 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, Natchitoches 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 Natchitoches 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 four goals remain valid.

The goals are as follows:

- Identify and pursue preventative measures that will reduce future damages from hazards
- Enhance public awareness and understanding of disaster preparedness
- Reduce repetitive flood losses in the Parish and municipalities
- Facilitate sound development in the Parish and municipalities so as to reduce or eliminate the potential impact of hazards

The Mitigation Action Plan focuses on actions to be taken by Natchitoches 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 Natchitoches Parish Hazard Mitigation Plan Steering Committee and participating jurisdictions each identified actions that would reduce and/or prevent future damage within Natchitoches 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 first table below.

Natchitoches 2011 Hazard Mitigation Action Update

Unincorporated Natchitoches Parish					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
A1: Drainage Improvement	Improve drainage ways, including, but not limited to keeping the ditches and culverts cleaned out and free of any obstructions, keep the vegetation cut, and replacing any broken culverts or drainage pipes where necessary.	Parish Budget, Grant Funding	Parish Engineer	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carry Over
A2: Power Supply and Generators	Support the parish to add back up power supply/generators at the critical facilities in the parish.	Parish Budget	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carry Over
A3: Critical Facility Hardening	Harden critical facilities including, but not limited to, utilizing applicable floodproofing techniques, adding roof tie-downs and additional storm protecting features such as storm shutters or impact resistant glass.	Parish Budget and HMGP Grants	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carry Over

Unincorporated Natchitoches Parish					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
A4: Disaster Warning System	Install a disaster warning system in the parish that will allow early warning of hazard events. Implement a public notification system, such as sirens or a call down system with a backup communication system.	Parish Budget	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Completed
A5: Day to Day Operations	Continue day-to-day operations in the event of a hazard or disaster.	Staff Time / Local Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carry Over
A6: New Initiatives	Implement new initiatives including, but not limited to, the Pilot Planning Grant Program (PPGP), Pilot Reconstruction, and Repetitive Flood Claims, developed by the State and FEMA.	Staff Time / Grant Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carry Over
A7: Multi-Hazard Awareness Activities	Participate with the parish sponsoring "Multi-Hazard Awareness Activities", to educate the public on flooding, severe storms, winter storms, hurricanes, tornadoes, and drought (evacuation, emergency preparedness, retrofitting, emergency preparedness and flood insurance).	Parish Budgets, Business and Industry	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing
A8: Flooding Structural Solutions	Pursue elevation / acquisition / floodproofing / reconstruction projects and structural solutions to flooding.	Pre Disaster Mitigation (PDM) or Flood Mitigation Assistance (FMA) Project Funds, Hazard Mitigation Grant Program (HMGP) Funds, Existing Parish Budget	Building Permit Director, Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carry Over

Unincorporated Natchitoches Parish					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
A9: Parishwide Drainage Plan	As a community, be prepared to participate and facilitate the parish-wide drainage plan.	Parish and Village Budgets	Parish Government	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carry Over
A10: Additional Development Guidelines	Develop additional development guidelines that would help reduce flooding, such as requiring proper drainage with adequate sloping; stormwater retention ponds; dikes; levees and floodwalls if appropriate, and requiring freeboard above the Base Flood Elevation (BFE) in flood prone areas. Encourage new developments to install underground utilities, which would help reduce the chances of power outages during high winds and other severe storms.	Parish and Village Budgets	Parish Planning Director and Floodplain Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carry Over

Village of Ashland					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
A1: Drainage Improvement	Improve drainage ways, including, but not limited to keeping the ditches and culverts cleaned out and free of any obstructions, keep the vegetation cut, and replacing any broken culverts or drainage pipes where necessary.	Village Budget, Grant Funding	Village Engineer	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carry Over
A2: Power Supply and Generators	Support the parish to add back up power supply/generators at the critical facilities in Ashland.	Parish and Village Budgets	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carry Over
A3: Critical Facility Hardening	Harden critical facilities including, but not limited to, utilizing applicable floodproofing techniques, adding roof tie-downs and additional storm protecting features such as storm shutters or impact resistant glass.	Parish and Village Budgets and HMGP Grants	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carry Over
A4: Disaster Warning System	Install a disaster warning system in the Village that will allow early warning of hazard events. Implement a public notification system, such as sirens or a call down system with a backup communication system.	Parish Budget	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Completed
A5: Day to Day Operations	Continue day-to-day operations in the event of a hazard or disaster.	Staff Time / Local Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carry Over
A6: New Initiatives	Implement new initiatives including, but not limited to, the Pilot Planning Grant Program (PPGP), Pilot Reconstruction, and Repetitive Flood Claims, developed by the State and FEMA.	Staff Time / Grant Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carry Over

Village of Ashland					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
A7: Multi-Hazard Awareness Activities	Participate with the parish sponsoring "Multi-Hazard Awareness Activities", to educate the public on flooding, severe storms, winter storms, hurricanes, tornadoes, and drought (evacuation, emergency preparedness, retrofitting, emergency preparedness and flood insurance).	Parish and Village Budgets, Business and Industry	Mayor and Village Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing
A8: Flooding Structural Solutions	Pursue elevation / acquisition / floodproofing / reconstruction projects and structural solutions to flooding.	Pre Disaster Mitigation (PDM) or Flood Mitigation Assistance (FMA) Project Funds, Hazard Mitigation Grant Program (HMGP) Funds, Existing Parish Budget	Mayor, Building Permit Director, Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carry Over
A9: Parishwide Drainage Plan	As a community be prepared to participate and facilitate the parish-wide drainage plan.	Parish and Village Budgets	Mayor	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carry Over
A10: Additional Development Guidelines	Develop additional development guidelines that would help reduce flooding, such as requiring proper drainage with adequate sloping; stormwater retention ponds; dikes; levees and floodwalls if appropriate, and requiring freeboard above the Base Flood Elevation (BFE) in flood prone areas. Encourage new developments to install underground utilities, which would help reduce the chances of power outages during high winds and other severe storms.	Parish and Village Budgets	Mayor, Village Planning Director and Floodplain Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carry Over

Town of Campti					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
C1: Drainage Improvement	Improve drainage ways, including, but not limited to keeping the ditches and culverts cleaned out and free of any obstructions, keep the vegetation cut, and replacing any broken culverts or drainage pipes where necessary.	Town Budget, Grant Funding	Town Engineer	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carried Over
C2: Power Supply and Generators	Support the parish to add back up power supply/generators at the critical facilities in Campti.	Parish and Town Budgets	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carried Over
C3: Critical Facility Hardening	Harden critical facilities including, but not limited to, utilizing applicable floodproofing techniques, adding roof tie-downs and additional storm protecting features such as storm shutters or impact resistant glass.	Parish and Town Budgets and HMGP Grants	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carried Over
C4: Disaster Warning System	Install a disaster warning system in the Village that will allow early warning of hazard events. Implement a public notification system, such as sirens or a call down system with a backup communication system.	Parish Budget	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Completed
C5: Day to Day Operations	Continue day-to-day operations in the event of a hazard or disaster.	Staff Time / Local Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carried Over
C6: New Initiatives	Implement new initiatives including, but not limited to, the Pilot Planning Grant Program (PPGP), Pilot Reconstruction, and Repetitive Flood Claims, developed by the State and FEMA.	Staff Time / Grant Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carried Over

Town of Campti					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
C7: Multi-Hazard Awareness Activities	Participate with the parish sponsoring "Multi-Hazard Awareness Activities", to educate the public on flooding, severe storms, winter storms, hurricanes, tornadoes, and drought (evacuation, emergency preparedness, retrofitting, emergency preparedness and flood insurance).	Parish and Town Budgets, Business and Industry	Mayor and Town Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing
C8: Flooding Structural Solutions	Pursue elevation / acquisition / floodproofing / reconstruction projects and structural solutions to flooding.	Pre Disaster Mitigation (PDM) or Flood Mitigation Assistance (FMA) Project Funds, Hazard Mitigation Grant Program (HMGP) Funds, Existing Parish Budget	Mayor, Building Permit Director, Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carried Over
C9: Parishwide Drainage Plan	As a community be prepared to participate and facilitate the parish-wide drainage plan.	Parish and Town Budgets	Mayor	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Ongoing
C10: Additional Development Guidelines	Develop additional development guidelines that would help reduce flooding, such as requiring proper drainage with adequate sloping; stormwater retention ponds; dikes; levees and floodwalls if appropriate, and requiring freeboard above the Base Flood Elevation (BFE) in flood prone areas. Encourage new developments to install underground utilities, which would help reduce the chances of power outages during high winds and other severe storms.	Parish and Town Budgets	Mayor, Town Planning Director and Floodplain Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carried Over

Village of Clarence					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
C1: Drainage Improvement	Improve drainage ways, including, but not limited to keeping the ditches and culverts cleaned out and free of any obstructions, keep the vegetation cut, and replacing any broken culverts or drainage pipes where necessary.	Village Budget, Grant Funding	Village Engineer	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Ongoing
C2: Power Supply and Generators	Support the parish to add back up power supply/generators at the critical facilities in Clarence	Parish and Village Budgets	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carried Over
C3: Critical Facility Hardening	Harden critical facilities including, but not limited to, utilizing applicable floodproofing techniques, adding roof tie-downs and additional storm protecting features such as storm shutters or impact resistant glass.	Parish and Village Budgets and HMGP Grants	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carried Over
C4: Disaster Warning System	Install a disaster warning system in the Village that will allow early warning of hazard events. Implement a public notification system, such as sirens or a call down system with a backup communication system.	Parish Budget	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Completed
C5: Day to Day Operations	Continue day-to-day operations in the event of a hazard or disaster.	Staff Time / Local Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing
C6: New Initiatives	Implement new initiatives including, but not limited to, the Pilot Planning Grant Program (PPGP), Pilot Reconstruction, and Repetitive Flood Claims, developed by the State and FEMA.	Staff Time / Grant Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carried Over

Village of Clarence					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
C7: Multi-Hazard Awareness Activities	Participate with the parish sponsoring "Multi-Hazard Awareness Activities", to educate the public on flooding, severe storms, winter storms, hurricanes, tornadoes, and drought (evacuation, emergency preparedness, retrofitting, emergency preparedness and flood insurance).	Parish and Village Budgets, Business and Industry	Mayor and Village Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing
C8: Flooding Structural Solutions	Pursue elevation / acquisition / floodproofing / reconstruction projects and structural solutions to flooding.	Pre Disaster Mitigation (PDM) or Flood Mitigation Assistance (FMA) Project Funds, Hazard Mitigation Grant Program (HMGP) Funds, Existing Parish Budget	Mayor, Building Permit Director, Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carried Over
C9: Parishwide Drainage Plan	As a community be prepared to participate and facilitate the parish-wide drainage plan.	Parish and Village Budgets	Mayor	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carried Over
C10: Additional Development Guidelines	Develop additional development guidelines that would help reduce flooding, such as requiring proper drainage with adequate sloping; stormwater retention ponds; dikes; levees and floodwalls if appropriate, and requiring freeboard above the Base Flood Elevation (BFE) in flood prone areas. Encourage new developments to install underground utilities, which would help reduce the chances of power outages during high winds and other severe storms.	Parish and Village Budgets	Mayor, Village Planning Director and Floodplain Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carried Over

Village of Goldonna					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
G1: Drainage Improvement	Improve drainage ways, including, but not limited to keeping the ditches and culverts cleaned out and free of any obstructions, keep the vegetation cut, and replacing any broken culverts or drainage pipes where necessary.	Village Budget, Grant Funding	Village Engineer	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Ongoing
G2: Power Supply and Generators	Support the parish to add back up power supply/generators at the critical facilities in Goldonna	Parish and Village Budgets	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carried Over
G3: Critical Facility Hardening	Harden critical facilities including, but not limited to, utilizing applicable floodproofing techniques, adding roof tie-downs and additional storm protecting features such as storm shutters or impact resistant glass.	Parish and Village Budgets and HMGP Grants	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carried Over
G4: Disaster Warning System	Install a disaster warning system in the Village that will allow early warning of hazard events. Implement a public notification system, such as sirens or a call down system with a backup communication system.	Parish Budget	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Completed
G5: Day to Day Operations	Continue day-to-day operations in the event of a hazard or disaster.	Staff Time / Local Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing
G6: New Initiatives	Implement new initiatives including, but not limited to, the Pilot Planning Grant Program (PPGP), Pilot Reconstruction, and Repetitive Flood Claims, developed by the State and FEMA.	Staff Time / Grant Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carried Over

Village of Goldonna					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
G7: Multi-Hazard Awareness Activities	Participate with the parish sponsoring "Multi-Hazard Awareness Activities", to educate the public on flooding, severe storms, winter storms, hurricanes, tornadoes, and drought (evacuation, emergency preparedness, retrofitting, emergency preparedness and flood insurance).	Parish and Village Budgets, Business and Industry	Mayor and Village Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing
G8: Flooding Structural Solutions	Pursue elevation / acquisition / floodproofing / reconstruction projects and structural solutions to flooding.	Pre Disaster Mitigation (PDM) or Flood Mitigation Assistance (FMA) Project Funds, Hazard Mitigation Grant Program (HMGP) Funds, Existing Parish Budget	Mayor, Building Permit Director, Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carried Over
G9: Parishwide Drainage Plan	As a community be prepared to participate and facilitate the parish-wide drainage plan.	Parish and Village Budgets	Mayor	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carried Over
G10: Additional Development Guidelines	Develop additional development guidelines that would help reduce flooding, such as requiring proper drainage with adequate sloping; stormwater retention ponds; dikes; levees and floodwalls if appropriate, and requiring freeboard above the Base Flood Elevation (BFE) in flood prone areas. Encourage new developments to install underground utilities, which would help reduce the chances of power outages during high winds and other severe storms.	Parish and Village Budgets	Mayor, Village Planning Director and Floodplain Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carried Over

Village of Natchez					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
N1: Drainage Improvement	Improve drainage ways, including, but not limited to keeping the ditches and culverts cleaned out and free of any obstructions, keep the vegetation cut, and replacing any broken culverts or drainage pipes where necessary.	Village Budget, Grant Funding	Village Engineer	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Ongoing
N2: Power Supply and Generators	Support the parish to add back up power supply/generators at the critical facilities in Natchez.	Parish and Village Budgets	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carried Over
N3: Critical Facility Hardening	Harden critical facilities including, but not limited to, utilizing applicable floodproofing techniques, adding roof tie-downs and additional storm protecting features such as storm shutters or impact resistant glass.	Parish and Village Budgets and HMGP Grants	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carried Over
N4: Disaster Warning System	Install a disaster warning system in the Village that will allow early warning of hazard events. Implement a public notification system, such as sirens or a call down system with a backup communication system.	Parish Budget	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Completed
N5: Day to Day Operations	Continue day-to-day operations in the event of a hazard or disaster.	Staff Time / Local Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing
N6: New Initiatives	Implement new initiatives including, but not limited to, the Pilot Planning Grant Program (PPGP), Pilot Reconstruction, and Repetitive Flood Claims, developed by the State and FEMA.	Staff Time / Grant Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carried Over

Village of Natchez					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
N7: Multi-Hazard Awareness Activities	Participate with the parish sponsoring "Multi-Hazard Awareness Activities", to educate the public on flooding, severe storms, winter storms, hurricanes, tornadoes, and drought (evacuation, emergency preparedness, retrofitting, emergency preparedness and flood insurance).	Parish and Village Budgets, Business and Industry	Mayor and Village Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing
N8: Flooding Structural Solutions	Pursue elevation / acquisition / floodproofing / reconstruction projects and structural solutions to flooding.	Pre Disaster Mitigation (PDM) or Flood Mitigation Assistance (FMA) Project Funds, Hazard Mitigation Grant Program (HMGP) Funds, Existing Parish Budget	Mayor, Building Permit Director, Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carried Over
N9: Parishwide Drainage Plan	As a community be prepared to participate and facilitate the parish-wide drainage plan.	Parish and Village Budgets	Mayor	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carried Over
N10: Additional Development Guidelines	Develop additional development guidelines that would help reduce flooding, such as requiring proper drainage with adequate sloping; stormwater retention ponds; dikes; levees and floodwalls if appropriate, and requiring freeboard above the Base Flood Elevation (BFE) in flood prone areas. Encourage new developments to install underground utilities, which would help reduce the chances of power outages during high winds and other severe storms.	Parish and Village Budgets	Mayor, Village Planning Director and Floodplain Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carried Over

City of Natchitoches					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
N1: Drainage Improvement	Improve drainage ways, including, but not limited to keeping the ditches and culverts cleaned out and free of any obstructions, keep the vegetation cut, and replacing any broken culverts or drainage pipes where necessary.	City Budget, Grant Funding	City Engineer	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Ongoing
N2: Power Supply and Generators	Support the parish to add back up power supply/generators at the critical facilities in the City Natchitoches.	Parish and City Budgets	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carried Over
N3: Critical Facility Hardening	Harden critical facilities including, but not limited to, utilizing applicable floodproofing techniques, adding roof tie-downs and additional storm protecting features such as storm shutters or impact resistant glass.	Parish and City Budgets and HMGP Grants	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carried Over
N4: Day to Day Operations	Continue day-to-day operations in the event of a hazard or disaster.	Staff Time / Local Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing
N5: New Initiatives	Implement new initiatives including, but not limited to, the Pilot Planning Grant Program (PPGP), Pilot Reconstruction, and Repetitive Flood Claims, developed by the State and FEMA.	Staff Time / Grant Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carried Over
N6: Multi-Hazard Awareness Activities	Participate with the parish sponsoring "Multi-Hazard Awareness Activities", to educate the public on flooding, severe storms, winter storms, hurricanes, tornadoes, and drought (evacuation, emergency preparedness, retrofitting, emergency preparedness and flood insurance).	Parish and City Budgets, Business and Industry	Mayor and City Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing

City of Natchitoches					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
N7: Flooding Structural Solutions	Pursue elevation / acquisition / floodproofing / reconstruction projects and structural solutions to flooding.	Pre Disaster Mitigation (PDM) or Flood Mitigation Assistance (FMA) Project Funds, Hazard Mitigation Grant Program (HMGP) Funds, Existing Parish Budget	Mayor, Building Permit Director, Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carried Over
N8: Parishwide Drainage Plan	As a community be prepared to participate and facilitate the parish-wide drainage plan.	Parish and City Budgets	Mayor	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carried Over
N9: Additional Development Guidelines	Develop additional development guidelines that would help reduce flooding, such as requiring proper drainage with adequate sloping; stormwater retention ponds; dikes; levees and floodwalls if appropriate, and requiring freeboard above the Base Flood Elevation (BFE) in flood prone areas. Encourage new developments to install underground utilities, which would help reduce the chances of power outages during high winds and other severe storms.	Parish and City Budgets	Mayor, City Planning Director and Floodplain Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carried Over

Village of Powhatan					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
P1: Drainage Improvement	Improve drainage ways, including, but not limited to keeping the ditches and culverts cleaned out and free of any obstructions, keep the vegetation cut, and replacing any broken culverts or drainage pipes where necessary.	Village Budget, Grant Funding	Village Engineer	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Ongoing
P2: Power Supply and Generators	Pursue funding to add back up power supply / generators in critical locations.	Parish and Village Budgets	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carried Over
P3: Critical Facility Hardening	Harden critical facilities including, but not limited to, utilizing applicable floodproofing techniques, adding roof tie-downs and additional storm protecting features such as storm shutters or impact resistant glass.	Parish and Village Budgets and HMGP Grants	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carried Over
P4: Disaster Warning System	Install a disaster warning system in the Village that will allow early warning of hazard events. Implement a public notification system, such as sirens or a call down system with a backup communication system.	Parish Budget	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Completed
P5: Day to Day Operations	Continue day-to-day operations in the event of a hazard or disaster.	Staff Time / Local Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing
P6: New Initiatives	Implement new initiatives including, but not limited to, the Pilot Planning Grant Program (PPGP), Pilot Reconstruction, and Repetitive Flood Claims, developed by the State and FEMA.	Staff Time / Grant Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carried Over

Village of Powhatan					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
P7: Multi-Hazard Awareness Activities	Participate with the parish sponsoring "Multi-Hazard Awareness Activities", to educate the public on flooding, severe storms, winter storms, hurricanes, tornadoes, and drought (evacuation, emergency preparedness, retrofitting, emergency preparedness and flood insurance).	Parish and Village Budgets, Business and Industry	Mayor and Village Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing
P8: Flooding Structural Solutions	Pursue elevation / acquisition / floodproofing / reconstruction projects and structural solutions to flooding.	Pre Disaster Mitigation (PDM) or Flood Mitigation Assistance (FMA) Project Funds, Hazard Mitigation Grant Program (HMGP) Funds, Existing Parish Budget	Mayor, Building Permit Director, Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carried Over
P9: Parishwide Drainage Plan	As a community be prepared to participate and facilitate the parish-wide drainage plan.	Parish and Village Budgets	Mayor	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carried Over
P10: Additional Development Guidelines	Develop additional development guidelines that would help reduce flooding, such as requiring proper drainage with adequate sloping; stormwater retention ponds; dikes; levees and floodwalls if appropriate, and requiring freeboard above the Base Flood Elevation (BFE) in flood prone areas. Encourage new developments to install underground utilities, which would help reduce the chances of power outages during high winds and other severe storms.	Parish and Village Budgets	Mayor, Village Planning Director and Floodplain Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carried Over

Village of Powhatan					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
P11: Tree Trimming	Educate the public on importance of keeping trees trimmed.	Parish and Village Budgets	Public Works Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Ongoing
P12: Highway Drainage	Continue to maintain and clean out drainage ways along highways.	Parish and Village Budgets	Parish Public Works Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Ongoing
P13: Regulatory Standards	Continue to consider higher regulatory standards and adopt those that are beneficial to the community.	Parish and Village Budgets	Parish Floodplain Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing

Village of Robeline					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
R1: Drainage Improvement	Improve drainage ways, including, but not limited to keeping the ditches and culverts cleaned out and free of any obstructions, keep the vegetation cut, and replacing any broken culverts or drainage pipes where necessary.	Village Budget, Grant Funding	Village Engineer	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Ongoing
R2: Power Supply and Generators	Support the parish to add back up power supply/generators at the critical facilities in Robeline.	Parish and Village Budgets	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carry Over
R3: Critical Facility Hardening	Harden critical facilities including, but not limited to, utilizing applicable floodproofing techniques, adding roof tie-downs and additional storm protecting features such as storm shutters or impact resistant glass.	Parish and Village Budgets and HMGP Grants	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carry Over
R4: Disaster Warning System	Install a disaster warning system in the Village that will allow early warning of hazard events. Implement a public notification system, such as sirens or a call down system with a backup communication system.	Parish Budget	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Completed
R5: Day to Day Operations	Continue day-to-day operations in the event of a hazard or disaster.	Staff Time / Local Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing
R6: New Initiatives	Implement new initiatives including, but not limited to, the Pilot Planning Grant Program (PPGP), Pilot Reconstruction, and Repetitive Flood Claims, developed by the State and FEMA.	Staff Time / Grant Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carry Over
R7: Multi-Hazard Awareness Activities	Participate with the parish sponsoring "Multi-Hazard Awareness Activities", to educate the public on flooding, severe storms, winter storms, hurricanes, tornadoes, and drought (evacuation, emergency preparedness, retrofitting, emergency preparedness and flood insurance).	Parish and Village Budgets, Business and Industry	Mayor and Village Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing

Village of Robeline					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
R8: Flooding Structural Solutions	Pursue elevation / acquisition / floodproofing / reconstruction projects and structural solutions to flooding.	Pre Disaster Mitigation (PDM) or Flood Mitigation Assistance (FMA) Project Funds, Hazard Mitigation Grant Program (HMGP) Funds, Existing Parish Budget	Mayor, Building Permit Director, Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carry Over
R9: Parishwide Drainage Plan	As a community be prepared to participate and facilitate the parish-wide drainage plan.	Parish and Village Budgets	Mayor	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carry Over
R10: Additional Development Guidelines	Develop additional development guidelines that would help reduce flooding, such as requiring proper drainage with adequate sloping; stormwater retention ponds; dikes; levees and floodwalls if appropriate, and requiring freeboard above the Base Flood Elevation (BFE) in flood prone areas. Encourage new developments to install underground utilities, which would help reduce the chances of power outages during high winds and other severe storms.	Parish and Village Budgets	Mayor, Village Planning Director and Floodplain Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carry Over

Village of Provençal					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
R1: Drainage Improvement	Improve drainage ways, including, but not limited to keeping the ditches and culverts cleaned out and free of any obstructions, keep the vegetation cut, and replacing any broken culverts or drainage pipes where necessary.	Village Budget, Grant Funding	Village Engineer	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Ongoing
R2: Power Supply and Generators	Support the parish to add back up power supply/generators at the critical facilities in Provençal.	Parish and Village Budgets	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carry Over
R3: Critical Facility Hardening	Harden critical facilities including, but not limited to, utilizing applicable floodproofing techniques, adding roof tie-downs and additional storm protecting features such as storm shutters or impact resistant glass.	Parish and Village Budgets and HMGP Grants	OHLS / EP Director	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carry Over
R4: Disaster Warning System	Install a disaster warning system in the Village that will allow early warning of hazard events. Implement a public notification system, such as sirens or a call down system with a backup communication system.	Parish Budget	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Completed
R5: Day to Day Operations	Continue day-to-day operations in the event of a hazard or disaster.	Staff Time / Local Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing
R6: New Initiatives	Implement new initiatives including, but not limited to, the Pilot Planning Grant Program (PPGP), Pilot Reconstruction, and Repetitive Flood Claims, developed by the State and FEMA.	Staff Time / Grant Funding	Parish Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carry Over

Village of Provençal					
Jurisdiction-Specific Action	Action Description	Funding Source	Responsible Party, Agency, or Department	Hazard	Status
R7: Multi-Hazard Awareness Activities	Participate with the parish sponsoring "Multi-Hazard Awareness Activities", to educate the public on flooding, severe storms, winter storms, hurricanes, tornadoes, and drought (evacuation, emergency preparedness, retrofitting, emergency preparedness and flood insurance).	Parish and Village Budgets, Business and Industry	Mayor and Village Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Ongoing
R8: Flooding Structural Solutions	Pursue elevation / acquisition / floodproofing / reconstruction projects and structural solutions to flooding.	Pre Disaster Mitigation (PDM) or Flood Mitigation Assistance (FMA) Project Funds, Hazard Mitigation Grant Program (HMGP) Funds, Existing Parish Budget	Mayor, Building Permit Director, Emergency Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes	Carry Over
R9: Parishwide Drainage Plan	As a community be prepared to participate and facilitate the parish-wide drainage plan.	Parish and Village Budgets	Mayor	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes	Carry Over
R10: Additional Development Guidelines	Develop additional development guidelines that would help reduce flooding, such as requiring proper drainage with adequate sloping; stormwater retention ponds; dikes; levees and floodwalls if appropriate, and requiring freeboard above the Base Flood Elevation (BFE) in flood prone areas. Encourage new developments to install underground utilities, which would help reduce the chances of power outages during high winds and other severe storms.	Parish and Village Budgets	Mayor, Village Planning Director and Floodplain Manager	Floods / Severe Storms (Thunderstorms with Lightning and High Winds) / Winter Storms / Hurricanes / Tornadoes / Droughts	Carry Over

Unincorporated Natchitoches New Mitigation Actions

Natchitoches Unincorporated - New Mitigation Actions							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
N1: 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	Natchitoches Parish OHSEP	Wind, Tropical Cyclones, Tornadoes, Hail	1,2,4	New
N2: 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	Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	New
N3: 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	Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	New
N4: Safe Room Projects	Construction of a safe room for first responders located in Natchitoches Parish. Other locations will be identified based on funding availability.	FEMA HMGP, Local	1-5 years	Natchitoches Parish OHSEP	Tornadoes, Wind, Tropical Cyclones, Wildfires	1,2	New

Natchitoches Unincorporated - New Mitigation Actions							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
N5: 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, tornados, Wildfires, thunderstorms (lightning, high wind, hail), drought, and winter storm 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	Natchitoches Parish OHSEP	Flooding, Tropical Cyclones, Tornadoes, Wildfires, Thunderstorms (lightning, high wind, hail), Winter Storms, Drought	1,2,3,4	New
N6: 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	Natchitoches Parish OHSEP	Tornados, Winter Storms, Tropical Cyclones, Thunderstorms (lightning, high wind, hail)	1	New
N7: 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	Natchitoches Parish OHSEP	Lightning	1	New
N8: Warning Systems	Update/upgrade public warning system components throughout Natchitoches Parish as necessary. Install audible and/or reverse 911 warning system(s)	FEMA HMGP, Local	1-5 years	Natchitoches Parish OHSEP	Winter Storms, Wildfires, Tornadoes, Tropical Cyclones	1,2	New

Natchitoches Unincorporated - New Mitigation Actions							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
N9: 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	Natchitoches Parish OHSEP	Tropical Cyclones, Thunderstorms (lightning, high wind, hail), Tornadoes, Drought	1,2	New
N10: 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	Natchitoches Parish OHSEP	Tropical Cyclones, Flooding	1,2,3,4	New

Village of Ashland - New Mitigation Actions

Village of Ashland							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	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 Ashland/ Natchitoches Parish OHSEP	Wind, Tropical Cyclones, Tornadoes, Hail	1,2,4	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 Ashland/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	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 Ashland/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	New
A4: Safe Room Projects	Construction of a safe room for first responders located in Ashland. Other locations will be identified based on funding availability.	FEMA HMGP, Local	1-5 years	Village of Ashland/ Natchitoches Parish OHSEP	Tornadoes, Wind, Tropical Cyclones, Wildfires	1,2	New

Village of Ashland							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
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, tornados, Wildfires, Thunderstorms (lightning, high wind, hail), drought, and winter storm 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 Ashland/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones, Tornadoes, Wildfires, Thunderstorms (lightning, high wind, hail), Winter Storms, Drought	1,2,3 ,4	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 Ashland/ Natchitoches Parish OHSEP	Tornadoes, Winter Storms, Tropical Cyclones, Thunderstorms (lightning, high wind, hail)	1	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 Ashland/ Natchitoches Parish OHSEP	Lightning	1	New
A8: Warning Systems	Update/upgrade public warning system components throughout Ashland as necessary. Install audible and/or reverse 911 warning system(s)	FEMA HMGP, Local	1-5 years	Village of Ashland/ Natchitoches Parish OHSEP	Winter Storms, Wildfires, Tornadoes, Tropical Cyclones	1,2	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 Ashland/ Natchitoches Parish OHSEP	Tropical Cyclones, Thunderstorms (lightning, high wind, hail), Tornadoes, Drought	1,2	New

Village of Ashland							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
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 Ashland/ Natchitoches Parish OHSEP	Tropical Cyclones, Flooding	1,2,3 ,4	New

Town of Campti - New Mitigation Actions

Town of Campti							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	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	Town of Campti/ Natchitoches Parish OHSEP	Wind, Tropical Cyclones, Tornadoes, Hail	1,2,4	New
C2: 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 Campti/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	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	Town of Campti/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	New
C4: Safe Room Projects	Construction of a safe room for first responders located in Campti. Other locations will be identified based on funding availability.	FEMA HMGP, Local	1-5 years	Town of Campti/ Natchitoches Parish OHSEP	Tornado, Wind, Tropical Cyclones, Wildfires	1,2	New

Town of Campti							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
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, tornados, Wildfires, Thunderstorms (lightning, high wind, hail), drought, 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 Campti/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones, Tornadoes, Wildfires, Thunderstorms (lightning, high wind, hail), Winter Storms, Drought	1,2,3,4	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	Town of Campti/ Natchitoches Parish OHSEP	Tornadoes, Winter Storms, Tropical Cyclones, Thunderstorms (lightning, high wind, hail)	1	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	Town of Campti/ Natchitoches Parish OHSEP	Lightning	1	New
C8: Warning Systems	Update/upgrade public warning system components throughout Campti as necessary. Install audible and/or reverse 911 warning system(s)	FEMA HMGP, Local	1-5 years	Town of Campti/ Natchitoches Parish OHSEP	Winter Storms, Wildfires, Tornadoes, Tropical Cyclones	1,2	New

Town of Campti							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
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	Town of Campti/ Natchitoches Parish OHSEP	Tropical Cyclones, Thunderstorms (lightning, high wind, hail), Tornadoes, Drought	1,2	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	Town of Campti/ Natchitoches Parish OHSEP	Tropical Cyclones, Flooding	1,2,3,4	New

Village of Clarence - New Mitigation Actions

Village of Clarence							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	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	Village of Clarence/ Natchitoches Parish OHSEP	Wind, Tropical Cyclones, Tornadoes, Hail	1,2,4	New
C2: 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 Clarence/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	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	Village of Clarence/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	New
C4: Safe Room Projects	Construction of a safe room for first responders located in Clarence. Other locations will be identified based on funding availability.	FEMA HMGP, Local	1-5 years	Village of Clarence/ Natchitoches Parish OHSEP	Tornadoes, Wind, Tropical Cyclones	1,2	New

Village of Clarence							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
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, Thunderstorms (lightning, high wind, hail), drought, 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 Clarence/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones, Tornadoes, Thunderstorms (lightning, high wind, hail), Winter Storms, Drought	1,2,3 ,4	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	Village of Clarence/ Natchitoches Parish OHSEP	Tornadoes, Winter Storms, Tropical Cyclones, Thunderstorms (lightning, high wind, hail)	1	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	Village of Clarence/ Natchitoches Parish OHSEP	Lightning	1	New
C8: Warning Systems	Update/upgrade public warning system components throughout Clarence as necessary. Install audible and/or reverse 911 warning system(s)	FEMA HMGP, Local	1-5 years	Village of Clarence/ Natchitoches Parish OHSEP	Winter Storms, Tornadoes, Tropical Cyclones	1,2	New

Village of Clarence							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
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	Village of Clarence/ Natchitoches Parish OHSEP	Tropical Cyclones, Thunderstorms (lightning, high wind, hail), Tornadoes, Drought	1,2	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	Village of Clarence/ Natchitoches Parish OHSEP	Tropical Cyclones, Flooding	1,2,3,4	New

Village of Goldonna - New Mitigation Actions

Village of Goldonna							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
G1: 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 Goldonna/ Natchitoches Parish OHSEP	Wind, Tropical Cyclones, Tornadoes, Hail	1,2,4	New
G2: 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 Goldonna/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	New
G3: 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 Goldonna/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	New
G4: Safe Room Projects	Construction of a safe room for first responders located in Goldonna. Other locations will be identified based on funding availability.	FEMA HMGP, Local	1-5 years	Village of Goldonna/ Natchitoches Parish OHSEP	Tornado, Wind, Tropical Cyclones, Wildfires	1,2	New

Village of Goldonna							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
G5: 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, Thunderstorms (lightning, high wind, hail), drought, 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 Goldonna/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones, Tornadoes, Wildfires, Thunderstorms (lightning, high wind, hail), Winter Storms, Drought	1,2,3,4	New
G6: 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 Goldonna/ Natchitoches Parish OHSEP	Tornadoes, Winter Storms, Tropical Cyclones, Thunderstorms (lightning, high wind, hail)	1	New
G7: 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 Goldonna/ Natchitoches Parish OHSEP	Lightning	1	New
G8: Warning Systems	Update/upgrade public warning system components throughout Goldonna as necessary. Install audible and/or reverse 911 warning system(s)	FEMA HMGP, Local	1-5 years	Village of Goldonna/ Natchitoches Parish OHSEP	Winter Storms, Wildfires, Tornadoes, Tropical Cyclones	1,2	New

Village of Goldonna							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
G9: 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 Goldonna/ Natchitoches Parish OHSEP	Tropical Cyclones, Thunderstorms (lightning, high wind, hail), Tornadoes, Drought	1,2	New
G10: 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 Goldonna/ Natchitoches Parish OHSEP	Tropical Cyclones, Flooding	1,2,3,4	New

Village of Natchez - New Mitigation Actions

Village of Natchez							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
N1: 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 Natchez/ Natchitoches Parish OHSEP	Wind, Tropical Cyclones, Tornadoes, Hail	1,2,4	New
N2: 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 Natchez/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	New
N3: 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 Natchez/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	New
N4: Safe Room Projects	Construction of a safe room for first responders located in Natchez. Other locations will be identified based on funding availability.	FEMA HMGP, Local	1-5 years	Village of Natchez/ Natchitoches Parish OHSEP	Tornado, Wind, Tropical Cyclones, Wildfires	1,2	New

Village of Natchez							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
N5: 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, Thunderstorms (lightning, high wind, hail), drought, 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 Natchez/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones, Tornadoes, Wildfires, Thunderstorms (lightning, high wind, hail), Winter Storms, Drought	1,2,3,4	New
N6: 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 Natchez/ Natchitoches Parish OHSEP	Tornadoes, Winter Storms, Tropical Cyclones, Thunderstorms (lightning, high wind, hail)	1	New
N7: 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 Natchez/ Natchitoches Parish OHSEP	Lightning	1	New
N8: Warning Systems	Update/upgrade public warning system components throughout Natchez as necessary. Install audible and/or reverse 911 warning system(s)	FEMA HMGP, Local	1-5 years	Village of Natchez/ Natchitoches Parish OHSEP	Winter Storms, Wildfires, Tornadoes, Tropical Cyclones	1,2	New

Village of Natchez							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
N9: 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 Natchez/ Natchitoches Parish OHSEP	Tropical Cyclones, Thunderstorms (lightning, high wind, hail), Tornadoes, Drought	1,2	New
N10: 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 Natchez/ Natchitoches Parish OHSEP	Tropical Cyclones, Flooding	1,2,3,4	New

City of Natchitoches - New Mitigation Actions

City of Natchitoches							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
N1: 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	City of Natchitoches/ Natchitoches Parish OHSEP	Wind, Tropical Cyclones, Tornadoes, Hail	1,2,4	New
N2: 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	City of Natchitoches/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	New
N3: 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	City of Natchitoches/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	New

City of Natchitoches							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
N4: Safe Room Projects	Construction of a safe room for first responders located in Natchitoches. Other locations will be identified based on funding availability.	FEMA HMGP, Local	1-5 years	City of Natchitoches/ Natchitoches Parish OHSEP	Tornado, Wind, Tropical Cyclones, Wildfires	1,2	New
N5: 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, Thunderstorms (lightning, high wind, hail), drought, 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	City of Natchitoches/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones, Tornadoes, Wildfires, Thunderstorms (lightning, high wind, hail), Winter Storms, Drought	1,2,3,4	New
N6: 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	City of Natchitoches/ Natchitoches Parish OHSEP	Tornadoes, Winter Storms, Tropical Cyclones, Thunderstorms (lightning, high wind, hail)	1	New
N7: 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	City of Natchitoches/ Natchitoches Parish OHSEP	Lightning	1	New

City of Natchitoches							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
N8: Warning Systems	Update/upgrade public warning system components throughout Natchitoches as necessary. Install audible and/or reverse 911 warning system(s)	FEMA HMGP, Local	1-5 years	City of Natchitoches/ Natchitoches Parish OHSEP	Winter Storms, Wildfires, Tornadoes, Tropical Cyclones	1,2	New
N9: 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	City of Natchitoches/ Natchitoches Parish OHSEP	Tropical Cyclones, Thunderstorms (lightning, high wind, hail), Tornadoes, Drought	1,2	New
N10: 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	City of Natchitoches/ Natchitoches Parish OHSEP	Tropical Cyclones, Flooding	1,2,3,4	New

Village of Powhatan - New Mitigation Actions

Village of Powhatan							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
P1: 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 Powhatan/ Natchitoches Parish OHSEP	Wind, Tropical Cyclones, Tornadoes, Hail	1,2,4	New
P2: 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 Powhatan/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	New
P3: 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 Powhatan/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	New
P4: Safe Room Projects	Construction of a safe room for first responders located in Powhatan. Other locations will be identified based on funding availability.	FEMA HMGP, Local	1-5 years	Village of Powhatan/ Natchitoches Parish OHSEP	Tornadoes, Wind, Tropical Cyclones	1,2	New

Village of Powhatan							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
P5: 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, Thunderstorms (lightning, high wind, hail), drought, 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 Powhatan/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones, Tornadoes, Thunderstorms (lightning, high wind, hail), Winter Storms, Drought	1,2,3,4	New
P6: 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 Powhatan/ Natchitoches Parish OHSEP	Tornadoes, Winter Storms, Tropical Cyclones, Thunderstorms (lightning, high wind, hail)	1	New
P7: 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 Powhatan/ Natchitoches Parish OHSEP	Lightning	1	New
P8: Warning Systems	Update/upgrade public warning system components throughout Powhatan as necessary. Install audible and/or reverse 911 warning system(s)	FEMA HMGP, Local	1-5 years	Village of Powhatan/ Natchitoches Parish OHSEP	Winter Storms, Tornadoes, Tropical Cyclones	1,2	New

Village of Powhatan							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
P9: 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 Powhatan/ Natchitoches Parish OHSEP	Tropical Cyclones, Thunderstorms (lightning, high wind, hail), Tornadoes, Drought	1,2	New
P10: 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 Powhatan/ Natchitoches Parish OHSEP	Tropical Cyclones, Flooding	1,2,3, 4	New

Village of Provençal - New Mitigation Actions

Village of Provençal							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
P1: 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 Provençal/ Natchitoches Parish OHSEP	Wind, Tropical Cyclones, Tornadoes, Hail	1,2,4	New
P2: 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 Provençal/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	New
P3: 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 Provençal/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	New
P4: Safe Room Projects	Construction of a safe room for first responders located in Provençal. Other locations will be identified based on funding availability.	FEMA HMGP, Local	1-5 years	Village of Provençal/ Natchitoches Parish OHSEP	Tornadoes, Wind, Tropical Cyclones, Wildfires	1,2	New

Village of Provençal							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
P5: 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, Thunderstorms (lightning, high wind, hail), drought, 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 Provençal/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones, Tornadoes, Wildfires, Thunderstorms (lightning, high wind, hail), Winter Storms, Drought	1,2,3,4	New
P6: 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 Provençal/ Natchitoches Parish OHSEP	Tornadoes, Winter Storms, Tropical Cyclones, Thunderstorms (lightning, high wind, hail)	1	New
P7: 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 Provençal/ Natchitoches Parish OHSEP	Lightning	1	New
P8: Warning Systems	Update/upgrade public warning system components throughout Provençal as necessary. Install audible and/or reverse 911 warning system(s)	FEMA HMGP, Local	1-5 years	Village of Provençal/ Natchitoches Parish OHSEP	Winter Storms, Wildfires, Tornadoes, Tropical Cyclones	1,2	New

Village of Provencal							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
P9: 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 Provencal/ Natchitoches Parish OHSEP	Tropical Cyclones, Thunderstorms (lightning, high wind, hail), Tornadoes, Drought	1,2	New
P10: 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 Provencal/ Natchitoches Parish OHSEP	Tropical Cyclones, Flooding	1,2,3,4	New

Village of Robeline - New Mitigation Actions

Village of Robeline							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
R1: 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 Robeline/ Natchitoches Parish OHSEP	Wind, Tropical Cyclones, Tornadoes, Hail	1,2,4	New
R2: 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 Robeline/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	New
R3: 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 Robeline/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones	1,3,4	New
R4: Safe Room Projects	Construction of a safe room for first responders located in Robeline. Other locations will be identified based on funding availability.	FEMA HMGP, Local	1-5 years	Village of Robeline/ Natchitoches Parish OHSEP	Tornado, Wind, Tropical Cyclones, Wildfires	1,2	New

Village of Robeline							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
R5: 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, Thunderstorms (lightning, high wind, hail), drought, 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 Robeline/ Natchitoches Parish OHSEP	Flooding, Tropical Cyclones, Tornadoes, Wildfires, Thunderstorms (lightning, high wind, hail), Winter Storms, Drought	1,2,3,4	New
R6: 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 Robeline/ Natchitoches Parish OHSEP	Tornadoes, Winter Storms, Tropical Cyclones, Thunderstorms (lightning, high wind, hail)	1	New
R7: 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 Robeline/ Natchitoches Parish OHSEP	Lightning	1	New
R8: Warning Systems	Update/upgrade public warning system components throughout Robeline as necessary. Install audible and/or reverse 911 warning system(s)	FEMA HMGP, Local	1-5 years	Village of Robeline/ Natchitoches Parish OHSEP	Winter Storms, Wildfires, Tornadoes, Tropical Cyclones	1,2	New

Village of Robeline

Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
R9: 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 Robeline/ Natchitoches Parish OHSEP	Tropical Cyclones, Thunderstorms (lightning, high wind, hail), Tornadoes, Drought	1,2	New
R10: 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 Robeline/ Natchitoches Parish OHSEP	Tropical Cyclones, Flooding	1,2,3,4	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 Natchitoches 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.

Natchitoches 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.

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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 HMGP's hazard mitigation planning process per the FEMA HMGP 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 Natchitoches Parish Hazard Mitigation Plan Update

The Natchitoches 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.

Along with the unincorporated areas of the parish, Natchitoches Parish includes nine incorporated municipalities that participated in the plan update process – the Village of Ashland, the Town of Campti, the Village of Clarence, the Village of Goldonna, the Village of Natchez, the City of Natchitoches, the Village of Powhatan, the Village of Provencal, and the Village of Robeline. Natchitoches 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	Natchitoches, LA	No	Discuss with the plan steering committee expectations and requirements of the project. Assign plan worksheets to jurisdictions.
8/11/2016	Risk Assessment Overview	Natchitoches, LA	No	Discuss and review the risk assessment with the steering committee discuss and review expectations for public meeting.
8/11/2016	Public Meeting	Natchitoches, 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 Natchitoches 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 Natchitoches 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/NatchitochesParish
2 Week Period	Public Plan Review (Digital)		Yes	Parish Website and Natchitoches 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	Grey							
Data Collection	Grey							
Risk Assessment	Grey							
Public Input					Grey			
Mitigation Strategy and Actions				Grey				
Plan Review by GOHSEP and FEMA HMGP						Grey		
Plan Adoption								Yellow
Plan Approval								Green

Coordination

The Natchitoches Parish OHSEP oversaw the coordination of the 2016 Hazard Mitigation Plan Update Steering Committee during the update process. The Natchitoches 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 HMGP

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

- Natchitoches Parish Government
- Natchitoches Office of Homeland Security and Emergency Preparedness
- Natchitoches Sheriff's Department
- Village of Ashland
- Town of Campiti
- Village of Clarence
- Village of Goldonna
- Village of Natchez
- City of Natchitoches
- Village of Provencal
- Village of Robeline

The Parishes of Sabine, Red River, Winn, Grant, and Rapides were invited by the Natchitoches 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 6 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	Email	Phone
Posey, Lee	Mayor	City of Natchitoches	700 Second, Natchitoches, LA 71457	lposey@natchitochesla.gov	(318) 352-2772
Lee, Gahagan	Mayor	Village of Ashland	P. O. Box 377, Ashland, LA 71002	villageofashland@hughes.net	(318) 544-2546
Evans, Tommy	Mayor	Village of Clarence	P. O. Box 309, Clarence, LA 71414	villoclarenc@cp-tel.net	(318) 357-0440
Bedgood, Verna	Mayor	Village of Goldonna	P. O. Box 216, Goldonna, LA 71031	N/A	(318) 727-4444
Humphery, Rosia	Mayor	Village of Natchez	P. O. Box 229, Natchez, LA 71456	villageofnatchez@att.net	(318) 352-1414
Taylor, Johnnie	Mayor	Village of Powhatan	P.O. Box 126, Powhatan, LA 71066	N/A	(318) 352-8549
Dupree, Randy	Mayor	Village of Provencal	P. O. Box 400, Provencal, LA 71468	dupreetammy45@yahoo.com	(318) 472-8767
Behan, Bobby	Mayor	Village of Robeine	P. O. Box 217, Robeline, LA 71469	bbehan46@att.net	(318) 472-6121

Smith, Roland	Mayor	Town of Campti	P. O. Box 216, Campti, LA 71411	mayorsmith@cp-tel.net	(318) 476-3321
Verrett, Nick	Director, Parish Public Works	Parish Government	4597 Hwy 1, Natchitoches, LA 71457	nverret@npgov.org	(318) 357-2200
Nowlin, Rick	Parish President	Parish Government	200 Church St., Natchitoches, LA 71457	rnowlin@npgov.org	(318) 352-2714
Jones, Victor	Sheriff and OEP Director	Natchitoches Sheriff Dept.	P. O. Box 266, Natchitoches, LA 71457	vjones@npsheriff.net	(318) 357-7802
Jones, Mary	Assistant Director, OEP	Natchitoches Sheriff Dept.	P. O. Box 266, Natchitoches, LA 71457	mjonea@npsheriff.net	(318) 238-7720
Davis, David	Director, Sabine Parish OEP	Sabine Parish OEP	1756 San Antonio Ave., Many, LA 71445	sपोep@cp-tel.net	(318) 256-2675
Hubbard, Shane	Director, Red River OEP	Red River Police Jury	P. O. Box 764, Coushatta, LA 71019	redriver.ohsep@gmail.com	(318) 932-8502
Jordan, Cranford	Director, Winn Parish	Winn Parish Sheriff Dept.	P. O. Box 950, Winnfield, LA 71483	winnohsep@winnparish.org	(318) 332-1960
Fletcher, Cade	Assistant Director, OEP	Grant Parish Sheriff Dept.	P. O. Box 187, Colfax, LA 71417	fletcher@grantso.org	(318) 627-3261
Wiley-Gremillion, Sonya	Director OEP	Rapides Parish	4216 Ellis Street, Alexandria, LA 71302	swiley@rapides911.org	(318) 445-0396
Vance, Lynda	Administrative Assistant	Parish Government	200 Church St., Natchitoches, LA 71457	lvance@npgov.org	(318) 352-2714
Braxton, Michael	Director, Public Works	City of Natchitoches	110 Mill Street, Natchitoches, LA 71457	bbraxton@natchitochesla.gov	(318) 357-3875
Wimberly, Brian	Director of Utility	City of Natchitoches	111 Power Plant Drive, Natchitoches, LA	bwimberly@natchitochesla.gov	(318) 357-3850

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 Natchitoches 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 Natchitoches 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 HMGP, 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 (Parish and Jurisdictions)
- State of Louisiana 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 Natchitoches 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 an initial project timeline.

Public Initiation: No

Invitees Included: Natchitoches Parish OHSEP, SDMI Staff

Meeting #2: Hazard Mitigation Plan Update Kick-Off

Date: February 17, 2016**Location:** Natchitoches, 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	Email
Posey, Lee	Mayor	City of Natchitoches	lposey@natchitochesla.gov
Lee, Gahagan	Mayor	Village of Ashland	villageofashland@hughes.net
Evans, Tommy	Mayor	Village of Clarence	villoclarence@cp-tel.net
Bedgood, Verna	Mayor	Village of Goldonna	N/A
Humphery, Rosia	Mayor	Village of Natchez	villageofnatchez@att.net
Taylor, Johnnie	Mayor	Village of Powhatan	N/A
Dupree, Randy	Mayor	Village of Provencal	dupreetammy45@yahoo.com
Behan, Bobby	Mayor	Village of Robeline	bbehan46@att.net
Smith, Roland	Mayor	Town of Campti	mayorsmith@cp-tel.net
Verrett, Nick	Director, Parish Public Works	Parish Government	nverret@npgov.org
Nowlin, Rick	Parish President	Parish Government	rnowlin@npgov.org
Jones, Victor	Sheriff and OEP Director	Natchitoches Sheriff Dept.	vjones@npsheriff.net
Jones, Mary	Assistant Director, OEP	Natchitoches Sheriff Dept.	mjonea@npsheriff.net
Davis, David	Director, Sabine Parish OEP	Sabine Parish OEP	speop@cp-tel.net
Hubbard, Shane	Director, Red River OEP	Red River Police Jury	redriver.ohsep@gmail.com
Jordan, Cranford	Director, Winn Parish	Winn Parish Sheriff Dept.	winnohsep@winnparish.org
Fletcher, Cade	Assistant Director, OEP	Grant Parish Sheriff Dept.	fletcher@grantso.org
Wiley-Gremillion, Sonya	Director OEP	Rapides Parish	swiley@rapides911.org
Vance, Lynda	Administrative Assistant	Parish Government	lvance@npgov.org
Braxton, Michael	Director, Public Works	City of Natchitoches	bbraxton@natchitochesla.gov
Wimberly, Brian	Director of Utility	City of Natchitoches	bwimberly@natchitochesla.gov

Meeting #3: Risk Assessment Overview

Date: August 11, 2016**Location:** Natchitoches, 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	Email
Posey, Lee	Mayor	City of Natchitoches	lposey@natchitochesla.gov
Lee, Gahagan	Mayor	Village of Ashland	villageofashland@hughes.net
Evans, Tommy	Mayor	Village of Clarence	villoclarence@cp-tel.net
Bedgood, Verna	Mayor	Village of Goldonna	N/A
Humphery, Rosia	Mayor	Village of Natchez	villageofnatchez@att.net
Taylor, Johnnie	Mayor	Village of Powhatan	N/A
Dupree, Randy	Mayor	Village of Provencal	dupreetammy45@yahoo.com
Behan, Bobby	Mayor	Village of Robeline	bbehan46@att.net
Smith, Roland	Mayor	Town of Campti	mayorsmith@cp-tel.net
Verrett, Nick	Director, Parish Public Works	Parish Government	nverret@npgov.org
Nowlin, Rick	Parish President	Parish Government	rnowlin@npgov.org
Jones, Victor	Sheriff and OEP Director	Natchitoches Sheriff Dept.	vjones@npsheriff.net
Jones, Mary	Assistant Director, OEP	Natchitoches Sheriff Dept.	mjonea@npsheriff.net
Davis, David	Director, Sabine Parish OEP	Sabine Parish OEP	spoep@cp-tel.net
Hubbard, Shane	Director, Red River OEP	Red River Police Jury	redriver.ohsep@gmail.com
Jordan, Cranford	Director, Winn Parish	Winn Parish Sheriff Dept.	winnohsep@winncparish.org
Fletcher, Cade	Assistant Director, OEP	Grant Parish Sheriff Dept.	fletcher@grantso.org
Wiley-Gremillion, Sonya	Director OEP	Rapides Parish	swiley@rapides911.org
Vance, Lynda	Administrative Assistant	Parish Government	lvance@npgov.org
Braxton, Michael	Director, Public Works	City of Natchitoches	bbraxton@natchitochesla.gov
Wimberly, Brian	Director of Utility	City of Natchitoches	bwimberly@natchitochesla.gov

Meeting #4: Public Meeting

Date: August 11, 2016**Location:** Natchitoches, 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 Natchitoches Parish communities were provided for the meeting attendees to identify specific areas where localized hazards occur.**Public Initiation:** Yes**Invitees Included:**

Name	Title	Agency	Email
Posey, Lee	Mayor	City of Natchitoches	lposey@natchitochesla.gov
Lee, Gahagan	Mayor	Village of Ashland	villageofashland@hughes.net
Evans, Tommy	Mayor	Village of Clarence	villoclarence@cp-tel.net
Bedgood, Verna	Mayor	Village of Goldonna	N/A
Humphery, Rosia	Mayor	Village of Natchez	villageofnatchez@att.net
Taylor, Johnnie	Mayor	Village of Powhatan	N/A
Dupree, Randy	Mayor	Village of Provencal	dupreetammy45@yahoo.com
Behan, Bobby	Mayor	Village of Robeline	bbehan46@att.net
Smith, Roland	Mayor	Town of Campti	mayorsmith@cp-tel.net
Verrett, Nick	Director, Parish Public Works	Parish Government	nverret@npgov.org
Nowlin, Rick	Parish President	Parish Government	rnowlin@npgov.org
Jones, Victor	Sheriff and OEP Director	Natchitoches Sheriff Dept.	vjones@npsheriff.net
Jones, Mary	Assistant Director, OEP	Natchitoches Sheriff Dept.	mjonea@npsheriff.net
Davis, David	Director, Sabine Parish OEP	Sabine Parish OEP	speop@cp-tel.net
Hubbard, Shane	Director, Red River OEP	Red River Police Jury	redriver.ohsep@gmail.com
Jordan, Cranford	Director, Winn Parish	Winn Parish Sheriff Dept.	winnohsep@winnparish.org
Fletcher, Cade	Assistant Director, OEP	Grant Parish Sheriff Dept.	fletcher@grantso.org
Wiley-Gremillion, Sonya	Director OEP	Rapides Parish	swiley@rapides911.org
Vance, Lynda	Administrative Assistant	Parish Government	lvance@npgov.org
Braxton, Michael	Director, Public Works	City of Natchitoches	bbraxton@natchitochesla.gov
Wimberly, Brian	Director of Utility	City of Natchitoches	bwimberly@natchitochesla.gov

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

Meeting Public Notice

NATCHITOCHES OFFICE OF HOMELAND SECURITY & EMERGENCY PREPAREDNESS

MEETING NOTICE – August 11, 2016

Natchitoches Parish to hold Public Meetings for Hazard Mitigation Plan Update

Natchitoches, LA – Natchitoches Parish Office of Homeland Security & Emergency Preparedness is in the process of updating the Natchitoches Parish Hazard Mitigation Plan and are required to hold public meetings on the plan update. The Public meeting will be held on August 11, 2016 in the Natchitoches OHSEP EOC at 1:30pm.

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 Natchitoches. 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.

Natchitoches Parish is in the final stages of updating its hazard mitigation plan. Public meeting will be held on August 11th for all citizens interested in learning about and participating in discussions concerning the Natchitoches Parish Hazard Mitigation Plan.

Residents of Natchitoches 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/NatchitochesParish>

For more information, please contact: Mary Jones - Assistant Director, OEP - mjonea@npsheriff.net

Outreach Activity #1: Public Opinion Survey

Date: Ongoing throughout planning process

Location: Web Survey

Public Initiation: Yes

Outreach Activity #2: Incident Questionnaire

Date: Public Meeting Activity

Location: Public Meeting

Public Initiation: Yes

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.

Public Plan Review Documentation

The Natchitoches Parish Hazard Mitigation Draft Plan was placed on the Natchitoches 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 Natchitoches 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

Natchitoches 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

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

- Ordinances, Resolutions, Regulations
- Floodplain Ordinances
- Emergency Operations Plan
- Comprehensive Master Plan
- Economic Development Plan
- Stormwater Management Plan
- Continuity of Operations Plan
- Community Wildfires Protection Plan

Opportunities to integrate the requirements of this plan into other local planning mechanisms will continue to be identified through future meetings of the Natchitoches 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 Natchitoches 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 unincorporated areas of Natchitoches Parish, as well as the jurisdictions of the Village of Ashland, the Town of Campti, the Village of Clarence, the Village of Goldonna, the Village of Natchez, the City of Natchitoches, the Village of Powhatan, the Village of Provencal, and the Village of Robeline, Natchitoches 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:

Natchitoches Unincorporated

Economic Development Plan/ Updated as needed/Natchitoches Parish Government
Local Emergency Operations Plan/Updated as needed/Natchitoches Parish OHSEP
Continuity of Operations Plan/Update as needed/Natchitoches Parish OHSEP
Community Wildfires Protection Plan/ Update as needed/Natchitoches Parish OHSEP

Village of Ashland

Comprehensive Master Plan/Updated as needed/Natchitoches Parish Government and Mayor of Ashland
Local Emergency Operations Plan/Updated as needed/Natchitoches Parish OHSEP and Mayor of Ashland
Stormwater Management Plan/Update as needed/Natchitoches Parish Government and Mayor of Ashland
Community Wildfires Protection Plan/ Update as needed/Natchitoches Parish OHSEP and Mayor of Ashland

Town of Campti

There are no additional plans within this jurisdiction for the Hazard Mitigation Plan to be integrated.

Village of Clarence

There are no additional plans within this jurisdiction for the Hazard Mitigation Plan to be integrated.

Village of Goldonna

Local Emergency Operations Plan/Updated as needed/Natchitoches Parish OHSEP and Mayor of Goldonna
Comprehensive Master Plan/Updated as needed/Natchitoches Parish Government and Mayor of Goldonna
Capital Improvements Plan/Updated as needed/Natchitoches Parish Government and Mayor of Goldonna
Economic Development Plan/ Updated as needed/Natchitoches Parish Government and Mayor of Goldonna
Continuity of Operations Plan/Update as needed/Natchitoches Parish OHSEP and Mayor of Goldonna

Village of Natchez

There are no additional plans within this jurisdiction for the Hazard Mitigation Plan to be integrated.

City of Natchitoches

Local Emergency Operations Plan/Updated as needed/Natchitoches Parish OHSEP and Mayor of Natchitoches
Comprehensive Master Plan/Updated as needed/Natchitoches Parish Government and Mayor of Natchitoches
Capital Improvements Plan /Updated as needed/Natchitoches Parish Government and Mayor of Natchitoches
Economic Development Plan/Updated as needed/Natchitoches Parish Government and Mayor of Natchitoches
Continuity of Operations Plan/Update as needed/Natchitoches Parish OHSEP and Mayor of Natchitoches
Transportation Plan/Update as needed/ Natchitoches Parish Government and Mayor of Natchitoches
Stormwater Management Plan/Update as needed/Natchitoches Parish Government and Mayor of Natchitoches
Community Wildfires Protection Plan/ Update as needed/Natchitoches Parish OHSEP and Mayor of Natchitoches

Village of Powhatan

There are no additional plans within this jurisdiction for the Hazard Mitigation Plan to be integrated.

Village of Provencal

There are no additional plans within this jurisdiction for the Hazard Mitigation Plan to be integrated.

Village of Robeline

There are no additional plans within this jurisdiction for the Hazard Mitigation Plan to be integrated.

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

Appendix C: Essential Facilities

Natchitoches Parish Essential Facilities – All Jurisdictions

Natchitoches Unincorporated Essential Facilities										
Type	Name	Drought*	Flooding	Hail	Lightning	Wind	Tornado	Tropical Cyclones	Wildfires	Winter Storms*
Fire and Rescue	Bellwood Volunteer Fire Department			X	X	X	X	X		
	District 6 Fire and Rescue			X	X	X	X	X	X	
	Fire Station		X	X	X	X	X	X		
	Fire Station		X	X	X	X	X	X		
	Fire Station			X	X	X	X	X		
	Florien Volunteer Fire Department			X	X	X	X	X		
	Natchez Fire Station		X	X	X	X	X	X	X	
	Natchez Fire Station			X	X	X	X	X		
	Natchitoches Parish Fire District 1 Station 5			X	X	X	X	X		
	Natchitoches Fire Station		X	X	X	X	X	X		
	Natchitoches Parish Fire Department 6			X	X	X	X	X	X	
	Natchitoches Parish Fire District 2			X	X	X	X	X		
	Natchitoches Parish Fire District 2			X	X	X	X	X		
	Natchitoches Parish Fire District 6 Station			X	X	X	X	X	X	
	Natchitoches Parish Fire District 6 Station			X	X	X	X	X	X	
	Natchitoches Parish Fire District 7 Station			X	X	X	X	X		
	Natchitoches Parish Fire District 7 Station No 5			X	X	X	X	X		
	Natchitoches Parish Fire District 7 Station No 3			X	X	X	X	X		
	Natchitoches Parish Fire District 7 Station No 4			X	X	X	X	X	X	
	Natchitoches Parish Fire District 8			X	X	X	X	X	X	
Natchitoches Parish Fire District 9 Station			X	X	X	X	X			
Volunteer Fire Department				X	X	X	X	X	X	
Government	Adai-Caddo Indian Nation Tribal Office			X	X	X	X	X	X	
	DOTD - Natchitoches Maintenance Unit		X	X	X	X	X	X	X	
	Kisatchie Work Center			X	X	X	X	X	X	

	Natchitoches Parish Compactor Station			X	X	X	X	X	X	
	Natchitoches Parish Dumpsite			X	X	X	X	X	X	
	Natchitoches Parish Dumpsite			X	X	X	X	X	X	
	Natchitoches Parish Dumpsite			X	X	X	X	X	X	
	Parish Trash Dump			X	X	X	X	X	X	
Law Enforcement	Kisatchie Ranger Station			X	X	X	X	X		
Schools	Bethel Academy			X	X	X	X	X		
	Cloutierville Elementary and Junior High School			X	X	X	X	X		
	Fairview Alpha Elementary			X	X	X	X	X	X	
	Lakeview Junior-Senior High School			X	X	X	X	X	X	
	Marthaville Elementary and Junior High School			X	X	X	X	X		

Ashland Essential Facilities										
Type	Name	Drought*	Flooding	Hail	Lightning	Wind	Tornado	Tropical Cyclones	Wildfires	Winter Storms*
Fire and Rescue	Natchitoches Parish Fire District 8			X	X	X	X	X		
Government	Parish Trash Dump			X	X	X	X	X		

Campti Essential Facilities										
Type	Name	Drought*	Flooding	Hail	Lightning	Wind	Tornado	Tropical Cyclones	Wildfires	Winter Storms*
Fire and Rescue	Natchitoches Parish Fire District 9 Station			X	X	X	X	X		
Government	Campti Municipal Building			X	X	X	X	X	X	
	Town of Campti Administrative Office			X	X	X	X	X	X	
Law Enforcement	Campti Police Department			X	X	X	X	X	X	
	Natchitoches Parish Sheriff's Office North Substation			X	X	X	X	X	X	

Natchitoches Essential Facilities										
Type	Name	Drought*	Flooding	Hail	Lightning	Wind	Tornado	Tropical Cyclones	Wildfires	Winter Storms*
Fire and Rescue	Central Fire Station			X	X	X	X	X		
	Fire Station			X	X	X	X	X	X	
	Fire Station			X	X	X	X	X		
	Fire Station			X	X	X	X	X		
Government	City of Natchitoches Garage and Maintenance			X	X	X	X	X	X	
	City of Natchitoches Public Works Department			X	X	X	X	X		
	City of Natchitoches Purchasing Department			X	X	X	X	X	X	
	Department of Public Safety			X	X	X	X	X	X	
	District Attorney's Office			X	X	X	X	X		
	LA Department of Ag and Forestry		X	X	X	X	X	X		
	LA State Parks District 4 Headquarters			X	X	X	X	X		
	Natchitoches Chamber of Commerce			X	X	X	X	X		
	Natchitoches City Hall			X	X	X	X	X		
	Natchitoches Housing Authority			X	X	X	X	X		
	Natchitoches Housing Authority			X	X	X	X	X		
	Natchitoches Parish City Works			X	X	X	X	X	X	
	Natchitoches Parish Council on Aging			X	X	X	X	X		
	Natchitoches Parish Courthouse			X	X	X	X	X		
	Natchitoches Parish Department of Social Services				X	X	X	X	X	
	Natchitoches Recycling Center				X	X	X	X	X	
	Natchitoches School Board				X	X	X	X	X	
	Natchitoches Tax Commission				X	X	X	X	X	
	National Center for Preservation Technology and Training				X	X	X	X	X	
	Office of Community Services				X	X	X	X	X	
Red River Waterway Commission Headquarters			X	X	X	X	X	X	X	

	Social Security Administration			X	X	X	X	X		
	USDA Service Center			X	X	X	X	X		
Law Enforcement	Natchitoches Police West Substation			X	X	X	X	X	X	
	Natchitoches Parish Sheriff's Office Substation			X	X	X	X	X		
	Community Oriented Police Station			X	X	X	X	X		
	Natchitoches Police Department			X	X	X	X	X		
	Natchitoches City Marshal's Office			X	X	X	X	X		
Corrections	Natchitoches Parish Sheriff's Office Corrections Division			X	X	X	X	X		
Public Health	Outpatient Medical Centers			X	X	X	X	X		
	Wheat Medical Center			X	X	X	X	X		
Schools	East Natchitoches Elementary			X	X	X	X	X		
	Faith Christian Academy			X	X	X	X	X	X	
	L.P. Vaughn Elementary and Middle			X	X	X	X	X	X	
	LA School for Math, Science, and the Arts			X	X	X	X	X		
	M.R. Weaver Elementary			X	X	X	X	X		
	Natchitoches Central High School		X	X	X	X	X	X		
	Natchitoches Magnet School			X	X	X	X	X		
	Parks Elementary/Junior High			X	X	X	X	X	X	

Powhatan Essential Facilities										
Type	Name	Drought*	Flooding	Hail	Lightning	Wind	Tornado	Tropical Cyclones	Wildfires	Winter Storms*
Fire and Rescue	Natchitoches Parish Fire District 10 Station			X	X	X	X	X		
Government	Powhatan Town Hall			X	X	X	X	X		

Provencal Essential Facilities										
Type	Name	Drought*	Flooding	Hail	Lightning	Wind	Tornado	Tropical Cyclones	Wildfires	Winter Storms*
Fire and Rescue	Fire Station			X	X	X	X	X		
Government	Provencal City Hall			X	X	X	X	X	X	

Robeline Essential Facilities										
Type	Name	Drought*	Flooding	Hail	Lightning	Wind	Tornado	Tropical Cyclones	Wildfires	Winter Storms*
Fire and Rescue	Robeline Fire Department			X	X	X	X	X	X	
Government	Robeline Municipal Annex		X	X	X	X	X	X	X	
Schools	Robeline Elementary			X	X	X	X	X	X	

* Hazard does not impact any critical facility.

Appendix D: Plan Adoption

Offered by Russell Rachal, who moved its adoption, and
duly seconded by Patsy Ward Hoover.

**RESOLUTION 062-2016 A RESOLUTION ADOPTING THE
PARISH- WIDE HAZARD MITIGATION PLAN**

WHEREAS, the Natchitoches Parish Government has received grant funds from the Federal Emergency Management Agency, through the Governor's Office of Homeland Security and Emergency Preparedness, for the update of a hazard mitigation plan and;

WHEREAS, our community has participated in the process to update a DMA compliant Hazard Mitigation Plan based on the FEMA guidance available in the How to Guides;

WHEREAS, Natchitoches Parish and local representatives and governments have participated in the mitigation planning process;

WHEREAS, appropriate opportunity for input by public and community officials has been provided through press releases, open meetings and availability of draft documents.

WHEREAS, the updated plan has been recommended for adoption by the Natchitoches Parish Council.

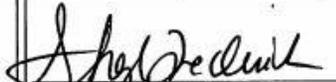
WHEREAS, adoption of the updated plan is required prior to further consideration for FEMA funding under the following programs:

- Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program

NOW, THEREFORE, BE IT RESOVED, that the Natchitoches Parish Council, in regular and legal session convened, does hereby adopt the Natchitoches Parish Hazard Mitigation Plan Update on this 21st day of November, 2016.

ATTEST:


Russell Rachal, Chairman


Sheryl Frederick,
Parish Council Clerk

The following Resolution was introduced by Mr. Nielsen and Seconded by Mr. Harrington as follows, to –wit:

RESOLUTION 003 OF 2017

**A RESOLUTION ADOPTING THE
NATCHITOCHE PARISH HAZARD MITIGATION PLAN 2016**

WHEREAS, the Parish of Natchitoches has prepared a multi-hazard mitigation plan hereby known as the NATCHITOCHE PARISH HAZARD MITIGATION PLAN 2016 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the Parish of Natchitoches has participated in the process to prepare a DMA compliant Hazard Mitigation Plan based in the FEMA guidance available in the How to Guides; and

WHEREAS, the Parish of Natchitoches is participating in the Hazard Mitigation Plan prepared by the Natchitoches Parish Government under the oversight of a Steering Committee comprised of Parish-Wide representatives; and

WHEREAS, Natchitoches Parish and local city representatives and governments have participated in the mitigation planning process; and

WHEREAS, appropriate opportunity for input by public and community officials has been provided through meeting notices, open meetings and availability of draft documents; and

WHEREAS, the Plan has been recommended for adoption by the steering committee; and

WHEREAS, adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

- Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program

NOW THEREFORE, BE IT RESOLVED, that the Natchitoches City Council does hereby adopt the Natchitoches Parish Hazard Mitigation Plan Update 2016.

This Resolution was then presented for a vote, and the vote was recorded as follows:

AYES: **Batiste, Nielsen, Mims, Harrington, Morrow**
NAYS: **None**
ABSENT: **None**
ABSTAIN: **None**

THEREUPON, Mayor Lee Posey declared the Resolution passed by a vote of 5 Ayes to

0 Nays on this 9th day of January, 2017.



LEE POSEY, MAYOR

CERTIFICATE

**STATE OF LOUISIANA
PARISH OF NATCHITOCHES**

I, Stacy M. McQueary, Clerk of City Council of the City of Natchitoches, State of Louisiana, do hereby certify that the above and foregoing Resolution is a true and correct copy of same as adopted by the City Council of the City of Natchitoches on the 9th day of January, 2017 given under my official signature and seal of office this 10th day of January, 2017.


Clerk of Council

RESOLUTION 304

A RESOLUTION ADOPTING THE
NATCHITOCHE PARISH HAZARD MITIGATION PLAN 2016

WHEREAS, the Village of Ashland Mayor and City Council recognize the threat that natural hazards pose to people and property with the Village of Ashland; and

WHERE, as Natchitoches Parish Government has prepared a multi-hazard mitigation plan, hereby known as Natchitoches Parish Hazard Mitigation Plan 2016 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, Natchitoches Parish Hazard Mitigation Plan 2016 identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Natchitoches from the impact of future hazards and disasters; and

WHEREAS adoption of the Village of Ashland City Council demonstrates their commitment to the hazard mitigation and achieving the goals outlines in the Natchitoches Parish Hazard Mitigation Plan 2016.

WHEREAS Natchitoches Parish and local city representatives and governments have participated in the mitigation planning process;

WHEREAS appropriate opportunity for input by public and community officials has been provided through meeting notices, open meetings and availability of draft documents;

WHEREAS the Plan has been recommended for adoption by the steering committee;

WHEREAS adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

- Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program

Therefore, the Village of Ashland City Council does hereby adopt the Natchitoches Parish Hazard Mitigation Plan Update 2016.

ADOPTED by a vote of 3 in favor and 0 against, and 0 abstaining, on this the 5th day of January, 2017.

RESOLUTION #2 OF 2017**A RESOLUTION ADOPTING THE NATCHITOCHES PARISH HAZARD MITIGATION PLAN 2017**

WHEREAS, the Town of Campti Mayor and Town Council recognize the threat that natural hazard pose to people and property with the Town of Campti; and

WHEREAS, Natchitoches Parish government has prepared a multi-hazard mitigation plan, hereby know as Natchitoches Parish Hazard Mitigation Plan 2017 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, Natchitoches Parish Hazard Mitigation Plan 2017 identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Natchitoches from the impact of future hazards and disasters; and

WHEREAS, adoption of the Town of Campti, Town Council demonstrates their commitment to the hazard mitigation and achieving the goals outlines in the Natchitoches Parish Hazard Mitigation Plan 2017

WHEREAS, Natchitoches Parish and local Town representatives and governments have participated in the mitigation planning process;

WHEREAS, appropriate opportunity for input by public and community officials has been provided through meeting notices, open meetings and availability of draft documents;

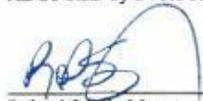
WHEREAS, the Plan has been recommended for adoption by the steering committee;

WHEREAS, adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

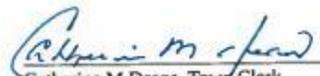
- Pr e-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program

THEREFORE, the Town of Campti, Town Council does hereby adopt the Natchitoches Parish Hazard Mitigation Plan update 2017

ADOPTED by a vote of 4 in favor and 0 against, and 0 abstaining, and 1 absent on this the 10th day of January, 2017.



Roland Smith, Mayor



Catherine M Deans, Town Clerk

Jan 17 2017 09:48AM Village Of Clarence 3183569700

page 1

RESOLUTION 405A RESOLUTION ADOPTING THE
NATCHITOCHE PARISH HAZARD MITIGATION PLAN 2016

WHEREAS, the Village of Clarence Mayor and City Council recognize the threat that natural hazard pose to people and property with the Village of Clarence; and

WHERE, as Natchitoches Parish Government has prepared a multi-hazard mitigation plan, hereby know as Natchitoches Parish Hazard Mitigation Plan 2016 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, Natchitoches Parish Hazard Mitigation Plan 2016 identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Natchitoches from the impact of future hazards and disasters; and

WHEREAS adoption of the Village of Clarence City Council demonstrates their commitment to the hazard mitigation and achieving the goals outlines in the Natchitoches Parish Hazard Mitigation Plan 2016.

WHEREAS Natchitoches Parish and local city representatives and governments have participated in the mitigation planning process;

WHEREAS appropriate opportunity for input by public and community officials has been provided through meeting notices, open meetings and availability of draft documents;

WHEREAS the Plan has been recommended for adoption by the steering committee;

WHEREAS adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

- Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program

Therefore, the Village of Clarence City Council does hereby adopt the Natchitoches Parish Hazard Mitigation Plan Update 2016.

ADOPTED by a vote of 9 in favor and 0 against, and 0 abstaining,
on this the 12 day of January, 2017.

RESOLUTION**A RESOLUTION ADOPTING THE
NATCHITOCHE PARISH HAZARD MITIGATION PLAN 2016**

WHEREAS, the Village of Goldonna Mayor and City Council recognize the threat that natural hazard pose to people and property with the Village of Goldonna; and

WHERE, as Natchitoches Parish Government has prepared a multi-hazard mitigation plan, hereby know as Natchitoches Parish Hazard Mitigation Plan 2016 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, Natchitoches Parish Hazard Mitigation Plan 2016 identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Natchitoches from the impact of future hazards and disasters; and

WHEREAS adoption of the Village of Goldonna City Council demonstrates their commitment to the hazard mitigation and achieving the goals outlines in the Natchitoches Parish Hazard Mitigation Plan 2016.

WHEREAS Natchitoches Parish and local city representatives and governments have participated in the mitigation planning process;

WHEREAS appropriate opportunity for input by public and community officials has been provided through meeting notices, open meetings and availability of draft documents;

WHEREAS the Plan has been recommended for adoption by the steering committee;

WHEREAS adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

- Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program

Therefore, the Village of Goldonna City Council does hereby adopt the Natchitoches Parish Hazard Mitigation Plan Update 2016.

ADOPTED by a vote of 3 in favor and 0 against, and 0 abstaining, on this the 9 day of January, 2017.

MAYOR
Rosia Humphrey

Village of Natchez
P.O. BOX 229 / 181 MAIN STREET

CHIEF OF POLICE
Gerald Johnson

ALDERMAN
Sheila Johnson

NATCHEZ, LA 71456
PHONE: 318-352-1414

Joe Walker
Amos Bradley

FAX: 318-352-6266

SECRETARY
Jalisa Reed

RESOLUTION

A RESOLUTION ADOPTING THE NATCHITOCHES PARISH HAZARD MITIGATION PLAN 2016

WHEREAS, the Village of Natchez Mayor and City Council recognize the threat that natural hazard pose to people and property with the Village of Natchez; and

WHERE, as Natchitoches Parish Government has prepared a multi-hazard mitigation plan, hereby know as Natchitoches Parish Hazard Mitigation Plan 2016 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, Natchitoches Parish Hazard Mitigation Plan 2016 identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Natchitoches from the impact of future hazards and disasters; and

WHEREAS adoption of the Village of Natchez City Council demonstrates their commitment to the hazard mitigation and achieving the goals outlines in the Natchitoches Parish Hazard Mitigation Plan 2016.

WHEREAS Natchitoches Parish and local city representatives and governments have participated in the mitigation planning process;

WHEREAS appropriate opportunity for input by public and community officials has been provided through meeting notices, open meetings and availability of draft documents;

WHEREAS the Plan has been recommended for adoption by the steering committee;

WHEREAS adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

- Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program

MAYOR
Rosia Humphrey

Village of Natchez
P.O. BOX 229 / 181 MAIN STREET

CHIEF OF POLICE
Gerald Johnson

ALDERMAN
Sheila Johnson

NATCHEZ, LA 71456

PHONE: 318-352-1414

Joe Walker

FAX: 318-352-6266

SECRETARY

Amos Bradley

Jalisa Reed

Therefore, the Village of Natchez City Council does hereby adopt the Natchitoches Parish Hazard Mitigation Plan Update 2016.

ADOPTED by a vote of 3 in favor and 0 against, and 0 abstaining, on this the 5 day of January, 2017.



VILLAGE OF POWHATAN

JOHNNIE TAYLOR
MAYOR
EDDIE LEE JACKSON
CLERK
PAUL CORMANE
WATER-OPERATOR

291 N. Railroad Street
Post Office Box 126
POWHATAN, LOUISIANA 71066
Telephone 318/352-8549

Willie Davis J
Jamika Neal
Hardrick River:
Aldermen

Gregory Blake
Marshall

RESOLUTION

A RESOLUTION ADOPTING THE NATCHITOCHES PARISH HAZARD MITIGATION PLAN 2016

WHEREAS, the Village of Powhatan Mayor and City Council recognize the threat that natural hazard pose to people and property with the Village of Powhatan; and

WHEREAS, as Natchitoches Parish Government has prepared a multi-hazard mitigation plan, hereby know as Natchitoches Parish Hazard Mitigation Plan 2016 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, Natchitoches Parish Hazard Mitigation Plan 2016 identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Natchitoches from the impact of future hazards and disasters; and

WHEREAS, adoption of the Village of Powhatan City Council demonstrates their commitment to the hazard mitigation and achieving the goals outlines in the Natchitoches Parish Hazard Mitigation Plan 2016.

WHEREAS, Natchitoches Parish and local city representatives and governments have participated in the mitigation planning process;

WHEREAS, appropriate opportunity for input by public and community officials has been provided through meeting notices, open meetings and availability of draft documents;

WHEREAS, the Plan has been recommended for adoption by the steering committee;

WHEREAS, adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

- * Pre-Disaster Mitigation
- * Hazard Mitigation Grant Program
- * Flood Mitigation Assistance Program

Therefore, the Village of Powhatan City Council does hereby adopt the Natchitoches Parish Hazard Mitigation Plan Update 2016.

Adopted by a vote of 3 Yeas to 0 Nays on this 9th day of January, 2017.

Attest:
Eddie Lee Jackson
Eddie Lee Jackson
Clerk

Johnnie Taylor
Johnnie Taylor, Mayor

A RESOLUTION ADOPTING THE HOMERULED CHARTER OF NATCHITOCHE
PARISH HAZARD MITIGATION PLAN 2016

WHEREAS the Homeruled charter of Natchitoches Parish has prepared a multi-hazard mitigation plan hereby known as the Natchitoches Parish Hazard Mitigation Plan 2016 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the Municipality of Provencal has participated in the process to prepare a DMA compliant Hazard Mitigation Plan based in the FEMA guidance available in the How to Guides;

WHEREAS the Municipality of Provencal is participating in the Hazard Mitigation Plan prepared by the Natchitoches Parish Governing Authority under the oversight of a Steering Committee comprised of Parish-Wide representatives;

WHEREAS the Home Ruled Charter of Natchitoches Parish and local city representatives and governments have participated in the mitigation planning process;

WHEREAS appropriate opportunity for input by public and community officials has been provided through meeting notices, open meetings and availability of draft documents;

WHEREAS the Plan has been recommended for adoption by the steering committee;

WHEREAS adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

Pre-Disaster Mitigation
Hazard Mitigation Grant Program
Flood Mitigation Assistance Program

Therefore, the Municipal Of The Village Of Provencal does hereby adopt the Natchitoches Parish Hazard Mitigation Plan Update 2016

ADOPTED by a vote of 2 in favor and 0 against, and 1 abstaining on this 10th day of December, 2016

01/30/2017 MON 10:45 FAX

001/001

RESOLUTION

A RESOLUTION ADOPTING THE
NATCHITOCHEs PARISH HAZARD MITIGATION PLAN 2016

WHEREAS, the Village of Robeline Mayor and City Council recognize the threat that natural hazard pose to people and property with the Village of Robeline; and

WHERE, as Natchitoches Parish Government has prepared a multi-hazard mitigation plan, hereby know as Natchitoches Parish Hazard Mitigation Plan 2016 in accordance with the Disaster Mitigation Act of 2000; and

~~WHEREAS, Natchitoches Parish Hazard Mitigation Plan 2016 identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Natchitoches from the impact of future hazards and disasters; and~~

WHEREAS adoption of the Village of Robeline City Council demonstrates their commitment to the hazard mitigation and achieving the goals outlines in the Natchitoches Parish Hazard Mitigation Plan 2016.

WHEREAS Natchitoches Parish and local city representatives and governments have participated in the mitigation planning process;

WHEREAS appropriate opportunity for input by public and community officials has been provided through meeting notices, open meetings and availability of draft documents;

WHEREAS the Plan has been recommended for adoption by the steering committee;

WHEREAS adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

- Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program

Therefore, the Village of Robeline City Council does hereby adopt the Natchitoches Parish Hazard Mitigation Plan Update 2016.

ADOPTED by a vote of 3 in favor and 0 against, and 0 abstaining, on this the 19th day of January, 2017.

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	Email	Phone
Posey, Lee	Mayor	City of Natchitoches	700 Second, Natchitoches, LA 71457	lposey@natchitochesla.gov	(318) 352-2772
Lee, Gahagan	Mayor	Village of Ashland	P. O. Box 377, Ashland, LA 71002	villageofashland@hughes.net	(318) 544-2546
Evans, Tommy	Mayor	Village of Clarence	P. O.Box 309, Clarence, LA 71414	villoclarenc@cp-tel.net	(318) 357-0440
Bedgood, Verna	Mayor	Village of Goldonna	P. O. Box 216, Goldonna, LA 71031	N/A	(318) 727-4444
Humphery, Rosia	Mayor	Village of Natchez	P. O. Box 229, Natchez, LA 71456	villageofnatchez@att.net	(318) 352-1414
Taylor, Johnnie	Mayor	Village of Powhatan	P.O. Box 126, Powhatan, LA 71066	N/A	(318) 352-8549
Dupree, Randy	Mayor	Village of Provencal	P. O. Box 400, Provencal, LA 71468	dupreetammy45@yahoo.com	(318) 472-8767
Behan, Bobby	Mayor	Village of Robeine	P. O. Box 217, Robeline, LA 71469	bbehan46@att.net	(318) 472-6121
Smith, Roland	Mayor	Town of Campti	P. O. Box 216, Campti, LA 71411	mayorsmith@cp-tel.net	(318) 476-3321
Verrett, Nick	Director, Parish Public Works	Parish Government	4597 Hwy 1, Natchitoches, LA 71457	nverret@npgov.org	(318) 357-2200
Nowlin, Rick	Parish President	Parish Government	200 Church St., Natchitoches, LA 71457	rnowlin@npgov.org	(318) 352-2714
Jones, Victor	Sheriff and OEP Director	Natchitoches Sheriff Dept.	P. O. Box 266, Natchitoches, LA 71457	vjones@npsheriff.net	(318)357-7802
Jones, Mary	Assistant Director, OEP	Natchitoches Sheriff Dept.	P. O. Box 266, Natchitoches, LA 71457	mjonea@npsheriff.net	(318)238-7720

Name	Title	Agency	Address	Email	Phone
Davis, David	Director, Sabine Parish OEP	Sabine Parish OEP	1756 San Antonio Ave., Many, LA 71445	spoep@cp-tel.net	(318) 256-2675
Hubbard, Shane	Director, Red River OEP	Red River Police Jury	P. O. Box 764, Coushatta, LA 71019	redriver.ohsep@gmail.com	(318) 932-8502
Jordan, Cranford	Director, Winn Parish	Winn Parish Sheriff Dept.	P. O. Box 950, Winnfield, LA 71483	winnohsep@winnparish.org	(318) 332-1960
Fletcher, Cade	Assistant Director, OEP	Grant Parish Sheriff Dept.	P. O. Box 187, Colfax, LA 71417	fletcher@grantso.org	(318) 627-3261
Wiley-Gremillion, Sonya	Director OEP	Rapides Parish	4216 Ellis Street, Alexandria, LA 71302	swiley@rapides911.org	(318) 445-0396
Vance, Lynda	Administrative Assistant	Parish Government	200 Church St., Natchitoches, LA 71457	lvance@npgov.org	(318) 352-2714
Braxton, Michael	Director, Public Works	City of Natchitoches	110 Mill Street, Natchitoches, LA 71457	bbraxton@natchitochesla.gov	(318) 357-3875
Wimberly, Brian	Director of Utility	City of Natchitoches	111 Power Plant Drive, Natchitoches, LA	bwimberly@natchitochesla.gov	(318) 357-3850

Capability Assessment

Natchitoches Unincorporated

Worksheet 4.1: Capability Assessment Worksheet		
Local mitigation capabilities are existing authorities, polices and resources that reduce hazard impacts or that could be used to		
implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.		
Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Natchitoches Unincorporated		
Plans	Yes/No	Comments
Comprehensive / Master Plan	No	
Capital Improvements Plan	No	
Economic Development Plan	Yes	
Local Emergency Operations Plan	Yes	
Continuity of Operations Plan	Yes	
Transportation Plan	No	
Stormwater Management Plan	No	
Community Wildfires Protection Plan	Yes	
Other plans (redevelopment, recovery, coastal zone management)	No	
Building Code, Permitting and Inspections		
Building Code	Yes	
Building Code Effectiveness Grading Schedule (BCEGS) Score	Yes	
Fire Department ISO/PIAL rating	Yes	
Site plan review requirements	No	
Land Use Planning and Ordinances		
Zoning Ordinance	Yes	
Subdivision Ordinance	Yes	
Floodplain Ordinance	Yes	

Natural Hazard Specific Ordinance (stormwater, steep slope, Wildfires)	No	
Flood Insurance Rate Maps	Yes	
Acquisition of land for open space and public recreation uses	Yes	
Other	no	
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.		
Administration	Yes/No	Comments
Planning Commission	Yes-Parish Gov	
Mitigation Planning Committee	Yes-Parish Gov	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes-Parish Gov	
Staff		
Chief Building Official	Yes-Parish Gov	
Floodplain Administrator	Yes	
Emergency Manager	Yes-Parish OEP	
Community Planner	Yes-Parish Gov	
Civil Engineer	Yes-Parish Gov	
GIS Coordinator	Yes-Parish Gov	
Grant Writer	no	
Other	no	
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	
Hazard Data & Information		
Grant Writing	No	
Hazus Analysis	No	
Other	no	

Financial		
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.		
Funding Resource	Yes/No	Comments
Capital Improvements project funding	Parish Gov	
Authority to levy taxes for specific purposes	Parish Gov	
Fees for water, sewer, gas, or electric services	Parish Gov	
Impact fees for new development	Parish Gov	
Stormwater Utility Fee	no	
Community Development Block Grant (CDBG)	Parish Gov	
Other Funding Programs	no	
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.		
Program / Organization	Yes/No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes	
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	Yes	
Natural Disaster or safety related school program	Yes	
Storm Ready certification	No	
Firewise Communities certification		
Public/Private partnership initiatives addressing disaster-related issues	No	
Other	no	

Village of Ashland

Worksheet 4.1: Capability Assessment Worksheet		
Local mitigation capabilities are existing authorities, polices and resources that reduce hazard impacts or that could be used to		
implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.		
Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Ashland		
Plans	Yes/No	Comments
Comprehensive / Master Plan	Yes	
Capital Improvements Plan	No	
Economic Development Plan	No	
Local Emergency Operations Plan	Yes	
Continuity of Operations Plan	No	
Transportation Plan	No	
Stormwater Management Plan	Yes	
Community Wildfires Protection Plan	Yes	
Other plans (redevelopment, recovery, coastal zone management)	No	
Building Code, Permitting and Inspections		
Building Code	Yes	
Building Code Effectiveness Grading Schedule (BCEGS) Score	Yes	
Fire Department ISO/PIAL rating	Yes	
Site plan review requirements	Yes	
Land Use Planning and Ordinances		
Zoning Ordinance	No	
Subdivision Ordinance	No	
Floodplain Ordinance	Yes	

Natural Hazard Specific Ordinance (stormwater, steep slope, Wildfires)	No	
Flood Insurance Rate Maps	Yes	
Acquisition of land for open space and public recreation uses	Yes	
Other	No	
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.		
Administration	Yes/No	Comments
Planning Commission	No	
Mitigation Planning Committee	Yes	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	No	
Staff		
Chief Building Official	Yes	
Floodplain Administrator	Yes	
Emergency Manager	Yes	
Community Planner	Yes	
Civil Engineer	No	
GIS Coordinator	No	
Grant Writer	Yes	
Other		
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	
Hazard Data & Information	No	
Grant Writing	Yes	
Hazus Analysis	No	
Other	No	

Financial		
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.		
Funding Resource	Yes/No	Comments
Capital Improvements project funding	No	
Authority to levy taxes for specific purposes	No	
Fees for water, sewer, gas, or electric services	No	
Impact fees for new development	No	
Stormwater Utility Fee	No	
Community Development Block Grant (CDBG)	Yes	
Other Funding Programs	No	
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.		
Program / Organization	Yes/No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	No	
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	Yes	
Natural Disaster or safety related school program	No	
Storm Ready certification	No	
Firewise Communities certification	No	
Public/Private partnership initiatives addressing disaster-related issues	No	
Other	No	

Town of Campti

Worksheet 4.1: Capability Assessment Worksheet		
Local mitigation capabilities are existing authorities, polices and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.		
Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Campti		
Plans	Yes/No	Comments
Comprehensive / Master Plan	No	
Capital Improvements Plan	No	
Economic Development Plan	No	
Local Emergency Operations Plan	No	
Continuity of Operations Plan	No	
Transportation Plan	No	
Stormwater Management Plan	No	
Community Wildfires Protection Plan	No	
Other plans (redevelopment, recovery, coastal zone management)	No	
Building Code, Permitting and Inspections		
Building Code	Yes	
Building Code Effectiveness Grading Schedule (BCEGS) Score	Yes	
Fire Department ISO/PIAL rating	5	
Site plan review requirements	Yes	
Land Use Planning and Ordinances		
Zoning Ordinance	Yes	
Subdivision Ordinance	No	
Floodplain Ordinance	Yes	
Natural Hazard Specific Ordinance (stormwater, steep slope, Wildfires)	No	

Flood Insurance Rate Maps	Yes	
Acquisition of land for open space and public recreation uses	Yes	
Other	No	
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.		
Administration	Yes/No	Comments
Planning Commission	No	
Mitigation Planning Committee	Yes	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	
Staff		
Chief Building Official	No	
Floodplain Administrator	Yes	
Emergency Manager	No	
Community Planner	No	
Civil Engineer	No	
GIS Coordinator	No	
Grant Writer	No	
Other		
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	
Hazard Data & Information	No	
Grant Writing	Yes	
Hazus Analysis	No	
Other	No	

Financial		
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.		
Funding Resource	Yes/No	Comments
Capital Improvements project funding	No	
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development	Yes	
Stormwater Utility Fee	No	
Community Development Block Grant (CDBG)	Yes	
Other Funding Programs	CWEP	
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.		
Program / Organization	Yes/No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	No	
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	No	
Natural Disaster or safety related school program	Yes	
Storm Ready certification	No	
Firewise Communities certification	No	
Public/Private partnership initiatives addressing disaster-related issues	No	
Other	No	

Village of Clarence

Worksheet 4.1: Capability Assessment Worksheet		
Local mitigation capabilities are existing authorities, polices and resources that reduce hazard impacts or that could be used to		
implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.		
Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Clarence		
Plans	Yes/No	Comments
Comprehensive / Master Plan	No	
Capital Improvements Plan	No	
Economic Development Plan	No	
Local Emergency Operations Plan	No	
Continuity of Operations Plan	NO	
Transportation Plan	No	
Stormwater Management Plan	No	
Community Wildfires Protection Plan	No	
Other plans (redevelopment, recovery, coastal zone management)	No	
Building Code, Permitting and Inspections		
Building Code	No	
Building Code Effectiveness Grading Schedule (BCEGS) Score	No	
Fire Department ISO/PIAL rating	6	
Site plan review requirements	No	
Land Use Planning and Ordinances		
Zoning Ordinance	No	
Subdivision Ordinance	No	
Floodplain Ordinance	Yes	
Natural Hazard Specific Ordinance (stormwater, steep slope, Wildfires)	No	

Flood Insurance Rate Maps	Yes	
Acquisition of land for open space and public recreation uses	No	
Other	No	
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.		
Administration	Yes/No	Comments
Planning Commission	No	
Mitigation Planning Committee	No	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	No	
Staff		
Chief Building Official	No	
Floodplain Administrator	Yes	
Emergency Manager	No	
Community Planner	Yes	
Civil Engineer	No	
GIS Coordinator	No	
Grant Writer	Yes	
Other		
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	
Hazard Data & Information	No	
Grant Writing	No	
Hazus Analysis	No	
Other		

Financial		
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.		
Funding Resource	Yes/No	Comments
Capital Improvements project funding	Yes	
Authority to levy taxes for specific purposes	No	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development	No	
Stormwater Utility Fee	Yes	
Community Development Block Grant (CDBG)	Yes	
Other Funding Programs	No	
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.		
Program / Organization	Yes/No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes	
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	No	
Natural Disaster or safety related school program	No	
Storm Ready certification	No	
Firewise Communities certification	No	
Public/Private partnership initiatives addressing disaster-related issues	No	
Other	No	

Village of Goldonna

Worksheet 4.1: Capability Assessment Worksheet		
Local mitigation capabilities are existing authorities, polices and resources that reduce hazard impacts or that could be used to		
implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.		
Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Goldonna		
Plans	Yes/No	Comments
Comprehensive / Master Plan	Yes	
Capital Improvements Plan	Yes	
Economic Development Plan	Yes	
Local Emergency Operations Plan	Yes	
Continuity of Operations Plan	Yes	
Transportation Plan	No	
Stormwater Management Plan	No	
Community Wildfires Protection Plan	No	
Other plans (redevelopment, recovery, coastal zone management)	No	
Building Code, Permitting and Inspections		
Building Code	No	
Building Code Effectiveness Grading Schedule (BCEGS) Score	No	
Fire Department ISO/PIAL rating	8	
Site plan review requirements	No	
Land Use Planning and Ordinances		
Zoning Ordinance	No	
Subdivision Ordinance	No	
Floodplain Ordinance	Yes	
Natural Hazard Specific Ordinance (stormwater, steep slope, Wildfires)	No	

Flood Insurance Rate Maps	Yes	
Acquisition of land for open space and public recreation uses	Yes	
Other	No	
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.		
Administration	Yes/No	Comments
Planning Commission	No	
Mitigation Planning Committee	No	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	No	
Staff		
Chief Building Official	No	
Floodplain Administrator	Yes	
Emergency Manager	No	
Community Planner	No	
Civil Engineer	No	
GIS Coordinator	No	
Grant Writer	No	
Other		
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	
Hazard Data & Information	No	
Grant Writing	No	
Hazus Analysis	No	
Other	no	

Financial		
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.		
Funding Resource	Yes/No	Comments
Capital Improvements project funding	Yes	
Authority to levy taxes for specific purposes	No	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development	No	
Stormwater Utility Fee	No	
Community Development Block Grant (CDBG)	Yes	
Other Funding Programs	Yes-Grants	
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.		
Program / Organization	Yes/No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	No	
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	Yes	
Natural Disaster or safety related school program	Yes	
Storm Ready certification	No	
Firewise Communities certification	No	
Public/Private partnership initiatives addressing disaster-related issues	No	
Other	No	

Village of Natchez

Worksheet 4.1: Capability Assessment Worksheet		
Local mitigation capabilities are existing authorities, polices and resources that reduce hazard impacts or that could be used to		
implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.		
Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Natchez		
Plans	Yes/No	Comments
Comprehensive / Master Plan	No	
Capital Improvements Plan	No	
Economic Development Plan	No	
Local Emergency Operations Plan	No	
Continuity of Operations Plan	No	
Transportation Plan	No	
Stormwater Management Plan	No	
Community Wildfires Protection Plan	No	
Other plans (redevelopment, recovery, coastal zone management)	No	
Building Code, Permitting and Inspections		
Building Code	Yes	
Building Code Effectiveness Grading Schedule (BCEGS) Score	Yes	
Fire Department ISO/PIAL rating	4	
Site plan review requirements	Yes	
Land Use Planning and Ordinances		
Zoning Ordinance	Yes	
Subdivision Ordinance	No	
Floodplain Ordinance	Yes	

Natural Hazard Specific Ordinance (stormwater, steep slope, Wildfires)	Yes	
Flood Insurance Rate Maps	Yes	
Acquisition of land for open space and public recreation uses	Yes	
Other		
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.		
Administration	Yes/No	Comments
Planning Commission	Yes	
Mitigation Planning Committee	No	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	
Staff		
Chief Building Official	No	
Floodplain Administrator	Yes	
Emergency Manager	No	
Community Planner	Yes	
Civil Engineer	Yes	
GIS Coordinator	Yes	
Grant Writer	Yes	
Other	no	
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	
Hazard Data & Information	No	
Grant Writing	No	
Hazus Analysis	No	
Other	no	

Financial		
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.		
Funding Resource	Yes/No	Comments
Capital Improvements project funding	Yes	
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development	Yes	
Stormwater Utility Fee	No	
Community Development Block Grant (CDBG)	Yes	
Other Funding Programs	No	
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.		
Program / Organization	Yes/No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes	
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	Yes	
Natural Disaster or safety related school program	Yes	
Storm Ready certification	No	
Firewise Communities certification	No	
Public/Private partnership initiatives addressing disaster-related issues	Yes	
Other	no	

City of Natchitoches

Worksheet 4.1: Capability Assessment Worksheet		
Local mitigation capabilities are existing authorities, polices and resources that reduce hazard impacts or that could be used to		
implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.		
Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Natchitoches		
Plans	Yes/No	Comments
Comprehensive / Master Plan	Yes	
Capital Improvements Plan	Yes	
Economic Development Plan	Yes	
Local Emergency Operations Plan	Yes	
Continuity of Operations Plan	Yes	
Transportation Plan	Yes	
Stormwater Management Plan	Yes	
Community Wildfires Protection Plan	Yes	
Other plans (redevelopment, recovery, coastal zone management)	No	
Building Code, Permitting and Inspections		
Building Code	Yes	
Building Code Effectiveness Grading Schedule (BCEGS) Score	Yes	
Fire Department ISO/PIAL rating	2	
Site plan review requirements	Yes	
Land Use Planning and Ordinances		
Zoning Ordinance	Yes	
Subdivision Ordinance	Yes	
Floodplain Ordinance	Yes	
Natural Hazard Specific Ordinance (stormwater, steep slope, Wildfires)	Yes	

Flood Insurance Rate Maps	Yes	
Acquisition of land for open space and public recreation uses	Yes	
Other	No	
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.		
Administration	Yes/No	Comments
Planning Commission	Yes	
Mitigation Planning Committee	Yes	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	
Staff		
Chief Building Official	Yes	
Floodplain Administrator	Yes	
Emergency Manager	Yes	
Community Planner	Yes	
Civil Engineer	Yes	
GIS Coordinator	Yes	
Grant Writer	Yes	
Other		
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	
Hazard Data & Information	Yes	
Grant Writing	Yes	
Hazus Analysis	No	
Other	no	

Financial		
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.		
Funding Resource	Yes/No	Comments
Capital Improvements project funding	Yes	
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development	No	
Stormwater Utility Fee	no	
Community Development Block Grant (CDBG)	Yes	
Other Funding Programs	no	
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.		
Program / Organization	Yes/No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	no	
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	Yes	
Natural Disaster or safety related school program	no	
Storm Ready certification	no	
Firewise Communities certification	no	
Public/Private partnership initiatives addressing disaster-related issues	Yes	
Other	no	

Village of Powhatan

Worksheet 4.1: Capability Assessment Worksheet

Local mitigation capabilities are existing authorities, polices and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.

Planning and Regulatory

Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.

Powhatan

Plans

	Yes/No	Comments
Comprehensive / Master Plan	No	
Capital Improvements Plan	No	
Economic Development Plan	No	
Local Emergency Operations Plan	No	
Continuity of Operations Plan	No	
Transportation Plan	No	
Stormwater Management Plan	No	
Community Wildfires Protection Plan	No	
Other plans (redevelopment, recovery, coastal zone management)	No	

Building Code, Permitting and Inspections

Building Code	No	
Building Code Effectiveness Grading Schedule (BCEGS) Score	No	
Fire Department ISO/PIAL rating	10	
Site plan review requirements	No	

Land Use Planning and Ordinances

Zoning Ordinance	No	
Subdivision Ordinance	No	
Floodplain Ordinance	Yes	

Natural Hazard Specific Ordinance (stormwater, steep slope, Wildfires)	No	
Flood Insurance Rate Maps	Yes	
Acquisition of land for open space and public recreation uses	No	
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.		
Administration	Yes/No	Comments
Planning Commission	No	
Mitigation Planning Committee	No	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	No	
Staff		
Chief Building Official	No	
Floodplain Administrator	Yes	
Emergency Manager	No	
Community Planner	No	
Civil Engineer	No	
GIS Coordinator	No	
Grant Writer	No	
Other	no	
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	
Hazard Data & Information	No	
Grant Writing	No	
Hazus Analysis	No	
Other	no	

Financial		
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.		
Funding Resource	Yes/No	Comments
Capital Improvements project funding	No	
Authority to levy taxes for specific purposes	No	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development	No	
Stormwater Utility Fee	No	
Community Development Block Grant (CDBG)	Yes	
Other Funding Programs	No	
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.		
Program / Organization	Yes/No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	No	
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	No	
Natural Disaster or safety related school program	No	
Storm Ready certification	No	
Firewise Communities certification	No	
Public/Private partnership initiatives addressing disaster-related issues	No	
Other	no	

Village of Provençal

Worksheet 4.1: Capability Assessment Worksheet

Local mitigation capabilities are existing authorities, polices and resources that reduce hazard impacts or that could be used to

implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.

Planning and Regulatory

Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.

Provençal

Plans

	Yes/No	Comments
Comprehensive / Master Plan	No	
Capital Improvements Plan	No	
Economic Development Plan	No	
Local Emergency Operations Plan	No	
Continuity of Operations Plan	No	
Transportation Plan	No	
Stormwater Management Plan	No	
Community Wildfires Protection Plan	No	
Other plans (redevelopment, recovery, coastal zone management)	no	
Building Code, Permitting and Inspections		
Building Code	Yes	
Building Code Effectiveness Grading Schedule (BCEGS) Score	No	
Fire Department ISO/PIAL rating	5	
Site plan review requirements	No	
Land Use Planning and Ordinances		
Zoning Ordinance	No	
Subdivision Ordinance	No	
Floodplain Ordinance	Yes	
Natural Hazard Specific Ordinance (stormwater, steep slope, Wildfires)	No	

Flood Insurance Rate Maps	Yes	
Acquisition of land for open space and public recreation uses	No	
Other	no	
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.		
Administration	Yes/No	Comments
Planning Commission	No	
Mitigation Planning Committee	No	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	No	
Staff		
Chief Building Official	No	
Floodplain Administrator	Yes	
Emergency Manager	No	
Community Planner	No	
Civil Engineer	No	
GIS Coordinator	No	
Grant Writer	No	
Other	no	
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	
Hazard Data & Information	No	
Grant Writing	No	
Hazus Analysis	No	
Other	no	

Financial		
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.		
Funding Resource	Yes/No	Comments
Capital Improvements project funding	No	
Authority to levy taxes for specific purposes	No	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development	No	
Stormwater Utility Fee	No	
Community Development Block Grant (CDBG)	Yes	
Other Funding Programs	No	
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.		
Program / Organization	Yes/No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	No	
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	No	
Natural Disaster or safety related school program	No	
Storm Ready certification	No	
Firewise Communities certification	No	
Public/Private partnership initiatives addressing disaster-related issues	No	
Other	no	

Village of Robeline

Worksheet 4.1: Capability Assessment Worksheet		
Local mitigation capabilities are existing authorities, polices and resources that reduce hazard impacts or that could be used to		
implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.		
Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Robeline		
Plans	Yes/No	Comments
Comprehensive / Master Plan	No	
Capital Improvements Plan	No	
Economic Development Plan	Bo	
Local Emergency Operations Plan	No	
Continuity of Operations Plan	No	
Transportation Plan	No	
Stormwater Management Plan	No	
Community Wildfires Protection Plan	No	
Other plans (redevelopment, recovery, coastal zone management)	No	
Building Code, Permitting and Inspections		
Building Code	No	
Building Code Effectiveness Grading Schedule (BCEGS) Score	No	
Fire Department ISO/PIAL rating	6	
Site plan review requirements	No	
Land Use Planning and Ordinances		
Zoning Ordinance	No	
Subdivision Ordinance	No	
Floodplain Ordinance	Yes	
Natural Hazard Specific Ordinance (stormwater, steep slope, Wildfires)	No	

Flood Insurance Rate Maps	Yes	
Acquisition of land for open space and public recreation uses	No	
Other	no	
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.		
Administration	Yes/No	Comments
Planning Commission	No	
Mitigation Planning Committee	No	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	
Staff		
Chief Building Official	No	
Floodplain Administrator	Yes	
Emergency Manager	No	
Community Planner	No	
Civil Engineer	No	
GIS Coordinator	No	
Grant Writer	No	
Other	No	
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	
Hazard Data & Information	No	
Grant Writing	No	
Hazus Analysis	No	
Other	No	

Financial		
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.		
Funding Resource	Yes/No	Comments
Capital Improvements project funding	No	
Authority to levy taxes for specific purposes	No	
Fees for water, sewer, gas, or electric services	Yes (Sewer)	
Impact fees for new development	No	
Stormwater Utility Fee	No	
Community Development Block Grant (CDBG)	Yes	
Other Funding Programs	No	
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.		
Program / Organization	Yes/No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	No	
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	No	
Natural Disaster or safety related school program	No	
Storm Ready certification	No	
Firewise Communities certification	No	
Public/Private partnership initiatives addressing disaster-related issues	No	
Other	no	

Building Inventory

Critical Facility (If Yes, Mark X)	Name of Building	Purpose of Building	Address	City	Latitude	Longitude	Assessed Value	Date Built	Construction Type
	Cloutierville Elementary and Junior High School	Education	None	Cloutierville	31.53828249	-92.92153496	\$6,765,913.00	1918	Concrete
	Marthaville Elementary & Junior High School	Education	10800 Louisiana 120	Marthaville	31.74004662	-93.39883027	\$6,694,188.00	1945	Concrete
X	Natchitoches/Florien Parish Fire District # Station 5	Fire Search and Rescue	1809 Hwy 118 Par Road 64	Kisatchie	31.41561238	-93.1760643	\$75,000.00	2015	Metal
X	Natchitoches Parish Fire District 1 Station No. 5	Fire Search and Rescue	Janie-Groum Rd	Lena	31.50011737	-92.77966953	\$100,000.00	2002	Metal
X	Natchitoches Parish Fire District 7 Station	Fire Search and Rescue	Nearby: 10605 Louisiana 120	Marthaville	31.73843349	-93.3906251	\$175,000.00	2005	Metal
X	Natchitoches Parish Fire District 7 Station No. 4	Fire Search and Rescue	Nearby: 368 Louisiana 1221	Marthaville	31.78227248	-93.42222667	\$150,000.00	1987	Metal
X	Natchitoches Parish Fire District 7 Station No. 5	Fire Search and Rescue	Nearby: 100-158 Louisiana 487	Marthaville	31.87532057	-93.38721898	\$150,000.00	2006	Concrete
X	Natchitoches Parish Fire District 2	Fire Search and Rescue	Near Kisatchit National Forest	Readhimer	32.10330226	-92.99545638	\$10,000.00	1987	Metal
X	Natchitoches Fire District 1 Station	Fire Search and Rescue	Hwy 119	Melrose	31.60333714	-92.97012098	\$85,000.00	1988	Metal
X	Natchitoches Fire District 1	Fire Search and Rescue	159 Emmanuel Rd	Cloutierville			\$75,000.00	1974	Metal
X	Natchitoches Fire District 1	Fire Search and Rescue	Melle St; Point Place	Natchitoches			\$50,000.00	1976	Metal
X	Natchitoches Fire District 1	Fire Search and Rescue	Hwy 490	Marco			\$50,000.00	1992	Metal
X	Natchitoches Fire District 1	Fire Search and Rescue	Hwy 119	Groum			\$50,000.00	1982	Metal
X	Natchitoches Parish Fire District 1	Fire Search and Rescue	11372 Hwy 1	Cypress	31.608314	-93.03012905	\$80,000.00	1995	Metal
	Parish Trash Dump	Civil Government	Nearby: 1074-1268 Louisiana 153	Ashland	32.11872022	-93.09655322	\$20,000.00	2006	Metal
	Natchitoches Parish Dumpsite	Civil Government	Nearby: 189 Many Marthaville Road	Marthaville	31.73914822	-93.39778242	\$20,000.00	2007	Metal

X	Natchitoches Parish Fire District 8	Fire Search and Rescue	Nearby: Louisiana 155/153	Ashland	32.13369454	-93.0978156	\$2,500.00	1995	Metal
	Lakeview Junior-Senior High School	Education	7305 Louisiana 9	Campti	31.92355116	-93.0876374	\$18,873,577.00	1998	Concrete
	Fairview Alpha Elementary/Jr. High School	Education	U.S. 71	Campti	31.93897253	-93.15047501	\$18,699,673.00	2013	Concrete
X	Natchitoches Parish Fire District 9 Station	Fire Search and Rescue	2233 Campti Bayou Road	Campti	31.92396162	-93.0438068	\$6,000.00	1984	Metal
X	Natchitoches Parish Fire District 9 Station	Fire Search and Rescue	1016 Hwy 71/84	Campti	31.89070324	-93.11345461	\$6,000.00	1984	Metal
X	Natchitoches Parish Fire District 2	Fire Search and Rescue	1017 U.S. 71	Campti	31.98109587	-93.05156864	\$50,000.00	1985	metal
X	Natchitoches Parish Fire District 8	Fire Search and Rescue	4400 Hwy 153	Saline	32.02447023	-93.08498251	\$75,000.00	1995	Metal
X	Natchitoches Parish Sheriff's Office North Substation	Law Enforcement	Nearby: 132-178 Lake Street	Campti	31.90229435	-93.11456544	\$63,000.00	1987	Concrete
	Parish Trash Dump	Civil Government	Nearby: 570-718 Par Road 317	Campti	31.92935577	-93.04606377	\$40,000.00	2006	Metal
	Natchitoches Parish Library	Education	3129 U. S. Highway 71	Campti			\$7,808,280.00	2016	Metal
X	Natchitoches Parish Fire Department 6 Station #3	Fire Search and Rescue	353 Louisiana 6	Natchitoches	31.76225221	-93.15347249	\$85,000.00	2000	Metal
X	Natchitoches Parish Fire District 6 Station #2	Fire Search and Rescue	164 Larid Fletcher	Natchitoches	31.79195128	-93.19156348	\$100,000.00	2008	Metal
X	Natchitoches Parish Fire District 6 Station #1	Fire Search and Rescue	743 Hwy 504	Natchitoches	31.80269955	-93.08879386	\$200,000.00	2015	Metal
X	Natchitoches Parish Fire District 6 # 5	Fire Search and Rescue	St. Luke Rd	Natchitoches			\$40,000.00	1995	Metal
	Goldonna Elementary/JR. High	Education	Nearby: Kisatchie National Forest	Goldonna	32.019146	-92.91001803	\$6,299,996.00	1960	Concrete
X	Natchitoches Parish Fire District 2	Fire Search and Rescue	Nearby: Kisatchie National Forest	Goldonna	32.01737408	-92.90725271	\$10,000.00	1987	Metal
X	Natchez Fire Station	Fire Search and Rescue	11372 Hwy 1	Natchitoches			\$80,000.00	1995	Metal
X	Natchez Fire Station	Fire Search and Rescue	181 Main Street	Natchez	31.608314	-93.03012905	\$50,000.00	1950	Concrete
X	Natchez Fire Station	Fire Search and Rescue	199E. LaCour (Lambre Gin)	Natchez	31.61213617	-93.09858028	\$200,000.00	2009	Metal

	Frankie Ray Jackson Sr. Technical Center	Education	Nearby: Breazeale Springs Street	Natchitoches	31.78095383	-93.09997965	\$13,619,013.00	1970	Concrete
	Natchitoches Magnet School	Education	3707 University Parkway	Natchitoches	31.7536618	-93.10041612	\$5,482,541.00	1950	Concrete
	Louisiana School for Math, Science, and the Arts	Education	715 University Parkway	Natchitoches	31.75264954	-93.09590763	20,500,00	1950	Concrete
	M. R. Weaver Elementary	Education	None	Natchitoches	31.76480445	-93.07696832	\$9,112,751.00	1945	Concrete
	East Natchitoches Elementary	Education	None	Natchitoches	31.76703585	-93.07727058	\$8,338,696.00	1940	Concrete
	Natchitoches Central High School	Education	6513 Highway. One South bypass	Natchitoches	31.74534924	-93.10831804	\$31,982,665.00	1975	Concrete
	Parks Elementary/Junior High	Education	Nearby: 1609-1616 Meadows Drive	Natchitoches	31.77045	-93.10537675	\$15,432,859.00	1953	Concrete
	L.P.Vaughn Elementary/Middle	Education	1500 Gold Street	Natchitoches	31.7804797	-93.0972878	\$15,168,114.00	1954	Concrete
X	Ambulance Service	Emergency Medical Services	Nearby: 281-499 Old Louisiana 6	Natchitoches	31.72099008	-93.17065906	\$45,000.00	2010	Metal
X	City of Natchitoches Central Fire Station	Fire Search and Rescue	578 2nd Street	Natchitoches	31.65229644	-93.20179121	800,000	1951	Concrete
X	City of Natchitoches Fire Station #2	Fire Search and Rescue	629 East 5th St.	Natchitoches	31.76244698	-93.07807085	400,000	1960	Concrete
X	City of Natchitoches Fire Station #3	Fire Search and Rescue	615 Martin L. King, Jr. Dr	Natchitoches	31.76196513	-93.0950398	258,000	1960	Concrete
X	Fire Station	Fire Search and Rescue	578 2nd Street	Natchitoches	31.76077993	-93.08756358	250,000	1960	Concrete
X	District 6 Fire & Rescue Station # 4	Fire Search and Rescue	1948 Hwy 6-E	Natchitoches	31.72067155	-93.17102824	65,000.00	2005	Metal
X	Natchitoches Parish Fire District 3 Station	Fire Search and Rescue	578 2nd Street	Natchitoches	31.82165925	-93.03900009	n/a		
X	Natchitoches Parish Fire District 10 Station	Fire Search and Rescue	Hwy 485	Powhatan	31.87194111	-93.20239434	75,000	1998	Metal
X	Fire Training Center	Fire Search and Rescue	578 2nd Street	Natchitoches	31.74419895	-93.10830829	250,000.00	1198	Metal
X	Central Fire Station	Fire Search and Rescue	578 2nd Street	Natchitoches	31.76084269	-93.08811281	n/n		
X	Natchitoches Parish Sheriff's Office CID	Law Enforcement	Nearby: 331 Lafayette Street	Natchitoches	31.76332949	-93.0898679	\$250,000.00	1970	Concrete

X	Natchitoches Parish Sheriff's Office Corrections Division	Prisons and Correctional Facilities	Nearby: Edwina Drive	Natchitoches	31.73224339	-93.10079723	\$5,200,000.00	1995	Concrete
	Natchitoches Parish Dumpsite	Civil Government	Nearby: 6710 Louisiana 6	Natchitoches	31.71584654	-93.21608038	\$50,000.00	2006	Metal
	Natchitoches Parish Dumpsite	Civil Government	Nearby: 161-199 8 Mile Loop	Natchitoches	31.76759866	-93.15606493	\$50,000.00	2006	Metal
	Natchitoches Parish Compactor Station	Civil Government	Nearby: 4521-4847 Louisiana 1	Natchitoches	31.79397575	-93.14495542	\$100,000.00	2007	Metal
	Natchitoches Recycling Center	Civil Government	1427 Texas Street	Natchitoches	31.74707171	-93.08728895	N/a	n/a	
	Natchitoches Housing Authority	Civil Government	536 Culbertson Lane	Natchitoches	31.76081351	-93.09012455	\$2,250,000.00	1969	Concrete
X	Natchitoches Parish City Works	Civil Government	110 Mill Street	Natchitoches	31.77074908	-93.09497252	4,000,00.00	1943	Metal
	Natchitoches Housing Authority	Civil Government	536 Culbertson Lane	Natchitoches	31.75684359	-93.07753707	\$2,500,000.00	1969	Concrete
	Natchitoches Tax Commission	Civil Government	220 East 5th Street	Natchitoches	31.75455929	-93.07945109	\$1,500,000.00	1975	Concrete
	Natchitoches School Board	Civil Government	310 Royal Street	Natchitoches	31.74240022	-93.08228821	\$2,512,493.00	1970	Concrete
	Natchitoches School Board-Media Center	Civil Government	310 Royal Street	Natchitoches	31.74874278	-93.08095493	\$2,500,000.00	1978	Concrete
	Natchitoches Chamber of Commerce	Civil Government	780 Front Street #101	Natchitoches	31.76307532	-93.08605869	\$100,000.00	2014	Concrete
X	Natchitoches Parish Courthouse	Civil Government	200 Church Street # 104	Natchitoches	31.76128569	-93.08849359	\$10,000,000.00	1938	Concrete
	Natchitoches Parish Department of Social Services - Office of Family Support	Civil Government	106 Charlene Street	Natchitoches	31.77890569	-93.10522858	\$2,500,000.00	2011	Concrete
	Natchitoches Parish Department of Social Services - Office of Support Enforcement Services	Civil Government	1774 Texas Street	Natchitoches	31.77495814	-93.10685668	\$2,500,000.00	1,988	Concrete
	Natchitoches Parish Council on Aging	Civil Government	1016 Keyser Avenue	Natchitoches	31.75287908	-93.06138985	\$1,175,443.00	2016	Concrete
X	Natchitoches Fire District #4 (Bellwood) Station 4	Fire Search and Rescue	135 Bellwood Church Rd.	Robeline	31.52733147	-93.20997745	\$35,000.00	2016	Metal

	Kisatchie Ranger Station	Law Enforcement	217-299 Dogwood Park Road	Provencal	31.49156674	-93.19232901	\$900,000.00	2005	Metal
	Kisatchie Work Center	Civil Government	217-299 Dogwood Park Road	Provencal	31.49047128	-93.19233524	\$100,000.00	1936	Metal
	Robeline Elementary	Education	None	Robeline	31.68911568	-93.30342486	\$200,000.00	1940	Concrete
	Provencal School	Education	None	Robeline	31.65472121	-93.20196571	\$6,055,955.00	UNK	CONCRETE
X	Natchitoches Parish Fire District 7 Station #1	Fire Search and Rescue	740 Oak Street	Robeline	31.6887519	-93.30248483	\$250,000.00	1960	Metal
X	Natchitoches Parish Fire District #4 Station # 6	Fire Search and Rescue	Central Loop	Robeline			\$50,000.00	2014	Metal
X	Natchitoches Fire District #4 Station 2	Fire Search and Rescue	Hwy 478	Flora			\$50,000.00	2007	Metal
X	Natchitoches Fire District 4 Station 3	Fire Search and Rescue	Sylvest Rd (Vowels Mills)	Robeline			\$50,000.00	2002	Metal
X	Natchitoches Fire District 4 Station 1	Fire Search and Rescue	1933 Hwy 117	Provencal			\$75,000.00	2009	Metal
X	Natchitoches Fire District 7 Station #6	Fire Search and Rescue	2304 Shadygrove Rd.	Robeline			\$100,000.00	1995	Wood
X	Natchitoches Parish Fire District 7 Station No. 3	Fire Search and Rescue	Nearby: 4301-4311 Louisiana 485	Robeline	31.78613436	-93.2850108	\$150,000.00	1985	Metal
Ashland									
X	Town Hall	Town Operation, Meetings	521 Highway LA 153	Ashland			\$4,000.00	1976	Concrete
	Town Pavilion	Community Events	719 Highway 153	Ashland			\$20,000.00	2014	Metal
Campti									
X	Campti Police Department	Law Enforcement	197 Edenborne St	Campti	31.88935096	-93.11587924	\$150,000.00	1972	Concrete
	Red River Waterway Commission Headquarters	Civil Government	5690 Highway 486	Campti	31.76647932	-93.10808242	\$500,000.00	1990	Concrete
	Red River Waterway Commission Headquarters	Civil Government	5941 Hwy 1 Bypass	Natchitoches			\$816,400.00	1994	Concrete
	Lakeview Pharmacy	Health Care	3199 U. S. Highway 71	Campti			\$250,000.00	2014	Concrete
	Municipal Building	Civil Government	218 Edenborne	Campti			\$150,000.00	1857	Concrete

X	Town of Campti Administrative Office	Civil Government	950 Keyser Avenue	Natchitoches	31.88938473	-93.11493377	n/a	n/a	
	All-N-One	Convenient Store	3204 Hwy 71	Campti			\$250,000.00	2016	Concrete
X	Campti Town Hall	Community Events	360 Hwy 71	Campti			\$150,000.00	1985	Concrete
Clarence									
	Community Center	Community Events	222 Lee St.	Clarence			\$60,000.00	1950	Concrete
X	Clarence Town Hall	Civil Government	Hwy 71	Clarence			\$60,000.00	1973	Concrete
Goldonna									
X	Goldonna Town Hall	Civil Government		Goldonna			\$100,000	1975	CONCRETE
X	Natchitoches Parish Fire District 2 - Central Station	Fire Search and Rescue	116 Vine St.	Goldonna			\$65,000.00	2005	Metal
Natchez									
X	Natchez Town Hall	Civil Government	181 Main Street	Natchez	31.67231576	-93.04839305	\$100,000.00	1950	Concrete
Natchitoches									
X	Natchitoches Police West Substation	Law Enforcement	Nearby: 1219 Dean Street	Natchitoches	31.76660828	-93.10235591	n/a	n/a	
	Community Oriented Police Station	Law Enforcement	Nearby: 416 Shady Lane	Natchitoches	31.75720065	-93.07755282	\$500,000.00	1970	Concrete
X	Natchitoches Police Department	Law Enforcement	Nearby: 400 Amulet Street	Natchitoches	31.75840304	-93.09151383	\$836,000.00	1985	Concrete
X	Natchitoches City Marshal's Office	Law Enforcement	Nearby: 373 2nd Street	Natchitoches	31.75760457	-93.08890833	\$150,000.00	1960	Concrete
	Office of Community Services	Civil Government	400 University Parkway	Natchitoches	31.76044482	-93.09142843	n/a	n/a	
	City of Natchitoches Purchasing Department	Civil Government	1400 Sabine Street	Natchitoches	31.77198212	-93.0969917	\$1,100,000.00	1992	Metal
	City of Natchitoches Garage & Maintenance	Civil Government	684 Louisiana 3191	Natchitoches	31.7716919	-93.09658631	\$300,000.00	1992	Metal
X	City of Natchitoches Public Works Department	Civil Government	110 Mill Street	Natchitoches	31.74880768	-93.08709705	\$4,000,000.00	1940	Metal
X	Natchitoches City Hall	Civil Government	Nearby: 200-240 Saint Denis Street	Natchitoches	31.76194941	-93.08802251	\$600,000.00	1982	Concrete

X	Wheat Medical Center	Hospital or Medical Center	138 East 5th Street	Natchitoches	31.74890401	-93.0799536	\$600,000.00	1975	concrete
	Outpatient Medical Centers	Hospital or Medical Center	1640 Breazeale Springs Street	Natchitoches	31.78096912	-93.10319152	\$5,750,000.00	1977	Concrete
X	Natchitoches Regional Airport	Commercial or Private Airport	Nearby: Natchitoches Regional Airport (IER)	Natchitoches	31.73550271	-93.09825907	\$2,800,000.00	1990	Metal
	Natchitoches Parish Library	Education	450 2nd street	Natchitoches			\$4,570,757.00	1970	Concrete
Powhatan									
X	Powhatan Town Hall	Civil Government	Louisiana 480	Powhatan	31.87316136	-93.19907742	\$2,000.00	1960	Concrete
Provencal									
X	Provencal City Hall	Civil Government	1968 Louisiana 117	Provencal	31.65160016	-93.20290056	\$200,000.00	1940	Concrete
Robeline									
X	Robeline Municipal Annex	Civil Government	Nearby: 145 Texas Street	Robeline	31.69103065	-93.3035857	\$2,000.00	1920	Concrete
X	Robeline Municipal Building and City Hall	Civil Government	122 Depot Street	Robeline	31.69218461	-93.30407345	\$2,000.00	1947	Concrete
X	Natchitoches Fire District 7 Station #6	Fire Search and Rescue	2304 Shadygrove Rd.	Robeline			\$100,000.00	1995	Wood

Vulnerable Populations

Vulnerable Populations Worksheet

Natchitoches Parish

Name	Street	City	Zip Code	Latitude	Longitude
All Hospitals (Private or Public)					
Wheat Medical Center	138 East 5th Street	Natchitoches	71457	31.74890401	-93.0799536
Outpatient Medical Centers	1640 Breazeale Springs Street	Natchitoches	71457	31.78096912	-93.10319152
North Natchitoches Medical Center Walk-in Clinic	3191 US Highway 71	Campti	71411		
Lakeview Pharmacy					
Natchitoches Regional Medical Center	501 Keyser Avenue	Natchitoches	71457		
Nursing Homes (Private or Public)					
Natchitoches Assisted Living Home	Nearby: South Drive	Natchitoches	71457	31.72862598	-93.07100587
Natchitoches Rehabilitation and Nursing Center	720 Keyser Avenue	Natchitoches	71457	31.75398957	-93.07020232
Natchitoches Community Care Center	720 Keyser Avenue	Natchitoches	71457		
Courtyard of Natchitoches (NRMC)	705 Keyser Avenue	Natchitoches	71457		
Mobile Home Parks					
Unknown Trailer Park	Nearby: 3204 U.S. 71	Campti	71411	31.89346353	-93.11286262
Unknown Trailer Park	Nearby: Fisher Street	Campti	71411	31.90240195	-93.11203302
Unknown Trailer Park	Nearby: 349 U.S. 84	Campti	71411	31.89819762	-93.11253332
Unknown Trailer Park	Nearby: Louisiana 9	Campti	71411	31.91074117	-93.10982832
Christel Park	152 Jim Bell Road	Campti	71070	31.9413136	-93.06167782
Country Heaven RV Resort	5780 Louisiana 9	Campti	71070	31.96055418	-93.0480082

Unknown	Nearby: 13605 Louisiana 1	Derry	71416	31.54273905	-92.95917877
Country Livin' RV Park	1115 Louisiana 174	Marthaville	71450	31.88228449	-93.37390134
Travis' RV Park	399 Mac D Craft Road	Mink	71468	31.42439944	-93.17950613
Unknown	115-117 Fred Bolton Road	Mora	71416	31.42081264	-93.00236587
Nakatosh RV Park	5428 Louisiana 6	Natchitoches	71457	31.72730288	-93.16341831
Magnolia Hills RV Park	143 R.H. Bills Road	Natchitoches	71457	31.71297922	-93.18652852
Unknown Trailer Park	Nearby: 504-564 Louisiana 504	Natchitoches	71457	31.76929599	-93.15516042
St. Luke RV Park	181 Saint Luke Church Road	Natchitoches	71457	31.79028412	-93.19216996
Dogwood Ridge RV Park	5060 Louisiana 3278	Natchitoches	71457	31.73422856	-93.14995274
Briarwood Mobile Home Park	Nearby: 118 Evangeline Drive	Natchitoches	71457	31.73446049	-93.14454274
Unknown Mobile Home Park	Nearby: Evangeline Drive	Natchitoches	71457	31.73534508	-93.14268727
Hwy 6 Trailer Park	Nearby: 4431 Louisiana 3278	Natchitoches	71457	31.74262219	-93.12923058
Bayou Vista Mobile Home Park	515 Fairgrounds Road # 4	Natchitoches	71457	31.73278391	-93.09306097
Bayou Blue Mobile Home Park	Nearby: Lebleu Drive	Natchitoches	71457	31.7359641	-93.08936657
Bayou Gin Mobile Home Park	440 Fairgrounds Road	Natchitoches	71457	31.73760611	-93.09118678
Unknown Mobile Home Park	Nearby: Glass Street	Natchitoches	71457	31.73196917	-93.07453412
Unknown Mobile Home Park	Nearby: 1019 Clarence Drive	Natchitoches	71457	31.73345059	-93.07233664
Unknown Trailer Park	Nearby: 1887-1909 Natchitoches-Winnfield Road	Natchitoches	71457	31.80419998	-93.08722157
Morgan's RV Park	1058 Par Road 429	Natchitoches	71457	31.83949693	-93.10304102
Bayou Blue Mobile Home Community	Nearby: Tjoe Street	Natchitoches	71457	31.73746377	-93.08806934
Bayou Gin Mobile Home Community	440 Fairgrounds Road	Natchitoches	71457	31.73773782	-93.09134357
Trailer Park	1815 South Drive #1332	Natchitoches	71457	31.70211664	-93.02925003
Trailer Park	1815 South Drive #1332	Natchitoches	71457	31.75497188	-93.06093677
Nakatosh Campgrounds	5428 Louisiana 6	Natchitoches	71457	31.76789446	-93.10946631
Mayberry Trailer Park	Nearby: 1641 Sabine Street	Natchitoches	71457	31.77772427	-93.1047099
Winterhaven Trailer Park	Nearby: 2318 Louisiana 6	Natchitoches	71457	31.78878209	-93.0865537
Plantation RV Park	5428 Louisiana 6	Powhatan	71457	31.83790052	-93.28110414

National Flood Insurance Program (NFIP)

Natchitoches Parish

ELEMENT F: STATE REQUIREMENT

National Flood Insurance Program (NFIP)

Natchitoches

	Natchitoches Parish	Ashland	Campti	Clarence	Goldonna	Natchez	Natchitoches	Powhatan	Provencal	Robeline
Insurance Summary										
How many NFIP policies are in the community? What is the total premium and coverage?	Policies: 389; Total Premiums: \$258,001; Coverage: \$68,680,400	No	Policies: 1; Total Premiums: \$384; Coverage: \$280,000	Policies: 3; Total Premiums: \$34,919; Coverage: \$3,234,100	0	6 Policies; Total Premiums \$4211; Coverage: \$644,000	111 Policies, 96,019 Premiums, \$29,744,500.00 Coverage	No	0	1
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?	Claims Paid: 254; Total Paid claims: 3,572,857; Substantial damage: 39	No	Claims Paid: 2; Total Claims Paid: \$9,461; Substantial damage: None	Claims Paid; 32; Total Claims: \$277,301; Substantial damage: 3	0	Claims Paid: 3; Total Paid Claims: \$79,873; Substantial Damage: 0	39 Claims paid, Total Paid Claims \$540,736, 2 Substantially damaged claims	No	0	Total Premiums: \$214; Coverage: \$70,000; Claims: 5; Total Paid Claims: \$52,393; Substantial Damages: 0;
How many structures are exposed to flood risk with in the community?	Not aware	Unknown	10	20	1	Unknown	Unknown	No	0	none

Does the plan include CRS planning requirements?	Yes	No								
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