ASSUMPTION

PARISH HAZARD MITIGATION UPDATE - 2015

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ASSUMPTION PARISH

HAZARD MITIGATION PLAN UPDATE

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Assumption Parish

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This 2015 Assumption Parish Hazard Mitigation Plan Update was coordinated by the Assumption Parish Hazard Mitigation Plan Update Steering Committee, in collaboration with the participating jurisdictions as well as community stakeholders and the general public. The participating jurisdictions are made up of the following communities:

Unincorporated Assumption Parish
Village of Napoleonville

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

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The 2015 Assumption Parish Hazard Mitigation Plan Update was written by the Stephenson Disaster Management Institute, Louisiana State University. Further comments should be directed to the Assumption Parish Office of Homeland Security and Emergency Preparedness: Post Office Box 520, Napoleonville, LA, 70390.

Contents

1. Introduction

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

In that regard, this plan (a) documents the Assumption 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 Assumption Parish less vulnerable and more disaster resistant. It also includes mitigation project scoping to further identify scopes 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 Assumption Parish Hazard Mitigation Plan is a multi-jurisdictional plan that includes the following jurisdictions which participated in the planning process:

- Unincorporated Assumption Parish
- Village of Napoleonville

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 Assumption 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

Assumption Parish is located in South Louisiana, just west of the Mississippi River and the industrial corridor that stretches along the river between Baton Rouge and New Orleans. Assumption Parish is therefore conveniently situated near the industrial activity of both the Mississippi River region and the Gulf of Mexico coastal area surrounding Morgan City to the south.

Located in the serene bayou country in the south-central portion of Louisiana, Assumption Parish is an irregular-shaped parish and is located about thirty miles south of Baton Rouge and sixty miles west of New Orleans (*Figure 1-1*). Iberville and Ascension Parishes border it to the north, St. James and Lafourche Parishes to the east, Terrebonne and St. Mary Parishes to the south, and St. Martin and Iberia Parishes to the west. The southern tip of the parish spans about 25 miles with a width of about eighteen miles. The total area of the parish is 236,962 acres, of which 21,654 acres is water.

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

The soil of the entire parish is alluvial and divided into three classes – sandy loam, mixed soil (a mix of sand and humus), and black land (contains little or no sand). Many thousands of acres are flooded due to their low elevation and lack of adequate outlets. Most of the flooded soils are in woodland. The most valuable land of the parish lies along Bayou Lafourche, extending back some eighty to 100 acres.

Sugarcane is the main crop in Assumption Parish. In proportion to this area, there is more sugar production in this parish than any other parish in Louisiana. Most of the soils in the parish not subject to flooding have been used in the production of sugarcane. Many residents of Assumption Parish grow home gardens because the rich loamy soil is well suited for vegetable crops.

Much of Assumption Parish is laced with bayous. The highest land in the parish is located along the banks of Bayou Lafourche, where the elevations range from fifteen to twenty feet above sea level, forming a natural levee. Bayou Lafourche is 107 miles long and is presently navigable from Thibodaux to Belle Pass at the Gulf of Mexico. Lake Verret, Grassy Lake, and Lake Palourde form the western boundary of the parish.

Assumption Parish is located in Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) Region 3.

As noted above, Assumption Parish is located in the southern region of Louisiana.

Figure 1-2: Louisiana Homeland Security Regions

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

	2010 Census	2013 Census	(Current Yr) Estimate	Percent Change 2010 - 2013	Percent Change 2010 - (Current Year)
Total Population	23,421	23,196	23,034	-1.00%	-1.70%
Population Density (Pop/Sq Mi)	69.2	____	____	____	____
Total Households	8,571	8,571	____	____	____

Economy

A hard-working labor force, abundant raw materials, location near a corridor of significant industrial activity, and land for commercial and industrial development make Assumption Parish an ideal prospect for business investment. Although agriculture dominates the local economic base, related industrial activity, including sugar processing and refining, also impact the local economy. In addition, J. Ray McDermott, Inc. has a

prominent presence in the parish with its fabrication plant located at Bayou L'Ourse. Major industries in Assumption Parish include fabrication, sugar, food products, agriculture, and fishing. J. Ray McDermott, Cajun Fry Company, and Savoie Industries are some of the major private employers in this area. Industry data for business patterns in Assumption Parish can be found in the table below:

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

Business Description	Number of Employees	Number of Establishments	Annual Payroll ($1,000)
Mining, Quarrying, Oil and Gas Extraction	20-99	5	n/a
Utilities	20-99	2	n/a
Construction	509	28	30,634
Manufacturing	330	9	17,382
Wholesale Trade	20-99	11	n/a
Retail Trade	461	40	10,848
Transportation and Warehousing	165	34	9,215
Information	0-19	1	n/a
Finance and Insurance	94	16	4,232
Real Estate and Rental and Leasing	0-19	6	1,000
Professional, Scientific, and Technical Services	87	35	3,895
Administrative and Support and Waste Management and Remediation Services	20-99	5	n/a
Health Care and Social Assistance	723	20	13,607
Arts, Entertainment, and Recreation	20-99	4	n/a
Accommodation and Food Services	20-99	13	1,009
Other Services (except Public Administration)	119	29	3,048

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 Assumption 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 Assumption 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.

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

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.

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 2015 Assumption 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 Assumption Hazard Mitigation Plan were as follows:

- Section One Introduction
- Section Two Community Profile
- Section Three Planning Process
- Section Four Risk Assessment
- Section Five Mitigation Strategy
- Section Six Plan Maintenance
- Tables
- Figures
- Appendix A Maps
- Appendix B Committee Records
- Appendix C Historical Records of Hazards
- Appendix D Assumption Parish Edits and Revisions

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 Assumption 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.

2015 Plan Update

This 2015 plan update proceeds with the previous goals of the Assumption Parish Hazard Mitigation Plan. The current goals are as follows:

- Reduce the impact of future flooding
- Provide shelter and protection for the citizens of Assumption Parish during a hazard event
- Provide safe travel routes during a hazard event
- Increase public support and understanding of hazard mitigation
- Protect existing infrastructure
- Improve the quality and timeliness of public notification
- Prepare and plan before a disaster strikes
- Improve existing communication system
- Improve floodplain management activities

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 2015 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

2010 Plan	Revised Plan (2015)
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
Section 5: Mitigation Strategy	Section 4: Mitigation Strategy
Section 6: Plan Maintenance	Appendix B: Plan Maintenance
Appendices A, B, C, D, E	Appendices C, D, E

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 Assumption Parish and its municipalities. The extent of this risk is dictated primarily by its geographic location. Most significantly, Assumption 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 Assumption 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 provided an overview of the hazards that had been previously profiled in the Assumption Parish Hazard Mitigation Plan published in 2010, 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 2015 Update
Coastal Land Loss			
Drought			
Earthquakes			
Expansive Soils			
Fog			
Flooding	X	X	X
Extreme Heat			
Sinkholes		X	X
Termites			
Thunderstorms (Hail, Lightning & Wind)	X	X	X
Tornadoes		X	X
Tropical Cyclones	X	X	X
Tsunamis			
Wildfires			
Winter Storms	X		X

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, along with sinkholes.

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

a) Flooding (backwater, riverine, localized storm water event)
b) Sinkholes
c) Thunderstorms (Hail, Lightning, Wind)
d) Tornadoes
e) Tropical Cyclones (flooding and high winds)
f) 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 storms, and hurricanes in the following forms:
  a) Riverine
  b) Storm water
  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 damage resulting from sinkholes, thunderstorms, and winter weather

The potential destructive power of tropical cyclones was determined to be the most prevalent hazards to the parish. Twelve of the nineteen Presidential Declarations that Assumption Parish has received have resulted from tropical cyclones, which validates this as the most significant hazard. Therefore, the issue of hurricanes and will 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, and 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 airborne debris. A wind map for Assumption Parish is included in the hurricane risk assessment.

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

Previous Occurrences

Table 2-2 summarizes federal disaster declarations for Assumption Parish since 1965. Information includes disaster declaration numbers, dates, and types of disaster.

Table 2-2: Assumption Parish Major Disaster Declarations

Disaster Declaration Number	Date	Type of Disaster
208	9/10/1965	Tropical Cyclone – Hurricane Betsy
315	10/13/1971	Tropical Cyclone – Hurricane Edith
374	4/27/1973	Severe Storm, Flood
584	5/2/1979	Severe Storm, Flood
616	4/9/1980	Sever Storm, Flood
904	5/3/1991	Severe Storms, Tornadoes and Floods
956	8/26/1992	Tropical Cyclone – Hurricane Andrew
1049	5/10/1995	Severe Storm, Flood
1246	9/23/1998	Tropical Cyclone – Hurricane Georges/ TS Frances
1380	6/11/2001	Tropical Cyclone – TS Allison
1435	9/27/2002	Tropical Cyclone – TS Isidore
1437	10/3/2002	Tropical Cyclone – Hurricane Lili
1548	9/15/2004	Tropical Cyclone – Hurricane Ivan
1603	8/29/2005	Tropical Cyclone – Hurricane Katrina
1607	9/24/2005	Tropical Cyclone – Hurricane Rita
1786	9/2/2008	Tropical Cyclone – Hurricane Gustav
4015	8/18/2011	Severe Storm, Flood
3322	5/6/2011	Severe Storm, Flood
4080	8/29/2012	Tropical Cyclone – Hurricane Isaac

Probability of Future Hazard Events

The probability of a hazard event occurring in Assumption 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, then dividing by the time period. Unless otherwise indicated the time period used to access probability followed the method used in the State of Louisiana's most current Hazard Mitigation Plan. The primary source for historical data used throughout the plan is the Spatial Hazards Events and Losses Database (SHELDUS), which provides historical hazard data from 1960 to 2014. In staying consistent with the state plan, the SHELDUS database was evaluated for the last twenty five years (1989 – 2014) in order to determine future probability of a hazard occurring. While the twenty five 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-HM 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 to inflation 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 as it contains specific data for cities, whereas 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	
	Assumption Parish (Unincorporated	Napoleonville
Flooding	28%	8%
Sinkholes	4%	4%
Thunderstorms (Hail)	12%	12%
Thunderstorms (Lightning)	8%	8%
Thunderstorms (Wind)	88%	88%
Tornadoes	16%	16%
Tropical Cyclones	40%	40%
Winter Storms	12%	12%

As shown in the previous table, thunderstorm winds have the highest annual chance of occurrence in the parish (88%), followed by tropical cyclones (40%). Flooding has an annual chance of occurrence of 28%, but these probability percentages decrease for the incorporated area of Napoleonville, which has an annual chance of occurrence of 8%. Tornadoes have a 16% annual chance of occurring in Assumption Parish, while winter storms and thunderstorm hail both have a 12% annual chance of occurring. Lightning has an 8% annual chance of occurrence, followed lastly by sinkholes with a 4% annual chance of occurrence within the borders of Assumption Parish.

Inventory of Assets for the Entire Parish

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

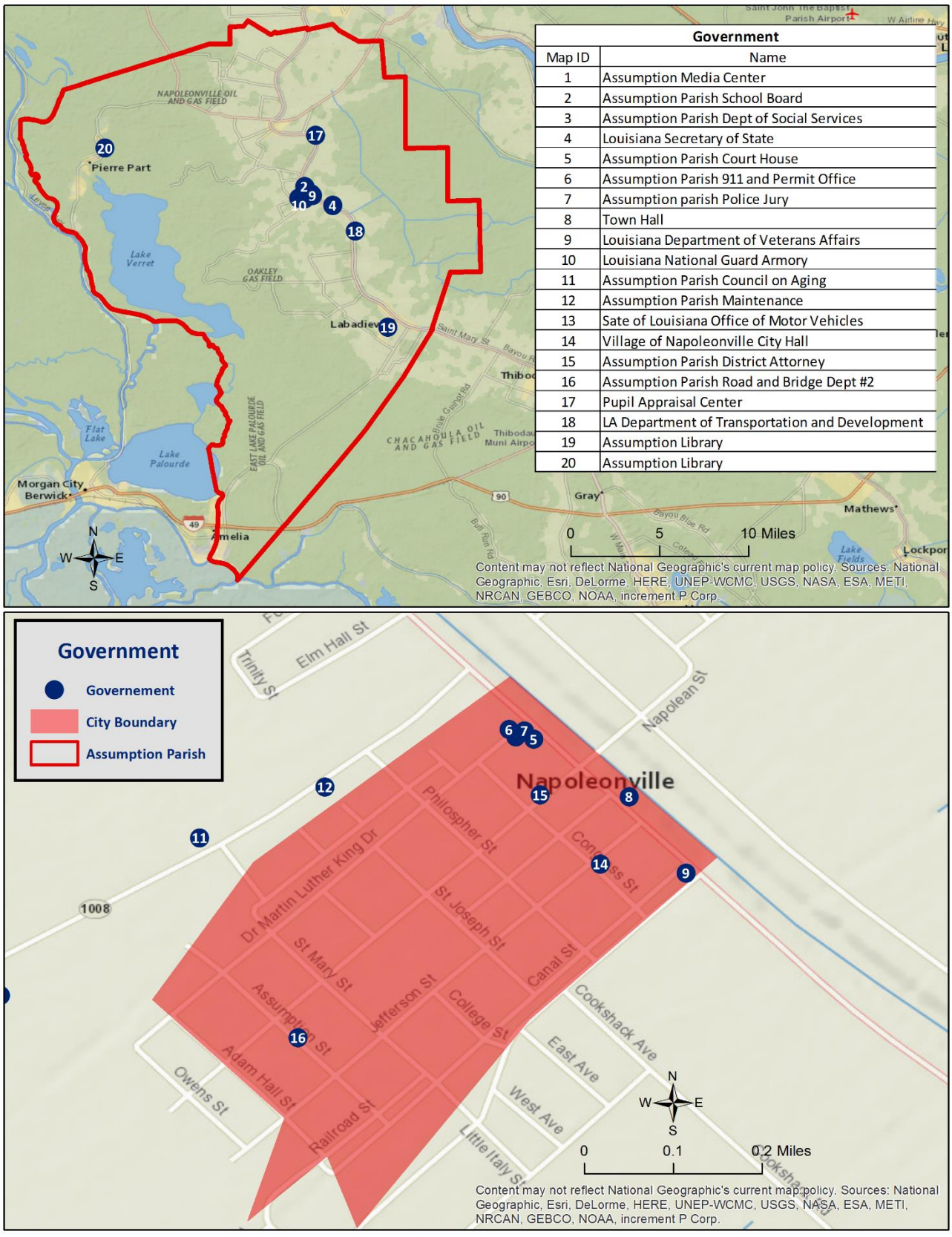
Within the entire planning area, there is an estimated value of $2,015,149,000 in structures throughout the parish. The table on the following page provides the total estimated value for each structure by occupancy.

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

Occupancy	Assumption Parish	Unincorporated Assumption	Napoleonville
Agricultural	$8,114,000	$8,114,000	$0
Commercial	$158,505,000	$155,151,000	$3,354,000
Government	$8,605,000	$8,513,000	$92,000
Industrial	$49,899,000	$49,738,000	$161,000
Religion	$31,231,000	$27,877,000	$3,354,000
Residential	$1,733,683,000	$1,676,133,000	$57,550,000
Education	$25,112,000	$25,112,000	$0
Total	$2,015,149,000	$1,950,638,000	$64,511,000

Essential Facilities of the Parish

The following pages contain maps which show the locations and names of the essential facilities within the parish.



Government	
Map ID	Name
1	Assumption Media Center
2	Assumption Parish School Board
3	Assumption Parish Dept of Social Services
4	Louisiana Secretary of State
5	Assumption Parish Court House
6	Assumption Parish 911 and Permit Office
7	Assumption parish Police Jury
8	Town Hall
9	Louisiana Department of Veterans Affairs
10	Louisiana National Guard Armory
11	Assumption Parish Council on Aging
12	Assumption Parish Maintenance
13	Sate of Louisiana Office of Motor Vehicles
14	Village of Napoleonville City Hall
15	Assumption Parish District Attorney
16	Assumption Parish Road and Bridge Dept #2
17	Pupil Appraisal Center
18	LA Department of Transportation and Development
19	Assumption Library
20	Assumption Library

Figure 2-1: Government Buildings Located in Assumption Parish

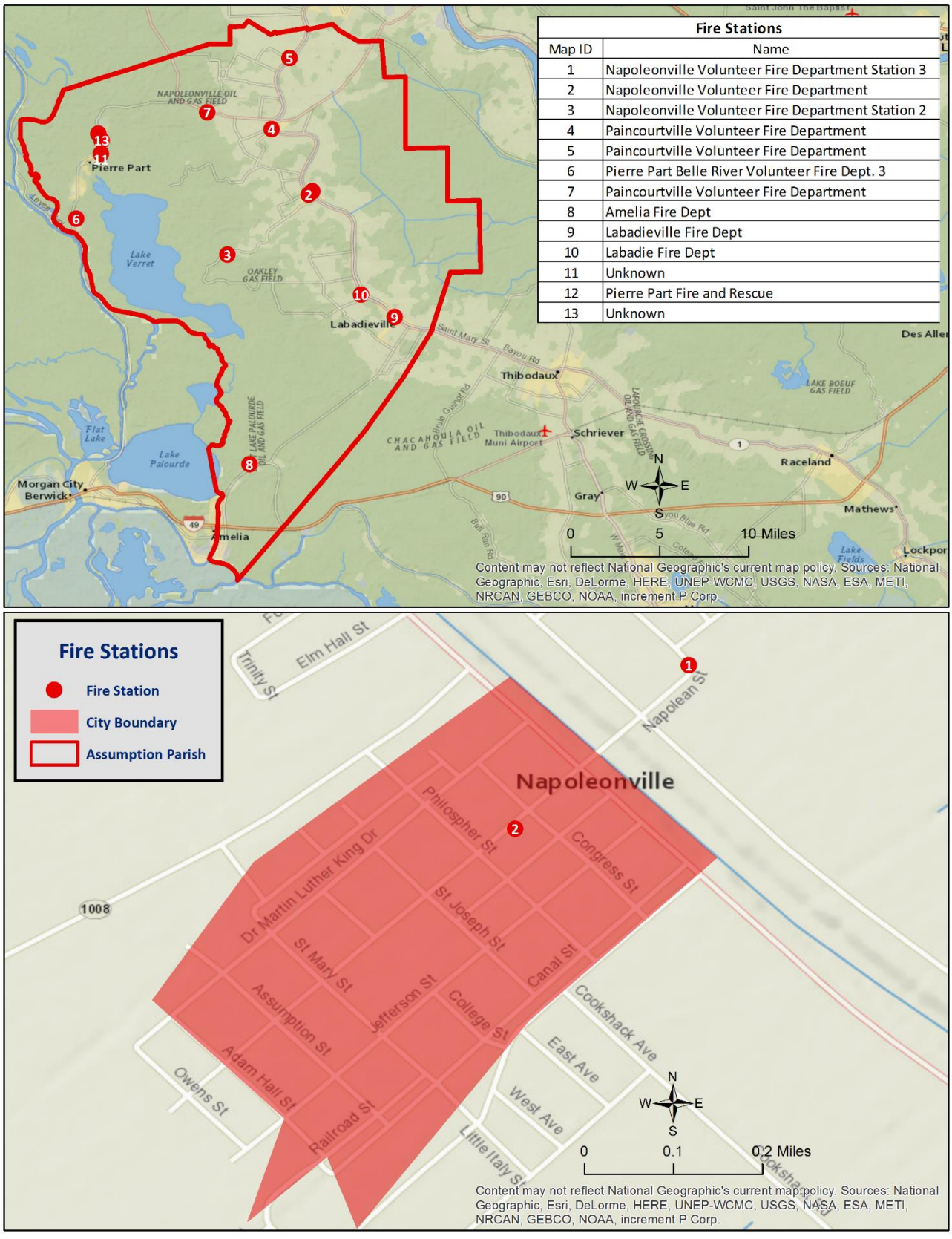


Figure 2-2: Fire Stations Located in Assumption Parish

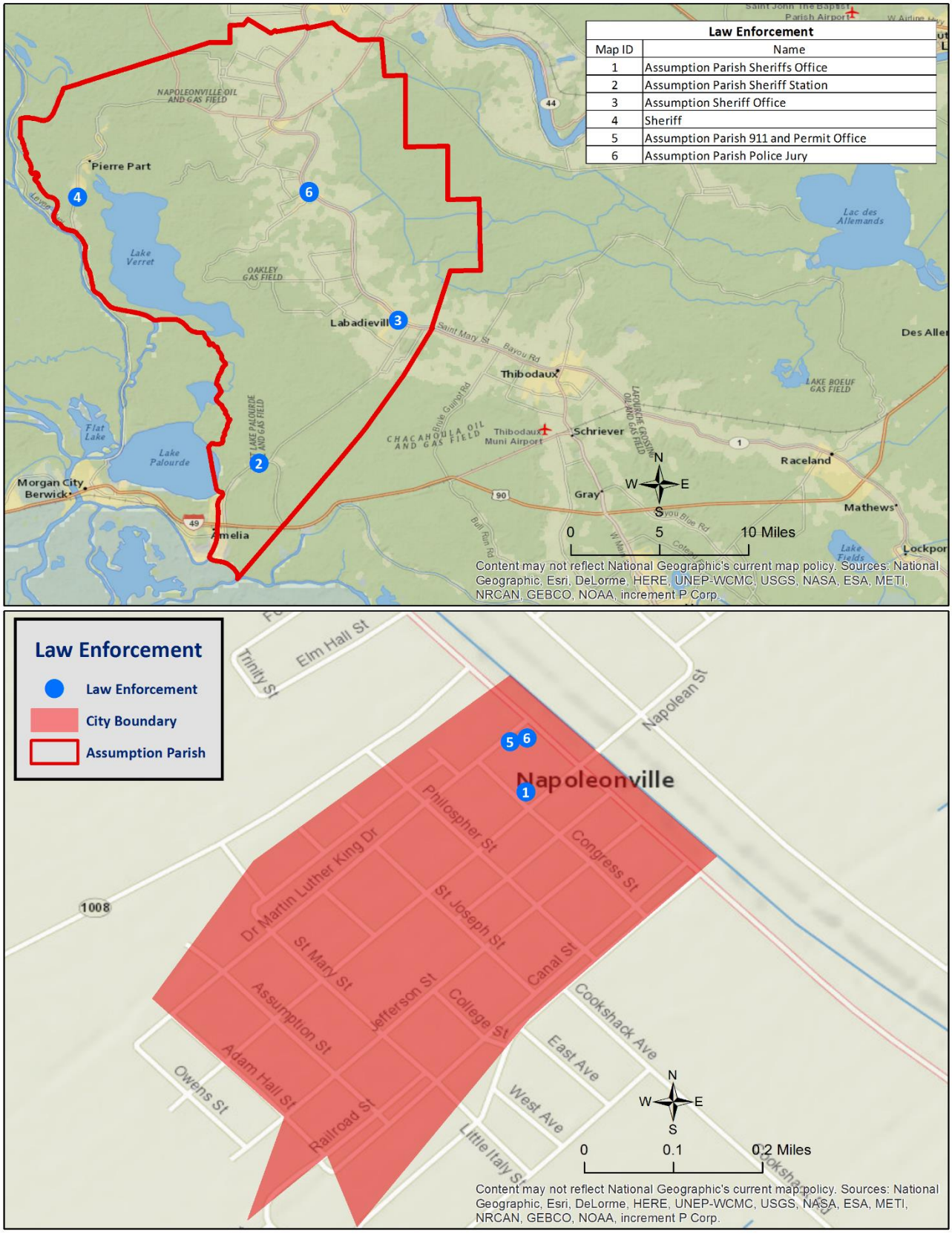


Figure 2-3: Law Enforcement Facilities Located in Assumption Parish

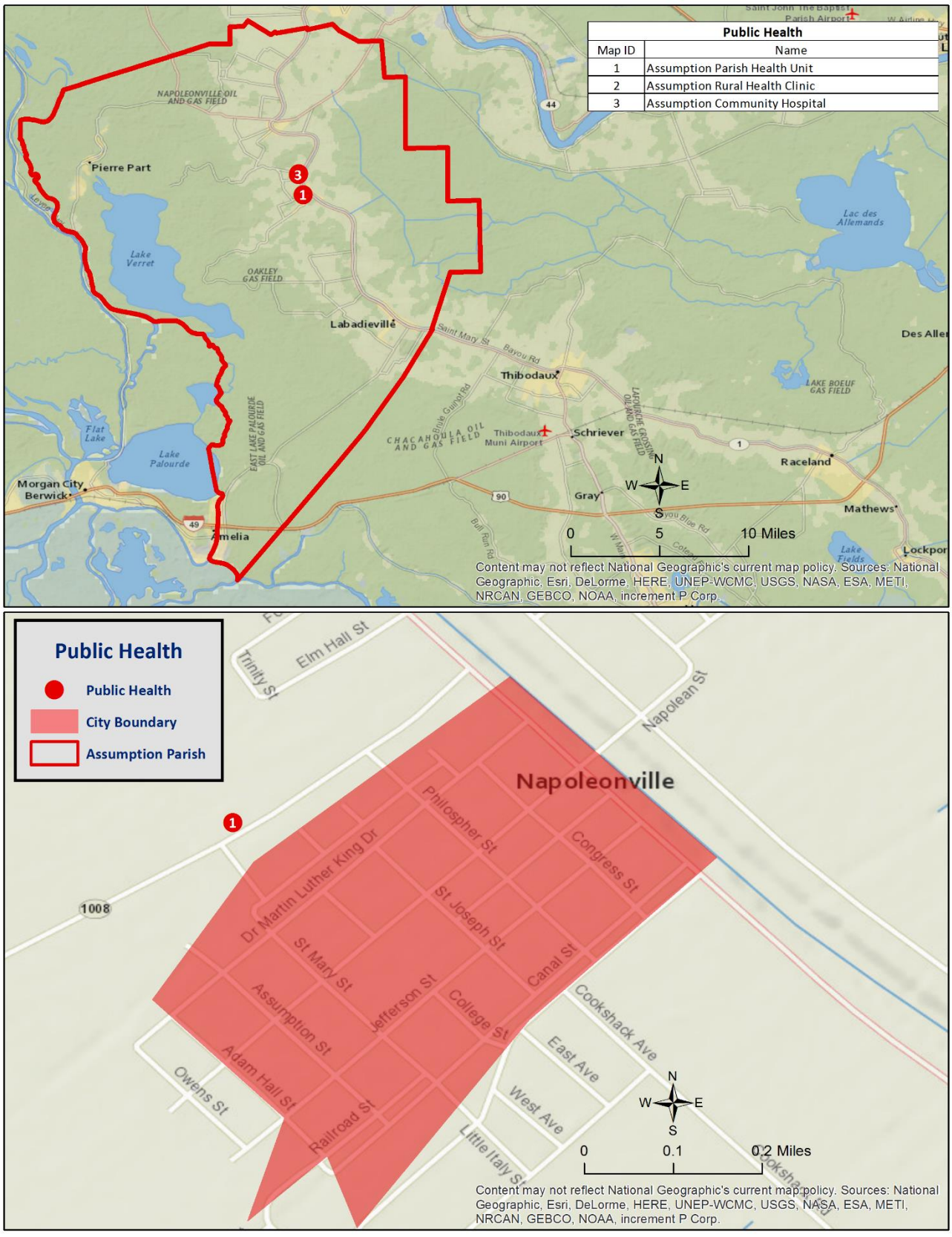


Figure 2-4: Public Health Facilities Located in Assumption Parish

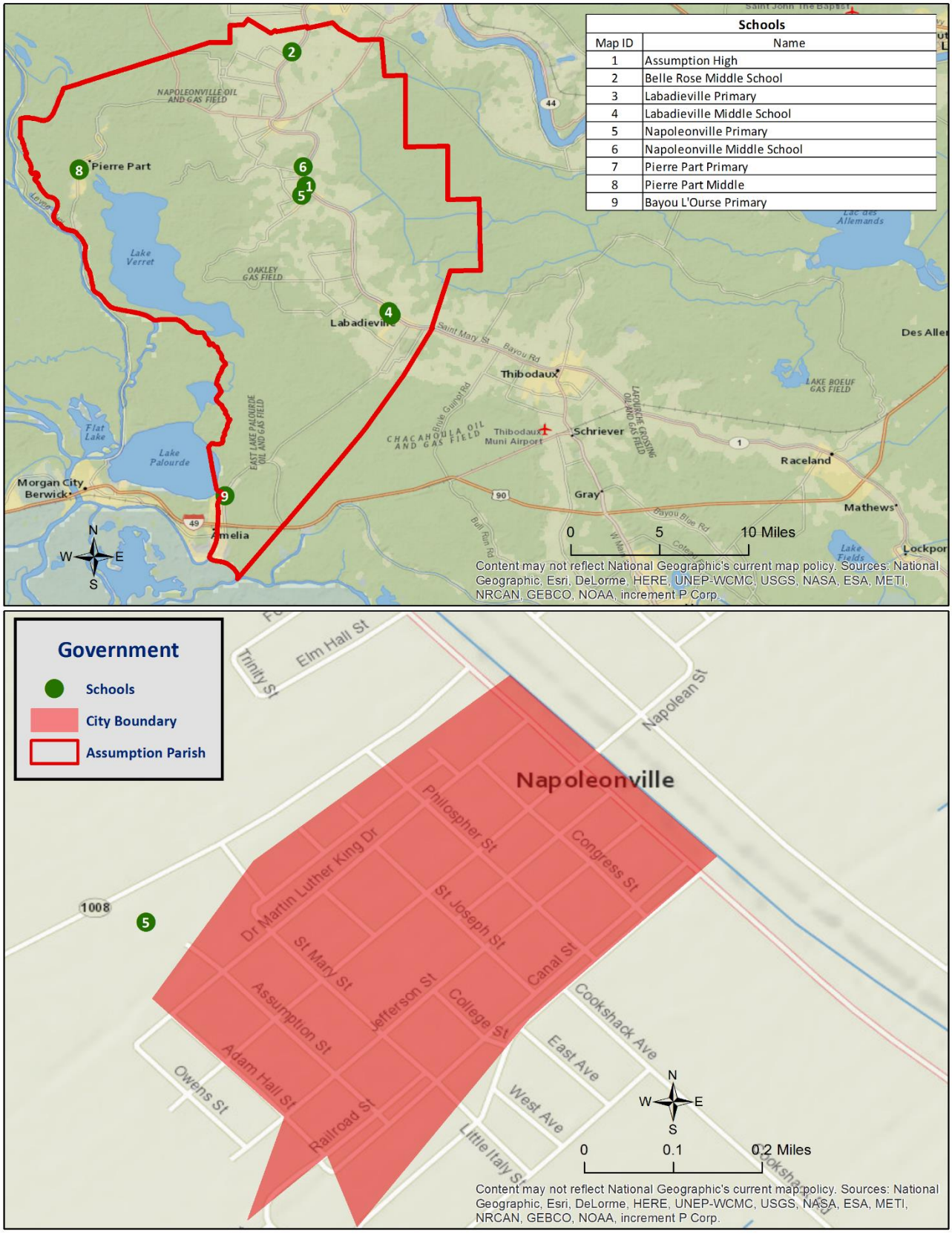


Figure 2-5: Educational Facilities Located in Assumption Parish

Future Development Trends

Assumption Parish has experienced stagnant growth in population from 2000 to 2010, with a total population increase of 0.1%. The total population growth for the unincorporated area of Assumption Parish was slightly higher with an increase of 0.3%, while the incorporated area of Napoleonville experienced a decline in population from 686 to 660. From 2010 to 2013, population growth declined at an annual rate of approximately 0.3% for Napoleonville and the unincorporated areas, and the total population of the parish fell from 23,421 to 23,196. The future population and number of buildings can be estimated using U.S. Census Bureau housing and population data. The tables below show population and housing unit estimates from 2000 to 2013.

Table 2-5: Population Growth Rate for Assumption Parish

Total Population	Assumption Parish	Assumption Unincorporated	Napoleonville
1-Apr-00	23,388	22,702	686
1-Apr-10	23,421	22,761	660
1-Jul-13	23,196	22,543	653
Population Growth between 2000 – 2010	0.1%	0.3%	-3.8%
Average Annual Growth Rate between 2000 – 2010	0.0%	0.0%	-0.4%
Population Growth between 2010 – 2013	-1.0%	-1.0%	-1.1%
Average Annual Growth Rate between 2010 – 2013	-0.32%	-0.32%	-0.35%

Table 2-6: Housing Growth Rate for Assumption Parish

Total Housing Units	Assumption Parish	Assumption Unincorporated	Napoleonville
1-Apr-00	9,635	9,347	288
1-Apr-10	10,729	10,442	287
1-Jul-13	10,390	10,102	288
Housing Growth between 2000 – 2010	11.4%	11.7%	-0.3%
Average Annual Growth Rate between 2000 – 2010	1.1%	1.2%	0.0%
Housing Growth between 2010 – 2013	-3.2%	-3.3%	0.3%
Average Annual Growth Rate between 2010 – 2013	-1.1%	-1.1%	0.1%

While population numbers were fairly stagnant from 2000 to 2010, housing increased by 11.4% from 9,635 units to 10,729. The unincorporated area of Assumption Parish experienced the highest annual growth rate during this time of 1.2% annually, and the incorporated area of Napoleonville experienced an annual decline in growth of 0.3%. From 2010 to 2013, the parish experienced a decline in housing units dropping from 10,729 to 10,390. The unincorporated area of the parish dropped from 10,442 to 10,102. The incorporated area of Napoleonville experienced an increase in housing units during this time period, with units increasing at an annual rate of 0.1%.

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 continue to grow slightly within Assumption 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%.

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	10,453	2,527	2,604	2,700
Value of Structures	$2,047,974,137	$495,095,409	$536,754,162	$591,397,178
# of People	23,196	5,608	5,608	5,608
Tropical Cyclone				
Structures	10,453	10,453	10,771	11,167
Value of Structures	$2,047,974,137	$2,047,974,137	$2,220,296,580	$2,446,328,735
# of People	23,196	23,196	23,196	23,196

Land Use

The Assumption Parish Land Use table is provided below. Residential, commercial, and industrial areas account for only 6% of the parish's land use. At 138,690 acres, wetlands make up the largest category, accounting for 59% of parish land. Agricultural land, at 65,623 acres, account for 28% of parish lands, while 18,588 acres of water areas accounts for 8% of parish lands. The parish also consists of forested areas, with 727 acres accounting for less than 1% of all parish lands.

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

Land Use	Acres	Percentage
Agricultural Land, Cropland, and Pasture	65,623	28%
Wetlands	138,690	59%
Forest land (not including forested wetlands)	727	0%
Urban/Development	13,023	6%
Water	18,588	8%

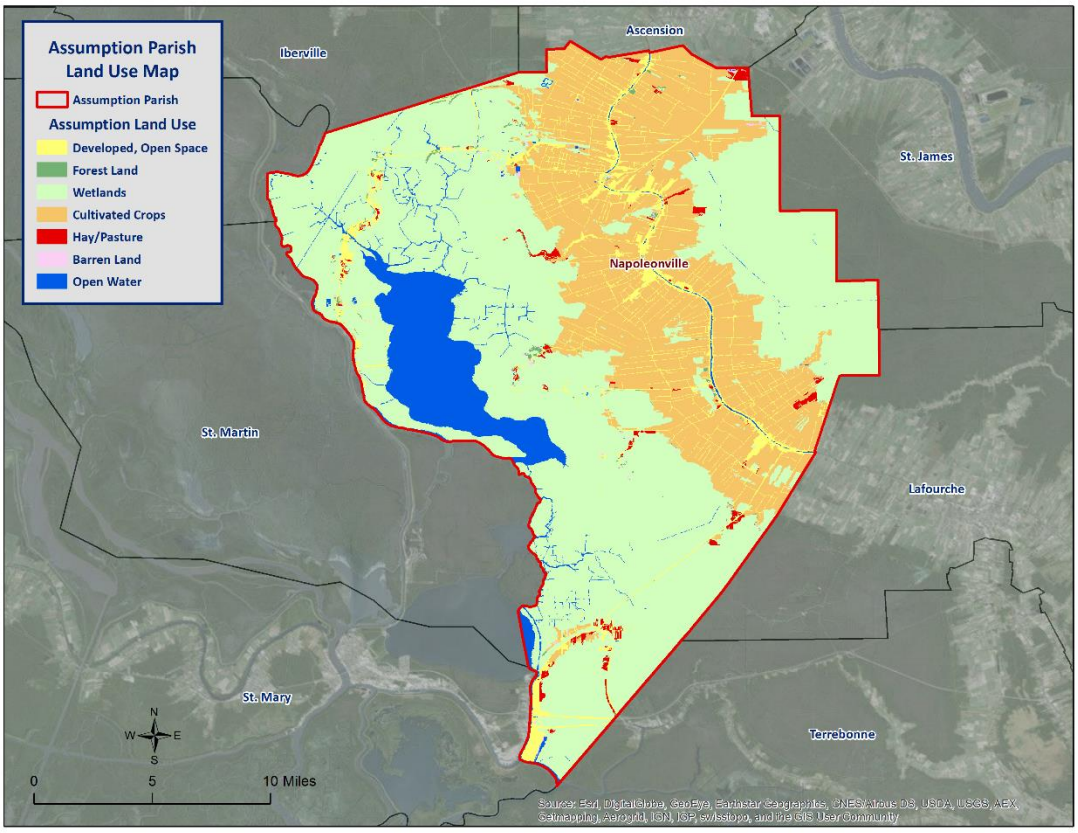


Figure 2-6: Assumption Parish Land Use Map.
(Source: USGS Land Use Map)

Hazard Identification

Flooding

A flood is the overflow of water onto land that is usually not inundated. The National Flood Insurance Program (NFIP) 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. Louisiana may experience 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 floods 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, including the contour 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.

In Assumption Parish, all six types of flooding have historically been observed. For purposes of this assessment, ponding, flash flooding 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 primarily 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, a flood event of that magnitude can be expected 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, 100-year flood events may 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 flood 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-yr events different between rivers, they can be different along any given river. A 100-year flood 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 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 the Federal Emergency Management Agency (FEMA) suggest insurance rates based on Special Flood Hazard Areas (SFHAs), as diagrammed in *Figure 2-7*.

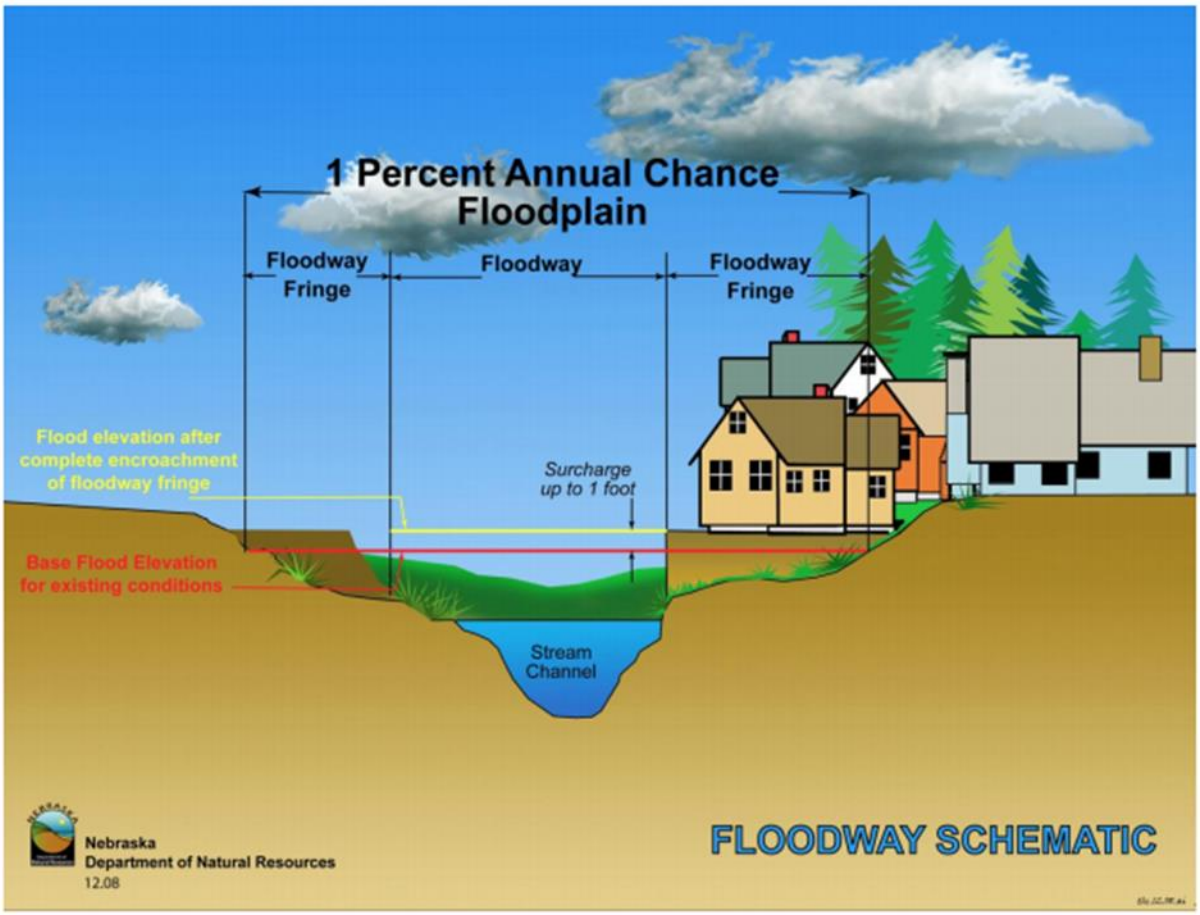


Figure 2-7: Schematic of 100-Year Floodplain. The Special Flood Hazard Area (SFHA) extends to the end of the floodway fringe.
(Source: Nebraska Department of Natural Resources)

A SFHA is the land area covered by the floodwaters of the base flood (red line in *Figure 2-7*), 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 a few situations, deep and fast moving waters will 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 to 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 usually are

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 is 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. Is covered under a contract for flood insurance made available under the NFIP; and
b. 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.

Repetitive loss properties for Assumption Parish are provided in the following table:

Table 2-9: Repetitive Loss Structures for Assumption Parish

Jurisdiction	Number of Structures	Residential	Commercial	Government	Total Claims	Total Claims Paid	Average Claim Paid
Assumption Parish (Unincorporated)	70	66	4	0	193	1,467,115	$7,602
Napoleonville	12	12	0	0	27	$197,261	$7,306
Total	82	78	4	0	220	$1,664,376	$7,565

Of the 82 repetitive loss structures, 80 were able to be geocoded to provide an overview of where the repetitive loss structures were located throughout the parish. *Figure 2-8* shows the approximate location of the 80 structures, while *Figure 2-9* 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 are focused in the western portion of the unincorporated area of the parish.

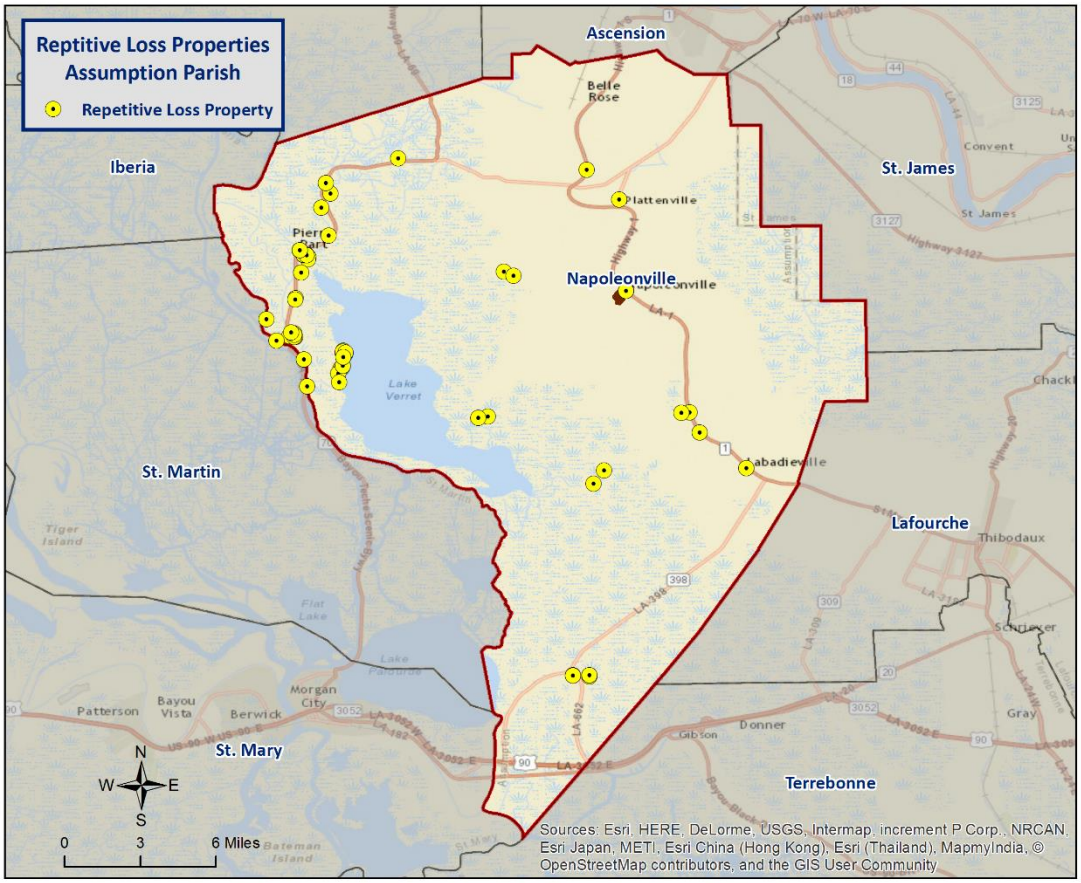


Figure 2-8: Repetitive Loss Properties in Assumption Parish

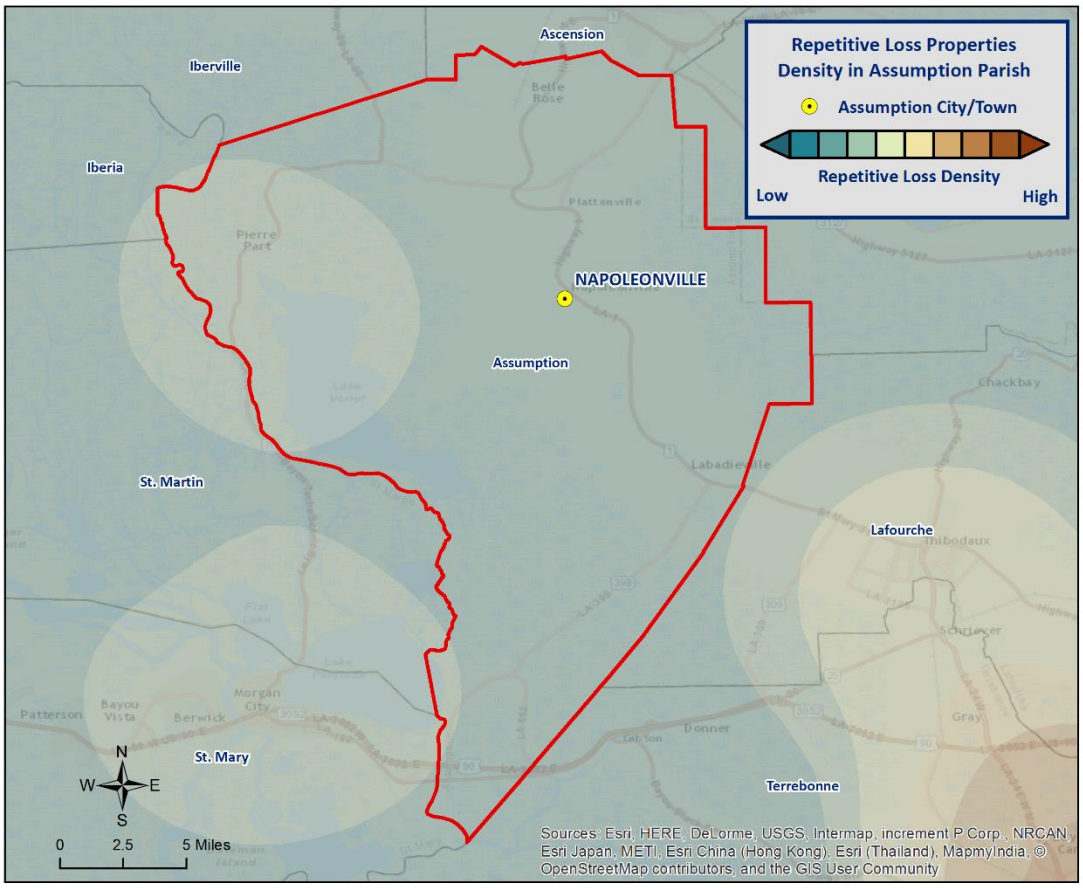


Figure 2-9: Repetitive Loss Property Densities in Assumption Parish

National Flood Insurance Program

Flood insurance statistics indicate that Assumption Parish has 1,537 flood insurance policies with the NFIP, with total annual premiums of $739,509. Assumption Parish and the town of Napoleonville are both participants in the NFIP. Assumption Parish and the town of Napoleonville will continue to adopt and enforce floodplain management requirements, including regulating new construction in 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 Assumption Parish are provided in the tables to follow.

Table 2-10: Summary of NFIP Policies for Assumption Parish

Location	No. of Insured Structures	Total Insurance Coverage Value	Annual Premiums Paid	No. of Insurance Claims Filed Since 1978	Total Loss Payments
Assumption Parish (Unincorporated)	1,534	$268,577,900	$736,134	959	$4,195,736
Napoleonville	3	$1,175,000	$3,375	7	$10,431
Total	1,537	$269,752,900	$739,509	966	$4,206,167

Table 2-11: Summary of Community Flood Maps for Assumption Parish

CID	Community Name	Initial FHBM Identified	Initial FIRM Identified	Current Effective Map Date	Date Joined the NFIP	Tribal
220017#	Assumption Parish	1/24/1975	5/19/1981	11/5/1997	5/19/1981	No
220018	Napoleonville, Town of	-	6/20/1976	(NSFHA)	6/20/1976	No

According to the Community Rating System (CRS) list of eligible communities dated June 1, 2014, Assumption Parish and town of Napoleonville do not participate in the CRS.

Threat to People

Similar to the effects on property, 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 the passengers within the vehicle. Victims of flooding have often put themselves in perilous situations by entering flood waters they believe are safe, or by ignoring travel advisories.

Major health concerns are also associated with floods. Floodwaters 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. Floodwaters can also infiltrate sewer lines and inundate wastewater treatment plants, causing sewage to backup and create a breeding ground for dangerous bacteria. This infiltration may also cause water supplies to become contaminated and undrinkable.

Flooding in Assumption Parish

By definition, flooding is caused by more water than the drainage system can convey. The following is a synopsis of the types of flooding events that affect Assumption Parish.

Flash Flooding: Flash flooding is characterized by a rapid rise in water level, high velocity, and large amounts of debris. It is capable of tearing out 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: Local 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, by definition, is river based. Riverine flooding occurs when heavy rainfall causes relatively high water levels in rivers or creeks to overtop the banks. Most of the riverine flooding problems occur when the Mississippi River crests at flood stage levels, causing extensive flooding in low-lying areas.

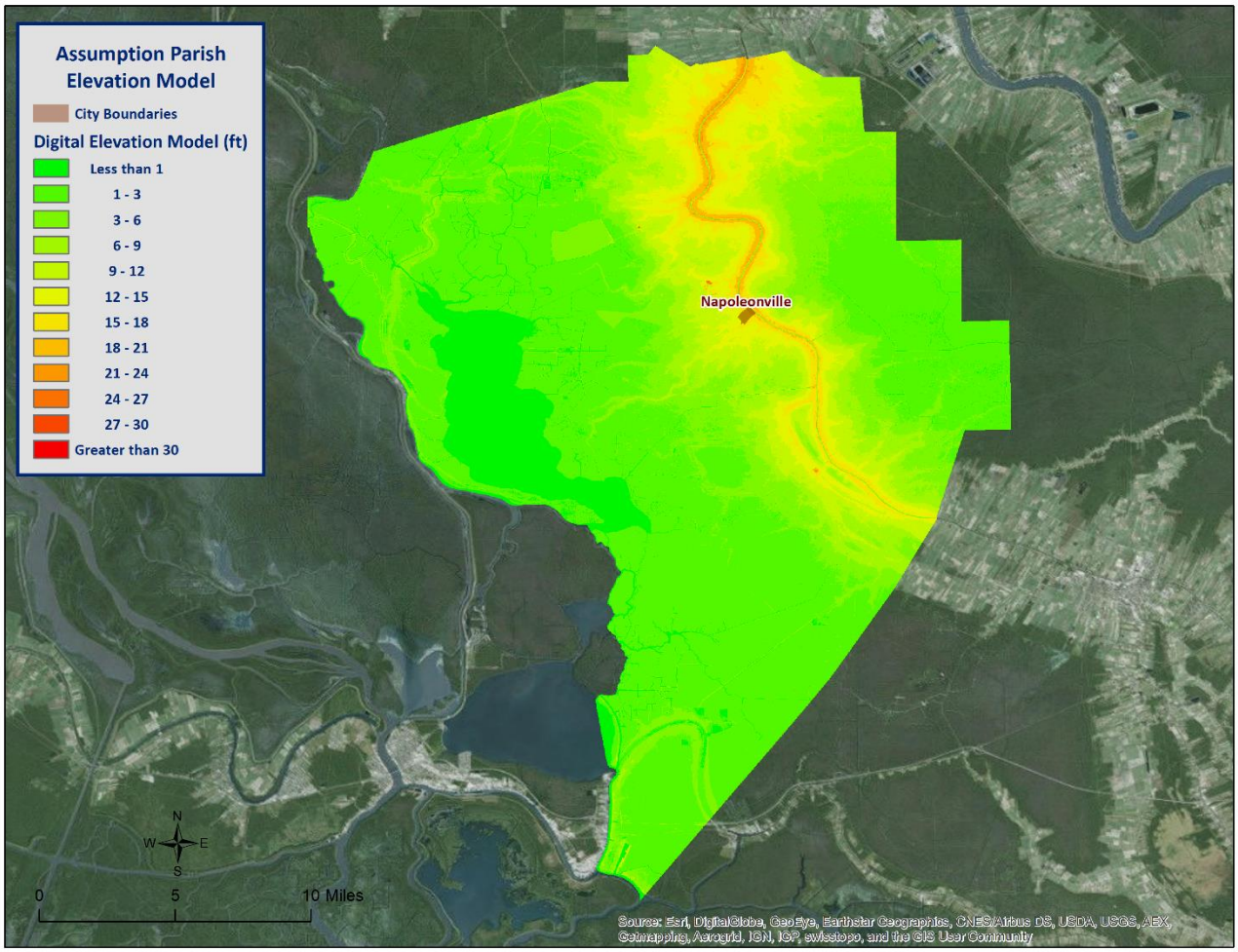


Figure 2-10: Elevation throughout Assumption Parish

Looking at the digital elevation model (DEM) in *Figure 2-10* for Assumption Parish is instructive in visualizing where the low lying and risk areas are for the parish. Elevations in the parish range from near sea level to approximately 20 feet above sea level. The highest elevations in the parish are located along the banks of Bayou Lafourche, where the elevations range from approximately 15 to 20 feet above sea level. Much of Assumption Parish is laced with bayous that have elevations of a less than 6 feet. The incorporated area of Napoleonville, located along Bayou Lafourche, has an elevation of approximately 20 feet.

Location

Assumption Parish has experienced flooding in its history and can expect more in the future. A large percentage of the parish is interwoven with bayous, which makes these low-lying areas susceptible to flooding. Bayou Lafourche is a major river that runs through the parish, but the bank of this river acts as a natural levee, preventing major riverine flooding.

The following pages contain enlarged maps of the incorporated areas, showing the areas within each jurisdiction that are at risk to flooding.

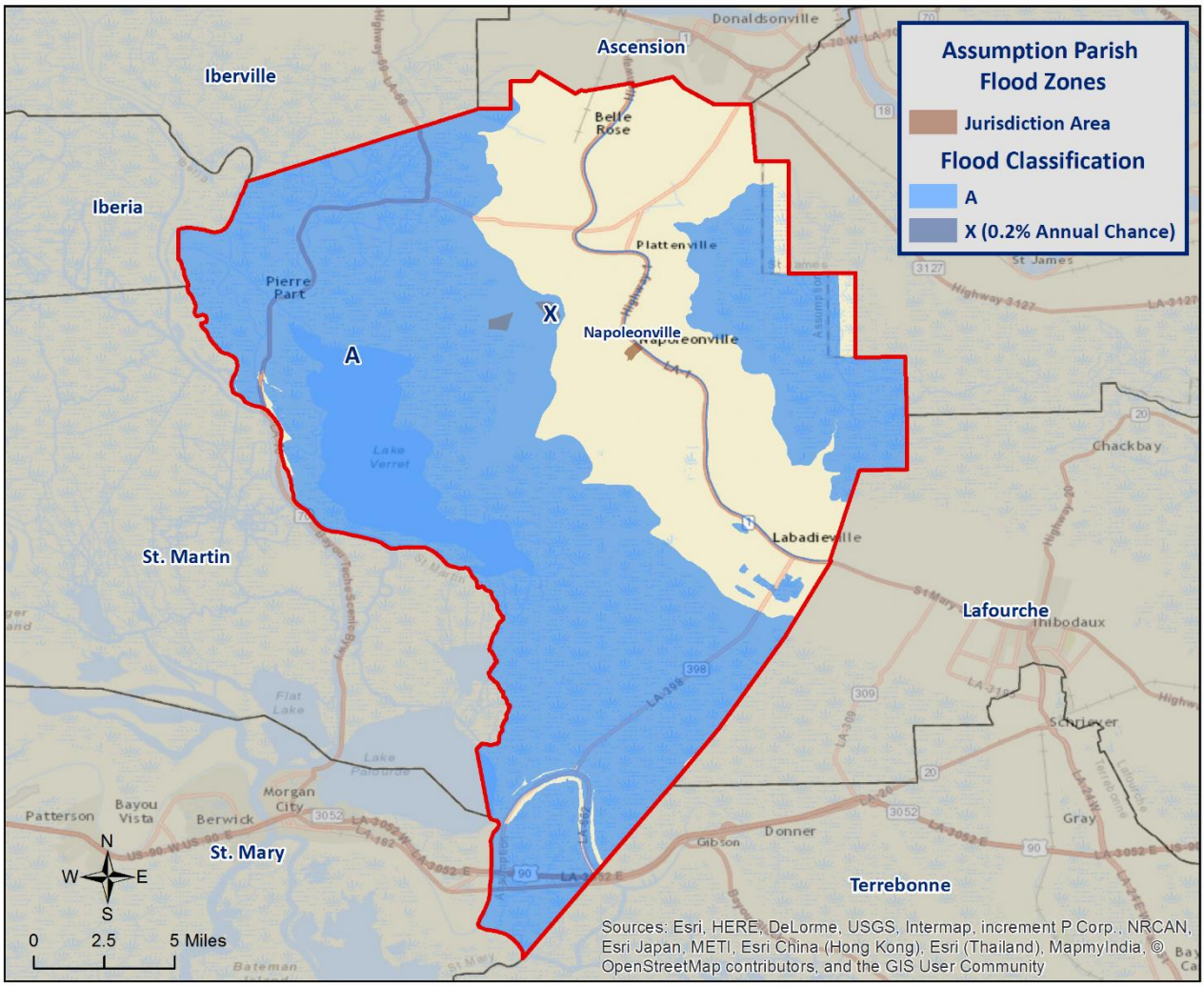


Figure 2-11: Assumption Parish Areas within the Flood Zones

Figure 2-12: Town of Napoleonville Areas within the Flood Zones

Previous Occurrences and Extents

Historically, there have been seven flooding events that have created significant flooding in Assumption Parish between 1989 and 2014. Below is a brief synopsis of the seven flooding events that have occurred since 1989, including each flooding event that has occurred since the parish's last planning update.

Table 2-12: Historical Floods in Assumption Parish with Locations from 2009 - 2014

Date	Extents	Type of Flooding	Estimated Damages	Location
April 11, 1997	Heavy rainfall of 4 to 5 inches caused flash flooding in which six houses were flooded.	Flash Flood	$10,000	LABADIEVILLE
January 6, 1998	Heavy rainfall of 3 to 6 inches occurred in the parish, flooding rural secondary roadways and causing localized street flooding.	Flood	$0	PARISH-WIDE
June 7, 2001	Outer rain bands of Tropical Storm Allison caused flash flooding in the low-lying areas of the parish. Several homes incurred flood damage as a result of the flood waters.	Flash Flood	$250,000	PARISH-WIDE
June 11, 2003	50 homes, 5 businesses, and one governmental building flooded when 6 to 8 inches of rain fell in a short period of time, causing flash floods.	Flash Flood	$125,000	PAINCOURTVILLE
May 17, 2004	One house flooded as a result of heavy rainfall in the area.	Flash Flood	$3,000	PAINCOURTVILLE
December 8, 2009	275 homes and 5 businesses were flooded when heavy rainfall fell during the early morning hours. 7.61 inches of rain was recorded at the emergency operations center in Napoleonville.	Flash Flood	$500,000	BELLE ROSE
January 10, 2013	Flash floods occurred as a result of heavy rainfall. Street flooding in Labadieville was reported and one home incurred flood damage.	Flash Flood	$2,000	LABADIEVILLE

There have been no significant flooding events in the incorporated area of Napoleonville from 2009 to the present.

The worst-case scenarios are based on several different types of flooding events. Storm water excesses primarily affect the low-lying areas of the parish, and flood depths of up to 6 feet can be expected in the unincorporated areas of the parish. Flood depths of approximately 2 feet can be expected in the incorporated area of Napoleonville.

Frequency / Probability

While other parts of this plan, along with the state's Hazard Mitigation Plan, have relied on the SHELDUS database to provide the annual probability, due to Assumption Parish having multiple jurisdictions, it was necessary to assess the historical data found in the National Climatic Data Center for Assumption 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 2-13: Flood Annual Probabilities for Assumption Parish

Jurisdiction	Annual Probability	Return Frequency
Assumption Parish (Unincorporated)	28%	3 to 4 years
Napoleonville	8%	12 to 13 years

Based on historical record, the overall probability for the entire Assumption Parish planning area is 28%, with 7 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 2-14* shows the total economic losses that would result from this occurrence.

Table 2-14: Estimated Losses in Assumption Parish from a 100-Year Flood Event (Source: Hazus 2.2)

Jurisdiction	Estimated total Losses from 100 Year Flood Event
Assumption Parish (Unincorporated)	$28,860,000
Napoleonville	$2,589,000
Total	$31,449,000

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 tables below.

Table 2-15: Estimated 100-Year Flood Losses for Unincorporated Assumption Parish by Sector (Source: Hazus 2.2)

Assumption Parish (Unincorporated)	Estimated Total Losses from 100 Year Flood Event
Agricultural	$110,000
Commercial	$2,802,000
Government	$206,000
Industrial	$2,272,000
Religious / Non-Profit	$418,000
Residential	$22,836,000
Schools	$216,000
Total	$28,860,000

Table 2-16: Estimated 100-Year Flood Losses for Napoleonville by Sector (Source: Hazus 2.2)

Napoleonville	Estimated Total Losses from 100 Year Flood Event
Agricultural	$0
Commercial	$42,000
Government	$2,000
Industrial	$31,000
Religious / Non-Profit	$47,000
Residential	$2,467,000
Schools	$0
Total	$2,589,000

Threat to People

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

Table 2-17: Vulnerable Populations Susceptible to a 100-Year Flood Event (Source: Hazus 2.2)

Number of People Exposed to Flood Hazards			
Location	**# in Community**	**# in Hazard Area**	**% in Hazard Area**
Assumption Parish (Unincorporated)	**22,761**	**5,583**	**24.5%**
Napoleonville	**660**	**79**	**12%**
Total	**23,421**	**5,662**	**24.2%**

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

Table 2-18: Vulnerable Populations Susceptible to a 100-Year Flood Event in Unincorporated Assumption Parish
(Source: Hazus 2.2)

Assumption Parish (Unincorporated)		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	5,583	24.5%
Persons Under 5 Years	313	5.6%
Persons Under 18 Years	1,279	22.9%
Persons 65 Years and Over	832	14.9%
White	3,813	68.3%
Minority	1,770	31.7%

Table 2-19: Vulnerable Populations Susceptible to a 100-Year Flood Event in Napoleonville
(Source: Hazus 2.2)

Napoleonville		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	79	12.0%
Persons Under 5 Years	6	7.3%
Persons Under 18 Years	20	25.2%
Persons 65 Years and Over	11	13.6%
White	14	18.0%
Minority	65	82.0%

Vulnerability

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

Sinkholes

Sinkholes are areas of ground with no natural external surface drainage. They can vary in size from a few square feet to hundreds of acres, and can reach depths of more than 100 feet. Sinkholes are usually found in karst terrain—that is, areas where limestone, carbonate rock, salt beds, and other water-soluble rocks lie below the Earth's surface. Karst terrain is marked by the presence of other uncommon geologic features, such as springs, caves, and dry streambeds that lose water into the ground. In general, sinkholes form gradually (in the case of cover subsidence sinkholes), but they can also occur suddenly (in the case of cover-collapse sinkholes).

Sinkhole formation is a very simple process. Whenever water is absorbed through soil, it encounters water-soluble bedrock. The water then begins to dissolve the bedrock, forming sinkholes. The karst rock dissolves along cracks; as the fissures grow, soil and other particles fill the gaps, loosening the soil above the bedrock. *Figure 2-13* illustrates the development of a cover subsidence sinkhole. As the soil sinks from the surface, a depression forms, which draws in more water, funneling it down to the water-soluble rock. The increase of water and soil in the rock pushes open the cracks, again drawing more soil and water into it. This positive feedback loop continues, unless clay plugs into the cracks in the bedrock, at which time a pond may form. A sudden cover-collapse sinkhole occurs when the top soil above dissolving bedrock does not sink, but forms a bridge over the soil that is sinking beneath it. As *Figure 2-14* demonstrates, underground soil continues to fill the bedrock fissures, until finally the soil bridge collapses and fills the void beneath it.

Both kinds of sinkholes can occur naturally or through human influence. While sinkholes tend to form naturally in karst areas, sinkholes can form in other geological areas that have been altered by humans, by processes such as mining, sewers, hydraulic fracture drilling, groundwater pumping, irrigation, or storage ponds. In all of these cases, and others, the cause for the sinkhole is that support for surface soil has been weakened or substantially removed.

In the United States, 20% of the land is susceptible to sinkholes. Most of this area lies in Florida, Texas, Alabama, Missouri, Kentucky, Tennessee, and Pennsylvania. In Louisiana, most of the sinkholes are precipitated by the human-influenced collapse of salt dome caverns. The collapse of a salt dome is usually a slow process; however, it may occur suddenly and without any advance warning.

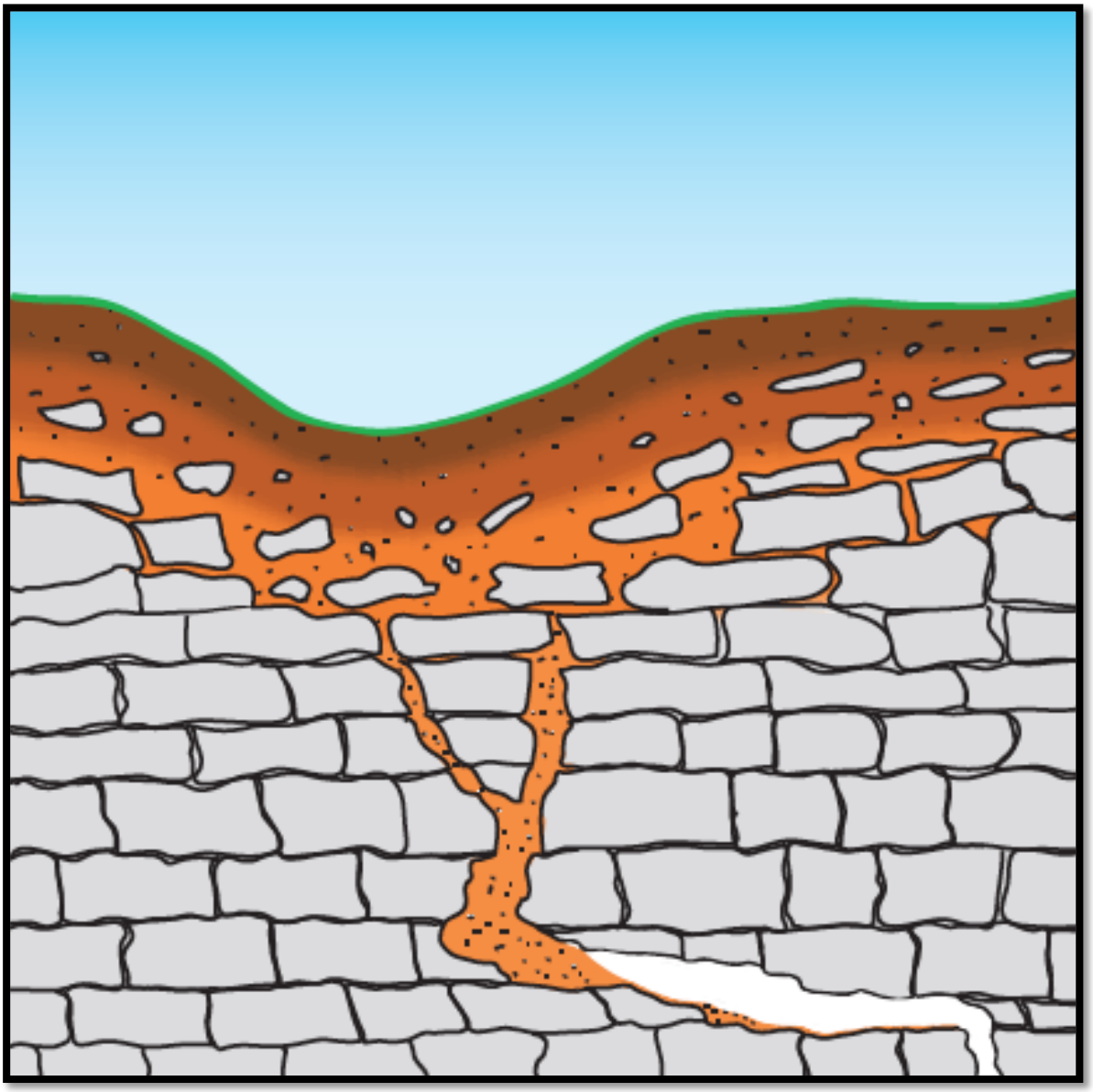


Figure 2-13: Cover-subsidence Sinkole Formation from the Breaking Apart of Karst Bedrock by Soil Deposit (Courtesy of USGS Sinkholes Fact Sheet)

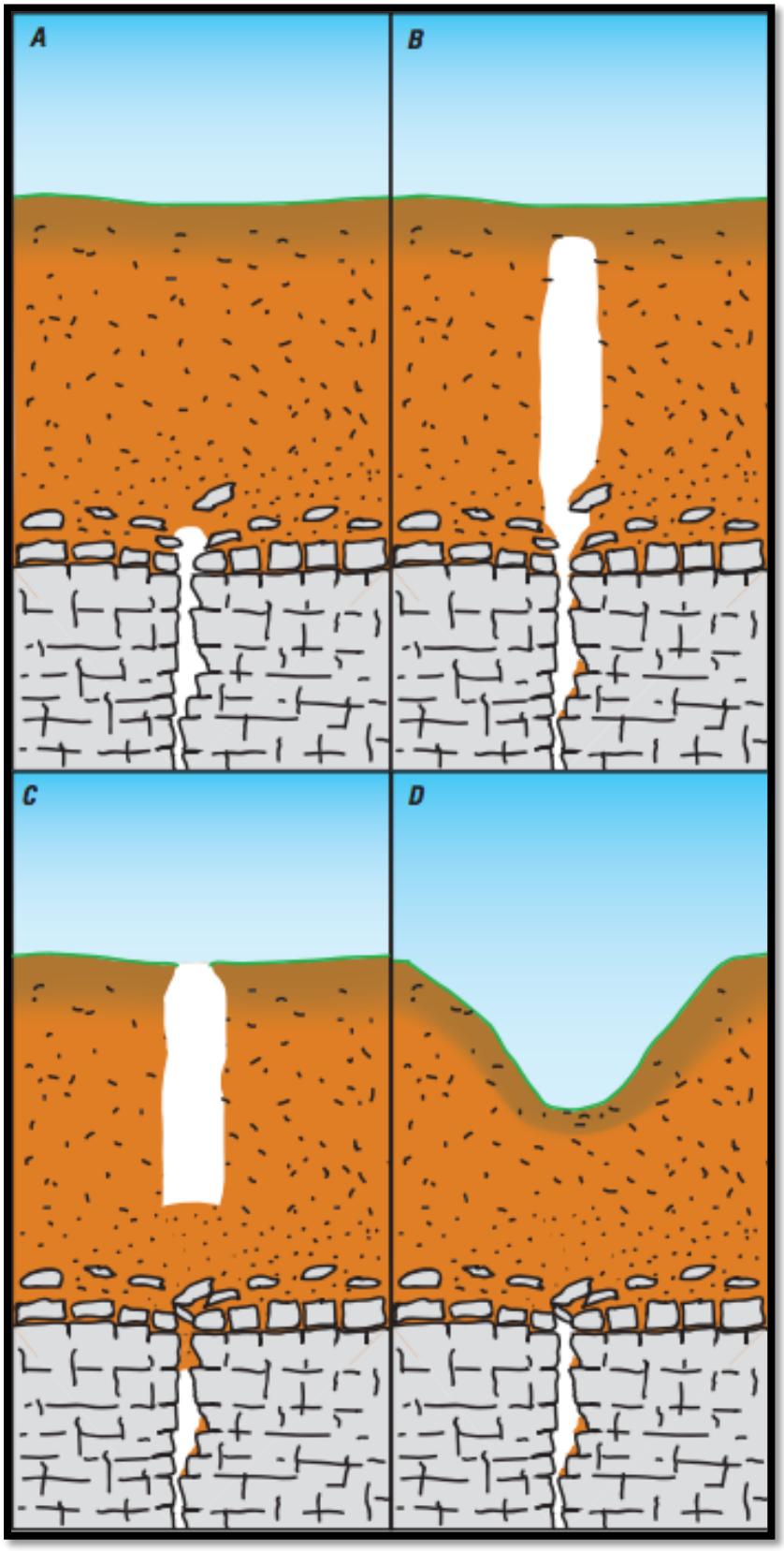


Figure 2-14: Formation of Cover-collapse Sinkhole After a Soil Bridge Forms Above Dissolving Bedrock (Courtesy of USGS Sinkhole Fact Sheet)

Location

Currently, there is one identifiable salt dome location and one sinkhole in Assumption Parish. *Figure 2-15* displays the locations of the salt dome and sinkhole with their relative location to the nearest jurisdiction. The salt dome and sinkhole are both located in the unincorporated area of Assumption Parish, as depicted in *Figure 2-15*.

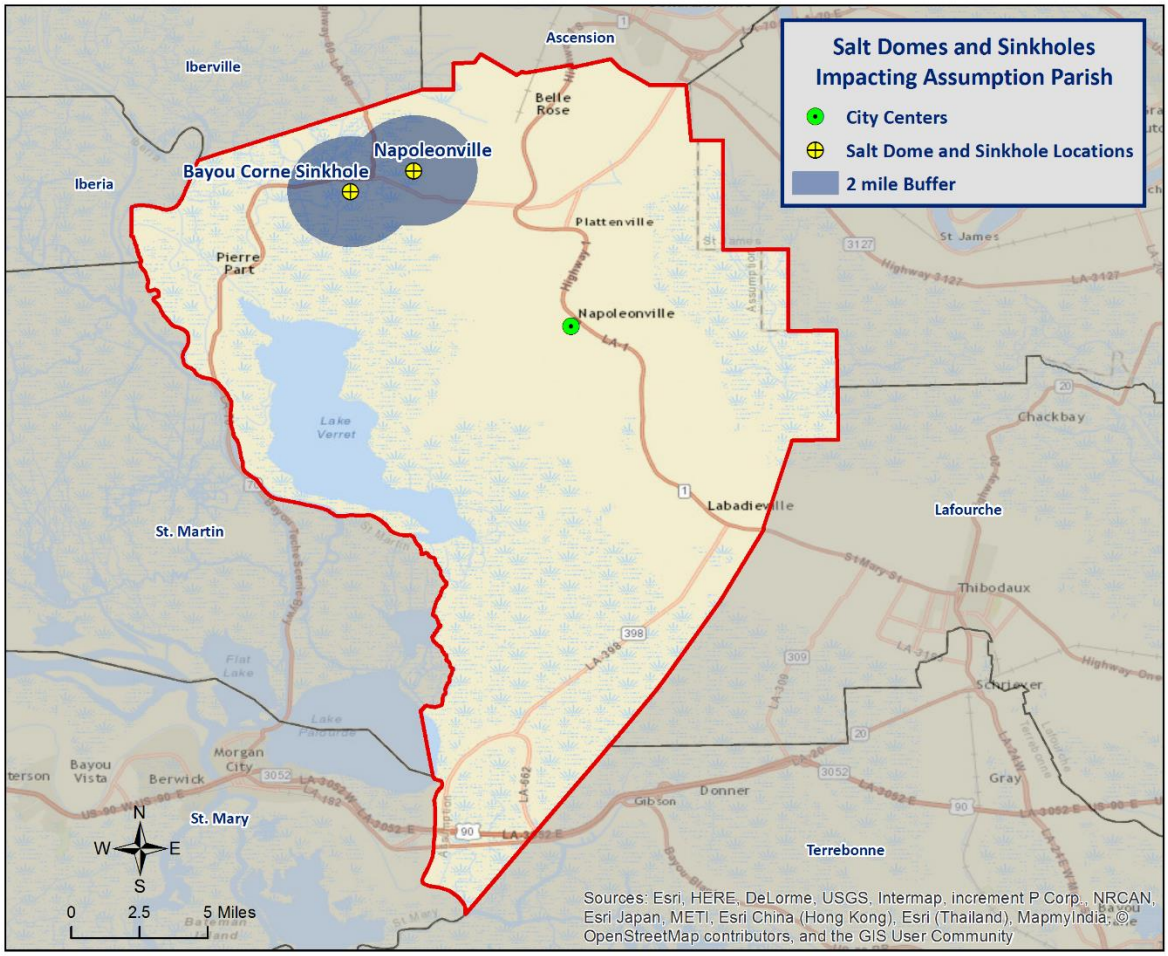


Figure 2-15: Salt Dome Locations in Assumption Parish Relative to Jurisdictions

Previous Occurrences / Extent

There has been one incident of a sinkhole formation in Assumption Parish. On August 3, 2012, a sinkhole formed overnight on a salt dome in the area of Bayou Corne, forcing the mandatory evacuation of 350 residents in the community. The sinkhole is approximately 32.5 acres in size and continues to expand, devouring the land and trees surrounding the area.

Frequency / Probability

Based on historical data for the past 25 years, there has been one incident of a sinkhole formation or salt dome collapse in Assumption Parish. The annual chance of occurrence based on this data is calculated at 4%.

Estimated Potential Losses

The Napoleonville Salt Dome and Bayou Corne Sinkhole were analyzed to determine the number of people and houses that are potentially susceptible to losses from a sinkhole. The Bayou Corne Sinkhole was included in this analysis since actual losses from the sinkhole are difficult to estimate due to the continued expansion of the sinkhole. The following table is based on conducting a two mile buffer around the center of the salt dome and sinkhole. The values were determined by querying the 2010 U.S. Census block data to determine the number of houses and people that are located within two miles of the salt dome and sinkhole. Critical facilities were also analyzed to determine if they fell within the 2 mile buffer of the salt dome and sinkhole. Total value for all occupancy group from HAZUS-MH was used to estimate a total loss of all facilities that were within 2 miles of the salt dome and sinkhole.

Bayou Corne Sinkhole poses the greatest risk to Assumption Parish since it is continuing to expand in size. Most residents in the area have relocated, but a small populace continues to remain in the area. Louisiana Highway 70, which is a major road in the parish, is also in the vicinity of Bayou Corne Sinkhole, and several alternatives have been developed in the event that the road is affected by the sinkhole.

Table 2-20: Estimated Potential Losses from a Sinkhole Formation
(Source: U.S. 2010 Census Data and HAZUS-MH)

Salt Dome Name	Total Building Exposure	Critical Infrastructure Exposure	Number of People Exposed	Number of Houses Exposed
Napoleonville	$29,958,000	1	246	112
Bayou Corne	$39,205,000	0	296	169

It must be noted that sinkhole formation and risks associated with sinkholes are due to exploration activities by companies in solution mining. These activities are regulated by the Department of Natural Resources' Office of Conservation (Revised Statute 30), which is a state agency and is an authority of the Commissioner of Conservation (appointment of the Governor). In the original law, no local jurisdiction has the right to regulate any exploration of any kind; therefore, Assumption Parish does not have any regulatory authority. It is therefore necessary to refer to the State of Louisiana Hazard Mitigation Plan for mitigation strategies.

Vulnerability

See Appendix C for parish and municipality building exposure to a sinkhole hazard.

Thunderstorms

The term "thunderstorm" is usually used as a catch-all term for several types 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 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, 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 all of 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 following page display the TORRO Hailstorm Intensity Scale, along with a spectrum of hailstone diameters and their everyday equivalents.

Table 2-21: 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 2-22: 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”	Nickel
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 homes and other 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 *Table 2-23*.

Table 2-23: 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 wind**s** 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 mountainous areas of Louisiana where they occur. Nor'easters

are cyclonic events that have at most a peripheral effect on Louisiana; none of which are associated with high winds. Winds associated with hurricanes and tornadoes will be considered in their respective sections.

Table 2-24 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 2-24: 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, 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 table on the following page outlines the lightning activity level which is a measurement of lightning activity.

Table 2-25: 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 Assumption Parish is equally at risk for hailstorms.

Previous Occurrences / Extents

The SHELDUS database reports three significant hailstorm events occurring within the boundaries of Assumption Parish between the years of 1989-2014. According to the National Climatic Data Center, the hailstorm diameters experienced in Assumption Parish have ranged from 0.75 inches to 1.75 inches since 1989. The most frequently recorded hail size has been 1.75 inch diameters. *Figure 2-16* displays the density of hailstorms in Assumption Parish and adjacent parishes. *Table 2-26* provides an overview of hail storms that have impacted the Assumption Parish planning area since 1989 based on the National Climatic Data Center dataset. Assumption Parish can expect to experience hail up to 1.75 inches for future events.

Table 2-26: Previous Occurrences of Hailstorms in Assumption Parish (Source: NCDC)

Date	Recorded Hail Size (inches)	Location
April 25, 1991	1.5	UNINCORPORATED AREA
March 13, 1995	0.75	NAPOLEONVILLE
April 14, 1996	1.75	PAINCOURTVILLE
March 7, 1998	1	NAPOLEONVILLE

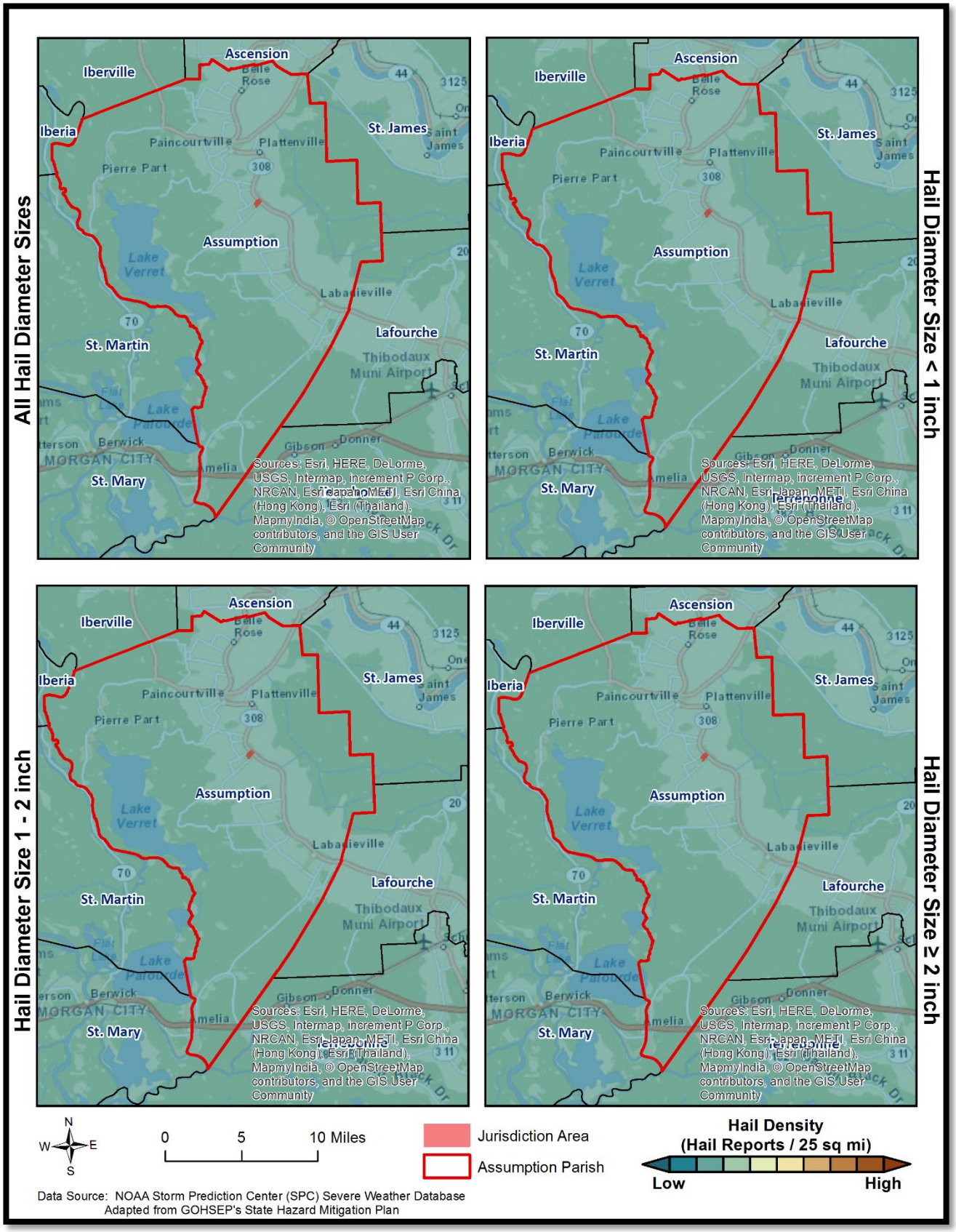


Figure 2-16: Density of Hailstorms by Diameter from 1950-2012
(Source: State of Louisiana Hazard Mitigation Plan 2014)

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 12%. The probability was determined based on a review of significant hail data that has caused damages in the last twenty five years, in which Assumption Parish has had three recorded events.

Estimated Potential Losses

According to the SHELDUS database, property damage due to hailstorms in Assumption Parish has totaled approximately $9,686 since 1989. A list of total damages by event can be found in *Table 2-27*. To estimate the potential losses of a hail 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 (1989 – 2014). This provides an annual estimated potential loss of $387. The following table provides an estimate of potential property losses for Assumption Parish:

Table 2-27: Property Damage Caused by Hailstorms in Assumption Parish (Source: SHELDUS)

Date	Property Damage
April 1991	$86
March 1995	$9,172
March 1998	$429

Table 2-28: Estimated Annual Property Losses in Assumption Parish from Hailstorms

Estimated Annual Potential Losses from Hailstorms for Assumption Parish	
Unincorporated (97.2% of Population)	Napoleonville (2.8% of Population)
$377	$11

The parish has suffered no deaths or injuries due to hailstorms from 1989 – 2014.

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 Assumption Parish is equally at risk for high winds.

Previous Occurrences / Extents

The SHELDUS database reports a total of 26 thunderstorm wind events occurring within the boundaries of Assumption Parish between the years of 1989-2014. The significant thunderstorm wind events experienced in Assumption Parish have ranged from a wind speed of 57 mph to 81 mph. The following table provides an overview of thunderstorm high wind events that have impacted the Assumption Parish planning area since 2009, based on the National Climatic Data Center dataset. Assumption Parish can expect to receive thunderstorm winds up to 81 mph for future high wind events.

Table 2-29: Previous Occurrences for Thunderstorm High Wind Events

Location	Date	Recorded Wind Speeds (mph)	Property Damage	Crop Damage
PAINCOURTVILLE	March 25, 2009	57	$1,258	$0
LABADIEVILLE	March 25, 2009	57	$2,000	$0
GRAND BAYOU	March 21, 2012	69	$20,293	$0
BOEUF	May 22, 2013	81	$25,000	$0

Frequency

High winds are a fairly common occurrence within Assumption Parish, with an annual chance of occurrence calculated at 88%.

Estimated Potential Losses

Since 1989, there have been 22 significant wind events that have resulted in property damages, according to the SHELDUS database. The total property damages associated with those storms have totaled $465,922. 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 (1989 – 2014). This provides an annual estimated potential loss of $18,637. The following table provides an estimate of potential property losses for Assumption Parish:

Table 2-30: Estimated Annual Property Losses in Assumption Parish Resulting from Wind Damage

Estimated Annual Potential Losses from Thunderstorm Winds for Assumption Parish	
Unincorporated Assumption Parish (97.2% of Population)	Napoleonville (2.8% of Population)
$18,112	$525

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 Assumption Parish.

Previous Occurrences / Extent

The SHELDUS database reports a total of two lightning events occurring within the boundaries of Assumption Parish between the years of 1989-2014. 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 Assumption Parish, which occur on a nearly monthly basis. The following table provides an overview of lightning events that have impacted the Assumption Parish Planning area since 2009, based on the National Climatic Data Center dataset. Assumption Parish can expect to experience lightning events at the lightning activity level of 2. The table below provides an overview of significant lightning strikes over the last five years.

Table 2-31: Previous Occurrences of Significant Lightning Strikes in Assumption Parish from 2009 – 2014 (Source: NCDC and SHELDUS)

Location	Date	Summary	Property Damage
GRAND BAYOU	September 22, 2011	Lightning sparked a fire that caused an estimated $1 million in damage to the Gator Stop Super Truck Stop and Casino.	$1,035,645
BAYOU CORNE	May 22, 2013	Lightning started a fire in an empty house near Bayou Corne. The home was empty due to sinkhole evacuations.	$50,000

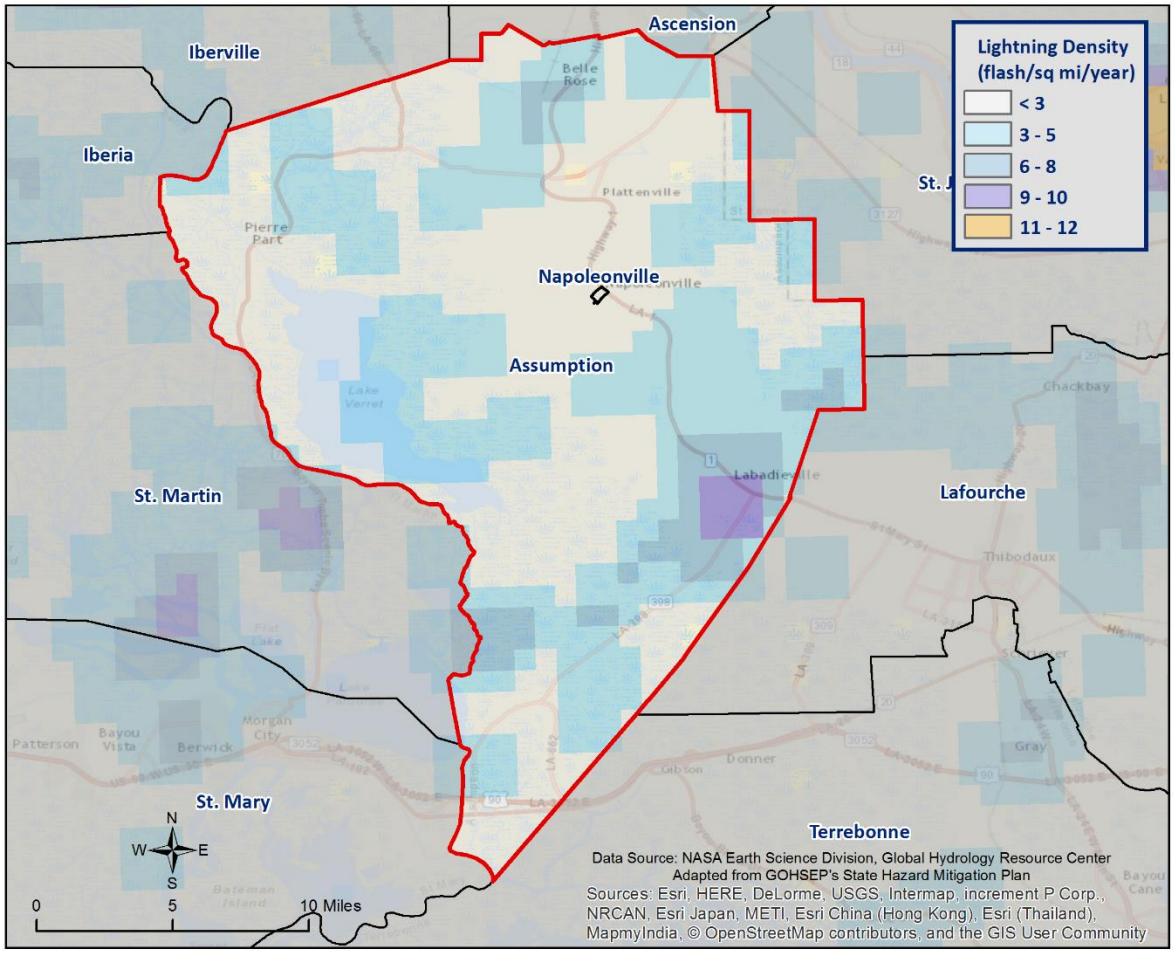


Figure 2-17: Lightning Density Reports for Assumption Parish

Frequency

Lightning can strike anywhere and is produced by every thunderstorm, so the chance of lightning occurring in Assumption 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 to people is a less likely event. SHELDUS reports two lightning events that have caused property damages or injuries over the last 25 years, establishing an annual probability of 8%.

Estimated Potential Losses

Since 1989, there have been two significant lightning events that resulted in property damages according to the SHELDUS database. The total property damages associated with lightning events totaled $1,085,645. 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 (1989 – 2014). This provides an annual estimated potential loss of $43,426. The table on the following page provides an estimate of potential property losses for Assumption Parish.

Table 2-32: Estimated Annual Property Losses in Assumption Parish from Lightning

Estimated Annual Potential Losses from Lightning for Assumption Parish	
Unincorporated Assumption Parish (97.2% of Population)	Napoleonville (2.8% of Population)
$42,202	$1,224

There have been no reported injuries or fatalities in Assumption 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 that 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 direction 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 2-33* 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 2-33: Comparison of the Enhanced Fujita (EF) Scale to the Fujita (F) Scale

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

Table 2-34: 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 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 Doppler 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 missiles 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 Assumption Parish with actual locations, tornadoes in general are a climatological based hazard and have the same approximate probability of occurring in Assumption Parish as all of its jurisdictions. Because a tornado has a similar probability of striking anywhere within the planning area for Assumption Parish, all jurisdictions are equally at risk for tornadoes.

Previous Occurrences / Extent

SHELDUS reports a total of four tornadoes or waterspouts occurring within the boundaries of Assumption Parish between the years of 1989-2014. The tornadoes experienced in Assumption Parish have ranged from EF0 to EF1 on the EF scale and ranged from F0 to F1 on the F scale. The worst case scenario that Assumption Parish can expect in the future is an EF1 tornado.

The tornado that caused the most damage to property occurred on October 9, 2002. The F1 tornado was responsible for over $1 million in damages. The tornado touched down near Louisiana Highway 1, damaging 39 homes. The tornado responsible for the most injuries occurred on February 15. 1987. The F2 tornado destroyed a mobile home, throwing the 4 residents from the structure. Two of the residents were tossed

more than 150 feet from where the trailer once stood. There have been no fatalities in Assumption Parish as a result of tornadoes.

Table 2-35: Historical Tornadoes in Assumption Parish with Locations from 1989-2014

Date	Impacts	Property Damage	Location	Magnitude
October 9, 2002	0.5 mile path with a width of 50 yards. Damaged 39 homes. 12 of those homes were severely damaged and 6 were destroyed.	$1,942,387	NAPOLEONVILLE	F1
April 7, 2003	0.5 mile path with a width of 35 yards. A weak tornado touched down near Belle Rose, knocking over trees and power poles.	$31,652	BELLE ROSE	F1
April 27, 2015	0.64 mile path with a width of 150 yards. High winds snapped large branches along a driveway.	$0	PIERRE PART	EF1
April 27, 2015	0.64 mile path with a width of 75 yards. Damaged softwood pine trees.	$0	PIERRE PART	EF0

Since 2011, the year in which the last update to this hazard mitigation plan was written, Assumption Parish has had two tornadoes touch down, and there have been no reports of tornadoes occurring within the boundaries of the incorporated area of Napoleonville. The following is a brief synopsis of these events:

April 27, 2015 – EF1 Tornado in Pierre Part

A strong line of thunderstorms produced an EF1 tornado that touched down near a gravel driveway near Derrick Street north of Pierre Part, snapping off large branches along the driveway.

April 27, 2015 – EF0 Tornado in Pierre Part

The same thunderstorms that produced an EF1 tornado earlier in the day, produced an EF0 tornado that touched down in an area of softwood pine trees west of Bayouside Street. No visible damage to any structure was noted.

Frequency / Probability

Tornadoes are a sporadic occurrence within Assumption Parish, with an annual chance of occurrence calculated at 16% based on the records for the past 25 years (1989-2014). *Figure 2-18* displays the density of tornado touch downs in Assumption Parish and neighboring parishes.

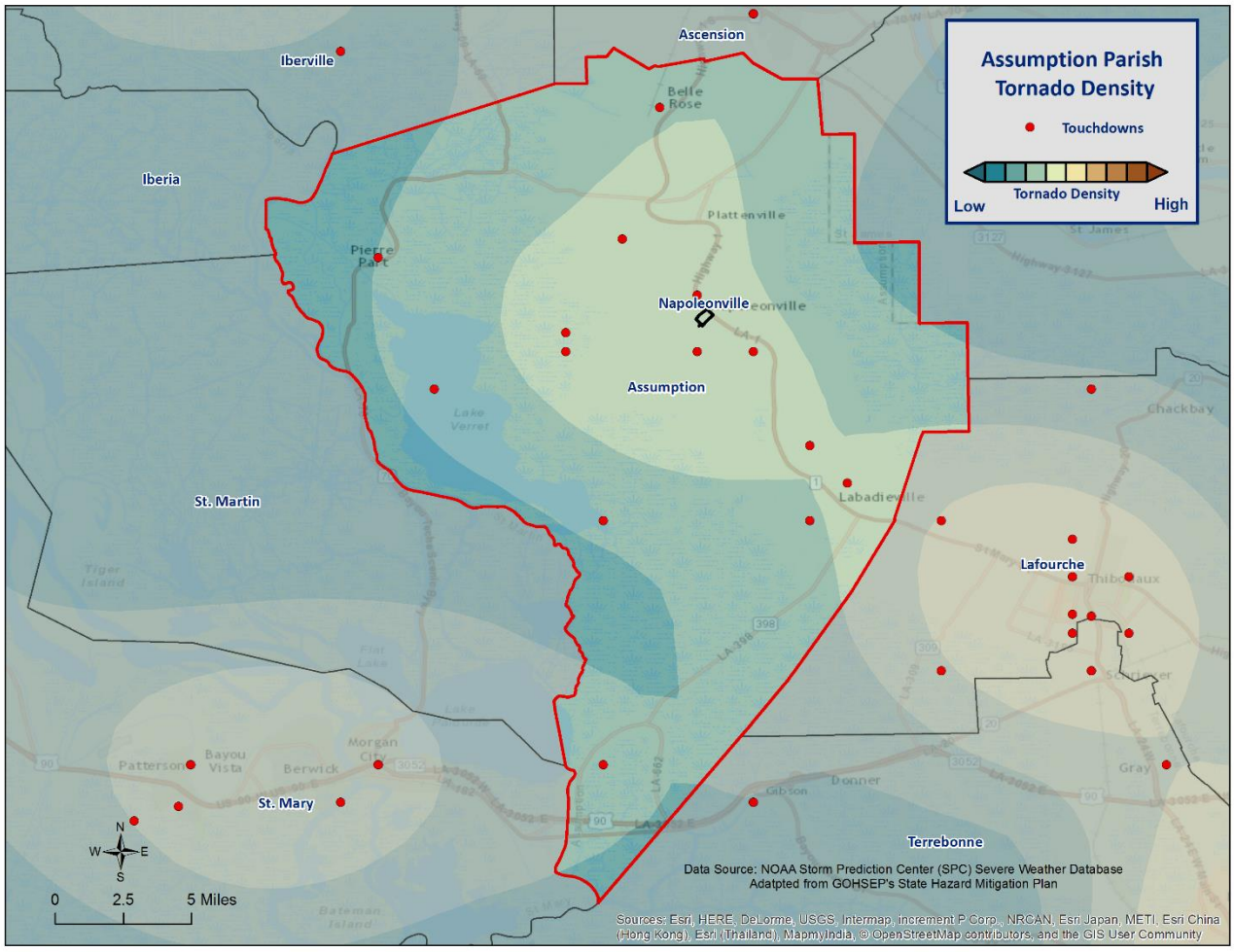


Figure 2-18: Location and Density of Tornadoes to Touch Down in Assumption Parish (Source: NOAA/SPC Severe Weather Database)

Estimated Potential Loses

According to the SHELDUS database, there have been four tornadoes that have caused some amount of property damage. The total damage from the actual claims for property is $1,974,039, with an average cost of $493,510 per tornado strike. When annualizing the total cost over the 25 year record, total annual losses based on tornadoes are estimated to be $78,962. To provide an 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, *Table 2-36* provides an annual estimate of potential losses for Assumption Parish.

Table 2-36: Estimated Annual Losses for Tornadoes in Assumption Parish

Estimated Annual Potential Losses from Tornadoes for Assumption Parish	
Unincorporated Assumption Parish (97.2% of Population)	**Napoleonville (2.8% of Population)**
$76,736	$2,225

Table 2-37 presents an analysis of building exposures that are susceptible to tornadoes by general occupancy type for Assumption Parish, along with the percentage of building stock that are mobile homes.

Table 2-37: Building Exposure by General Occupancy Type for Tornadoes in Assumption Parish (Source: FEMA's Hazus 2.2)

Building Exposure by General Occupancy Type for Tornadoes Exposure Types ($1,000)							
Residential	Commercial	Industrial	Agricultural	Religion	Government	Education	Mobile Homes (%)
1,733,683	158,505	49,899	8,114	31,231	8,605	25,112	29.7%

There have been no reported injuries or fatalities in Assumption Parish as a result of tornadoes during this 25 year period.

In assessing the overall risk to population, the most vulnerable population throughout the parish are those residing in manufactured housing. Approximately 29.7% of all housing in Assumption Parish consists of manufactured housing. Based on location data collected in a previous hazard mitigation project, there are 17 known locations where manufactured housing is concentrated. Those 17 locations have an overall number of manufactured houses ranging from 1 to 375. The location and density of manufactured houses can be seen in *Figure 2-19*.

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 Assumption Parish (*Table 2-38)*. 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 2-38: Manufactured Home Distribution throughout Assumption Parish

Location	Number of Manufactured Home Parks	% of Manufactured Home Parks
Unincorporated Area	15	88.2%
Napoleonville	2	11.8%

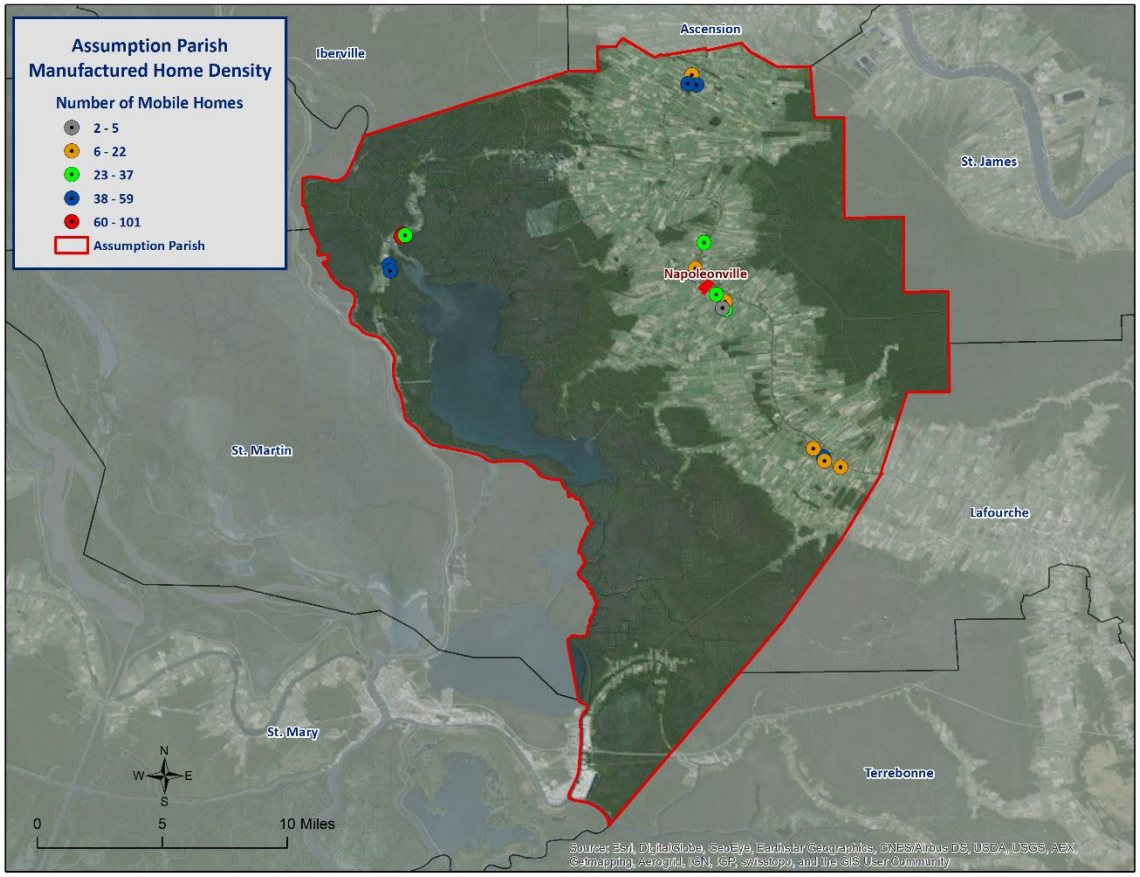


Figure 2-19: Location and Approximate Number of Units in Manufactured Housing Locations throughout Assumption Parish

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, and move 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 storm (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). *Table 2-39* presents the Saffir-Simpson Hurricane Wind Scale, which categorizes tropical cyclones based on sustained winds.

Table 2-39: 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 Storm	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 likely will 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 will 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. For example, a fast-moving storm (20 mph) might be expected to produce five inches of rain while a slow-moving (5 mph) storm could produce totals of around twenty inches of rain. 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 damage amounts from storm surge so much that it 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 storm. 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. 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 pressures 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 home and buildings in need of maintenance are most subject to wind damage. High winds contribute to the formation of larger sized waves. Extended pounding by waves can demolish any poorly or improperly designed structure. Large waves also erode sand beaches, roads, and foundations, which can lead to building collapse.

Nine out of ten deaths during hurricanes are caused by storm surge flooding. Falling tree limbs and flying debris caused by high winds also have the ability to cause injury or death. Downed trees and damaged buildings are a potential health hazard due to possible 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 may cause animals, such as snakes, to move into areas occupied by humans.

Location

Hurricanes are the single biggest threat to all of south 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 Assumption Parish. As such, all jurisdictions are equally at risk for tropical cyclones.

Previous Occurrences / Extent

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 5 tropical cyclone events occurring within the boundaries of Assumption Parish between the years 2002-2014 (*Table 2-40*). The tropical cyclone events experienced in Assumption Parish include depressions, storms, and hurricanes. As a worst-case scenario, Assumption Parish can expect to experience hurricanes at the Category 3 level in the future.

Table 2-40: Historical Tropical Cyclone Events in Assumption Parish from 2002- 2014 (Source: SHELDUS)

Date	Name	Storm Type While Impacting Assumption Parish
October 3, 2002	Lili	Hurricane – Category 1
August 28, 2005	Katrina	Hurricane – Category 3
September 23, 2005	Rita	Hurricane – Category 3
September 1, 2008	Gustav	Hurricane – Category 2
September 11,2008	Ike	Hurricane – Category 2
August 28, 2012	Isaac	Tropical Storm

Hurricane Lili (2002)

Hurricane Lili made landfall on the Louisiana coast on October 3, 2002, with an estimated intensity of 80 knots. Although Lili weakened considerably before making landfall on the central Louisiana coast, it caused significant wind and flood damage in the area. Strong winds toppled trees onto houses and roadways, stripped shingles from roofs, and blew out windows. The wind and driving rain flattened sugar cane fields throughout southern Louisiana. A combination of storm surge and rain caused levees to fail in Montegut and Franklin, Louisiana. Lili also temporarily curtailed oil production in the Gulf of Mexico.

The primary impact in Assumption Parish was flooding, with evacuations required for residents in low-lying areas. Major power interruptions, downed trees, and damage to structures occurred throughout the parish, including the incorporated area of Napoleonville. No injuries were reported in Assumption Parish as a result of Hurricane Lili.

Hurricane Katrina (2005)

Hurricane Katrina was one of the strongest and most destructive hurricanes on record to impact the coast of the United States. The National Hurricane Center ranked Katrina as the costliest storm (both before and after adjusting for inflation) and the third deadliest in the U.S. since 1851. The hurricane initially made landfall in Plaquemines Parish on August 29, 2005, as a Category 3 storm and continued on a north northeast track, with a second landfall occurring near the Louisiana-Mississippi border. Hurricane Katrina caused

widespread devastation along the central Gulf Coast states. Following the passage of Katrina, the flooding of New Orleans was catastrophic, resulting in the displacement of more than 250,000 people.

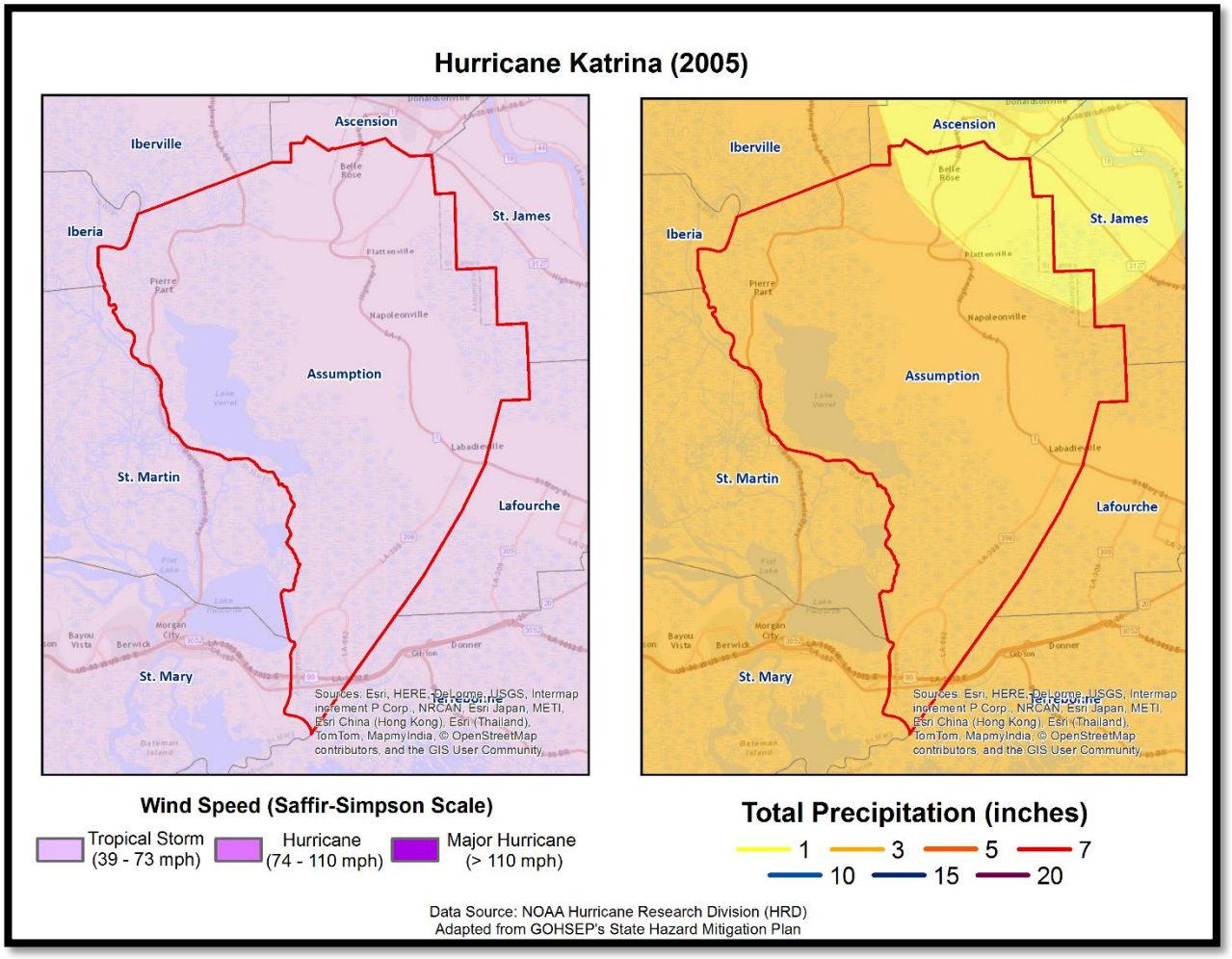


Figure 2-20: Wind Speed and Precipitation Totals in Assumption Parish for Hurricane Katrina

Assumption Parish sustained minimal damage during Hurricane Katrina. Most of the damage incurred was due to high winds, which damaged trees and power lines throughout the parish and the incorporated area of Napoleonville.

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 5 to 7 feet above normal overtopped or breached local drainage levees, inundating many small communities. Newspaper accounts indicated 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.

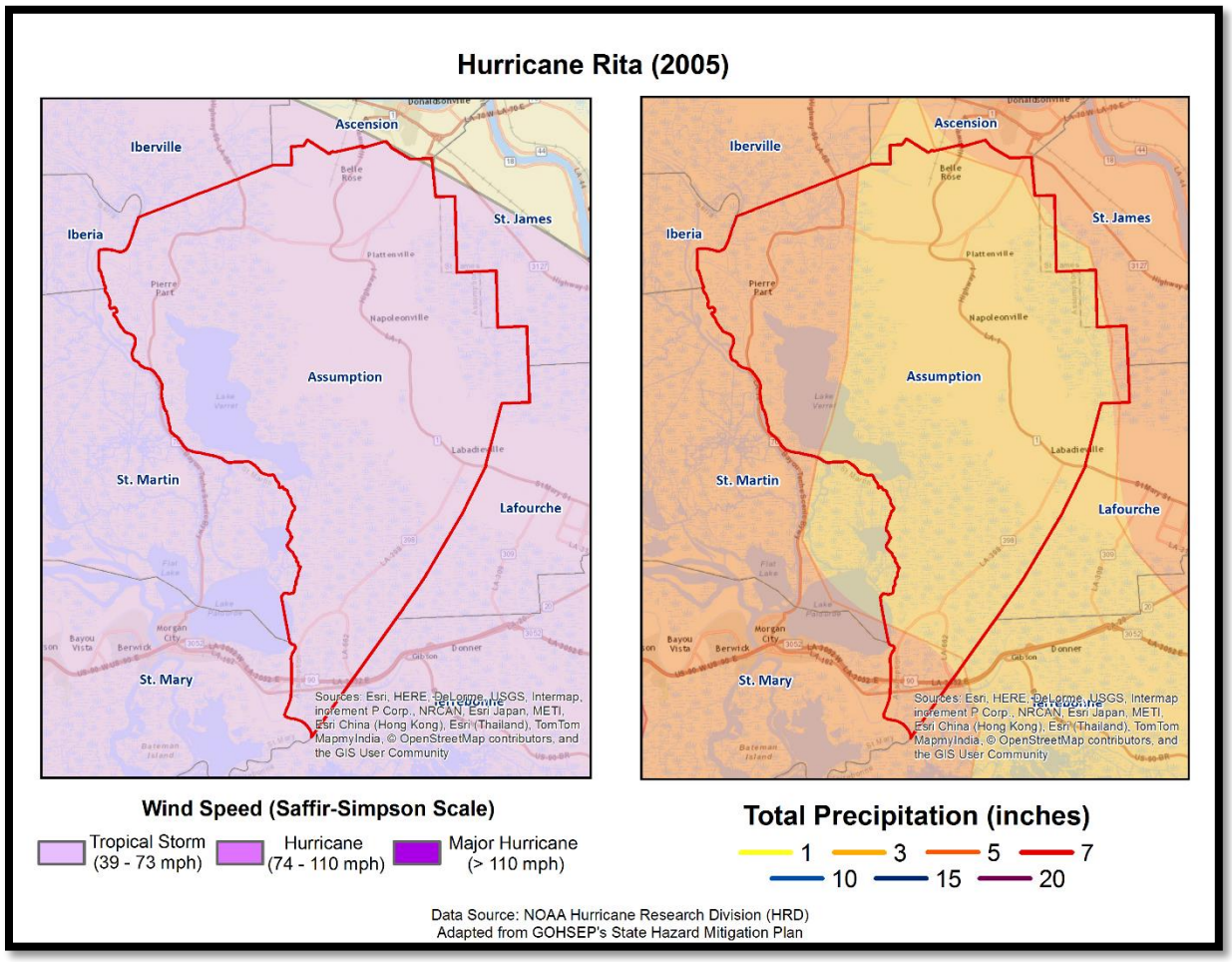


Figure 2-21: Wind Speed and Precipitation Totals in Assumption Parish for Hurricane Rita

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 that loss occurring in Cameron and Calcasieu Parishes. Assumption Parish experienced minimal damage due to Hurricane Rita. The parish and the incorporated area of Napoleonville sustained tree and power line damage due to high winds.

Hurricane Gustav (2008)

Hurricane Gustav emerged into 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 knots) 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 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 4 inches to just over 11 inches.

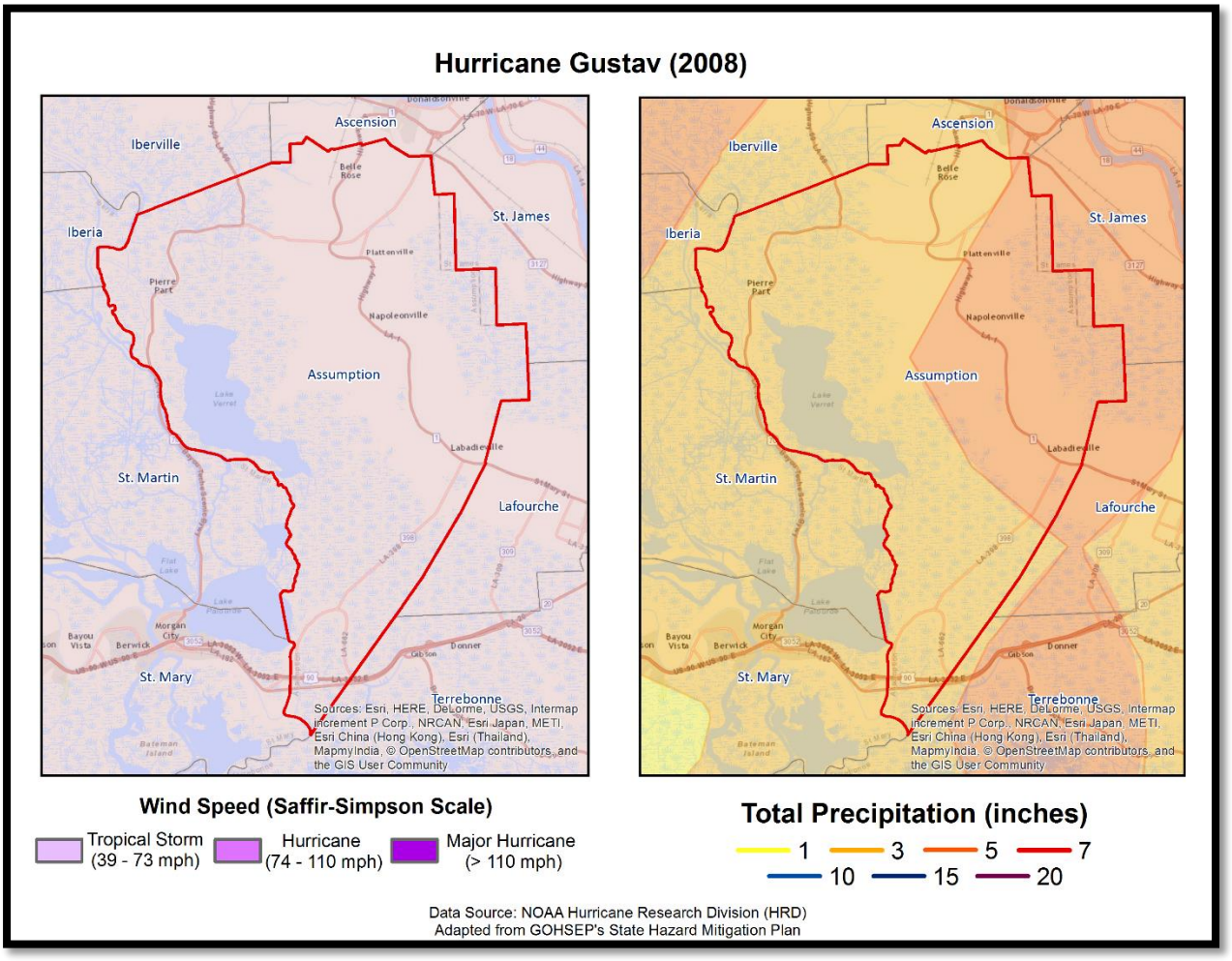


Figure 2-22: Wind Speed and Precipitation Totals in Assumption Parish for Hurricane Gustav

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 across the inland areas, through 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 southwest Mississippi and central Louisiana. 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. 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 Assumption Parish, Hurricane Gustav caused extensive damage to trees and electrical poles. Approximately 95% of the residents in the parish and the incorporated area of Napoleonville were without electricity for a week or longer. Fallen trees also caused a backup in Bayou Lafourche that overwhelmed the parish water processing plant and forced a “boil water order”.

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 13th 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 at Lake Charles Regional Airport, with sustained winds of 46 kts (53 mph) and gusts of 67 kts (77 mph). The lowest recorded pressure reading of 994.5mb occurred at Southland Field near Sulphur, LA. Several tornadoes were reported across southwest Louisiana. The most significant one was near Mamou, where 10-15 homes were damaged, including one home that lost its roof. Storm surge was a significant event. Water levels ranged from 14 ft. in western Cameron Parish, to 8 ft. in St. Mary Parish. This resulted in widespread flooding of the same areas that flooded in Hurricane Rita in 2005. Most of Cameron Parish was under water. Over 3000 homes were flooded. This extended north into Calcasieu Parish, where another 1000 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 6 to 8 inches across Cameron, Calcasieu, and Beauregard Parishes. No fatalities were reported in southwest Louisiana. Total property damages, however, were high. Losses are estimated to be almost $420 million dollars across southwest Louisiana. Agricultural losses were over 225 million dollars.

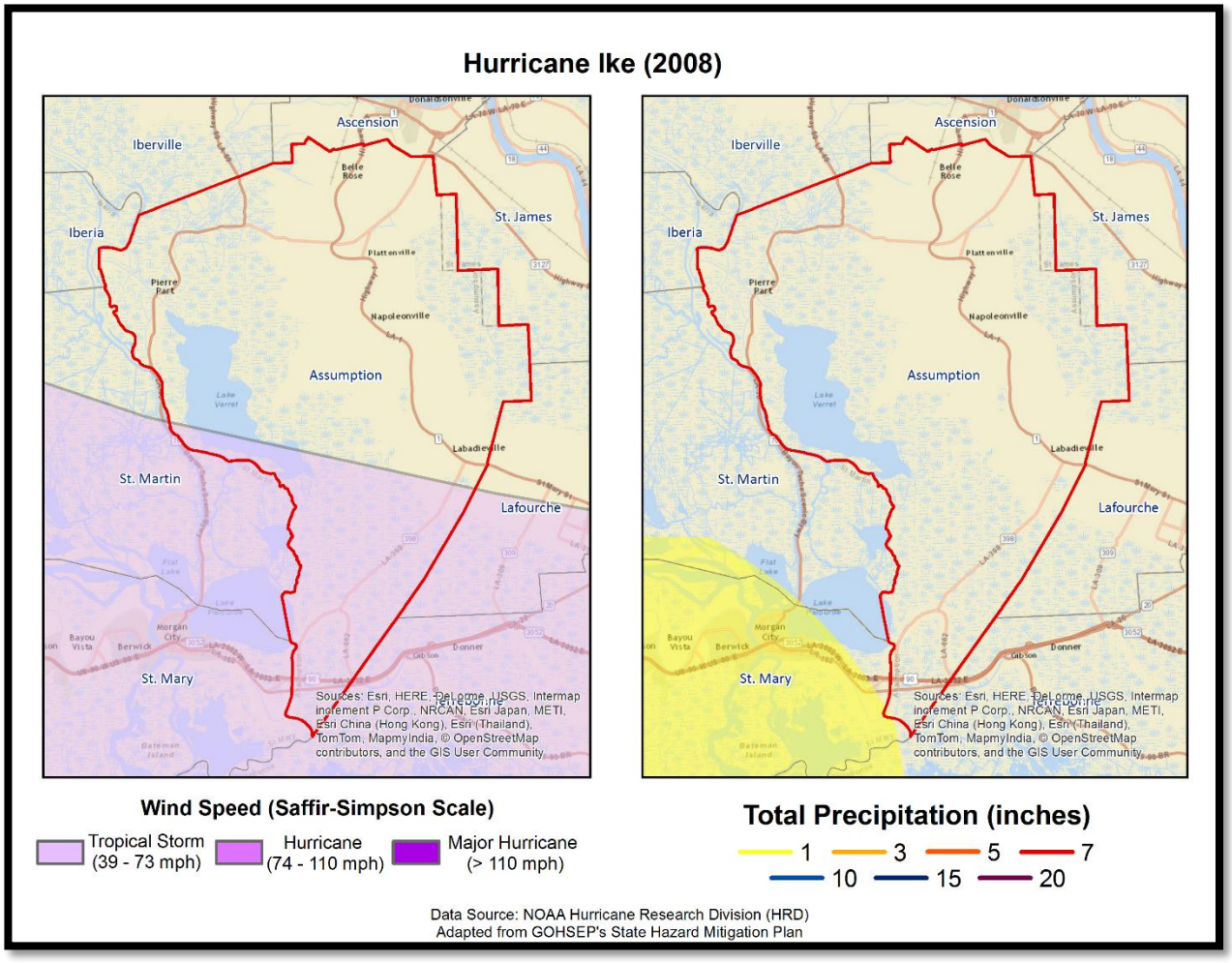


Figure 2-23: Wind Speed and Precipitation Totals in Assumption Parish for Hurricane Ike

Hurricane Ike's destruction in Assumption Parish is hard to quantify because the storm passed while clean-up from Hurricane Gustav was ongoing. Because Hurricane Ike's path carried it sufficiently far west, Assumption Parish and the incorporated area of Napoleonville were mostly spared of catastrophic damage.

Hurricane Isaac (2012)

Isaac entered the Gulf of Mexico as a tropical storm on August 26, 2012, moving northwest after crossing Haiti, Cuba, and the Florida Straits. Isaac strengthened into a hurricane on the morning of the 28th when it was 75 miles south-southeast of the mouth of the Mississippi River. Isaac made landfall in Plaquemines Parish as a Category 1 Hurricane near Southwest Pass of the Mississippi River on the evening of the 28th. A second landfall occurred near Port Fourchon the following morning. The storm weakened to a tropical storm on the afternoon of the 29th about 50 miles west southwest of New Orleans, and weakened further to a tropical depression on the afternoon of the 30th near Monroe, Louisiana.

The highest wind gust recorded on land in Louisiana was 86 mph (75 knots), measured on the evening of August 28 by a Texas Tech University portable weather station located near Buras. The maximum sustained winds in Louisiana were 75 mph (65 knots), recorded at the same portable weather station near Buras on the evening of August 28. There were several marine observations near the coast that had slightly higher wind readings, but their observation heights were generally 80 feet or higher.

Due to Isaac's very large size, and slow forward speed, tropical storm force winds lasted in excess of 48 hours in many areas of coastal southeast Louisiana. Occasional hurricane gusts of 70 to 85 mph were recorded across southeast Louisiana during the night of the Aug 28th and early on the 29th, especially south of Lake Pontchartrain. Interior areas of southeast Louisiana such as around Baton Rouge and northward experienced tropical storm force winds. Widespread power outages occurred across the area. Local utility companies reported over 700,000 customers were without power at the peak of the storm in southeast Louisiana. Generally, most of the wind damage was limited to downed trees and power lines, and roof damage caused by wind and falling trees and tree limbs.

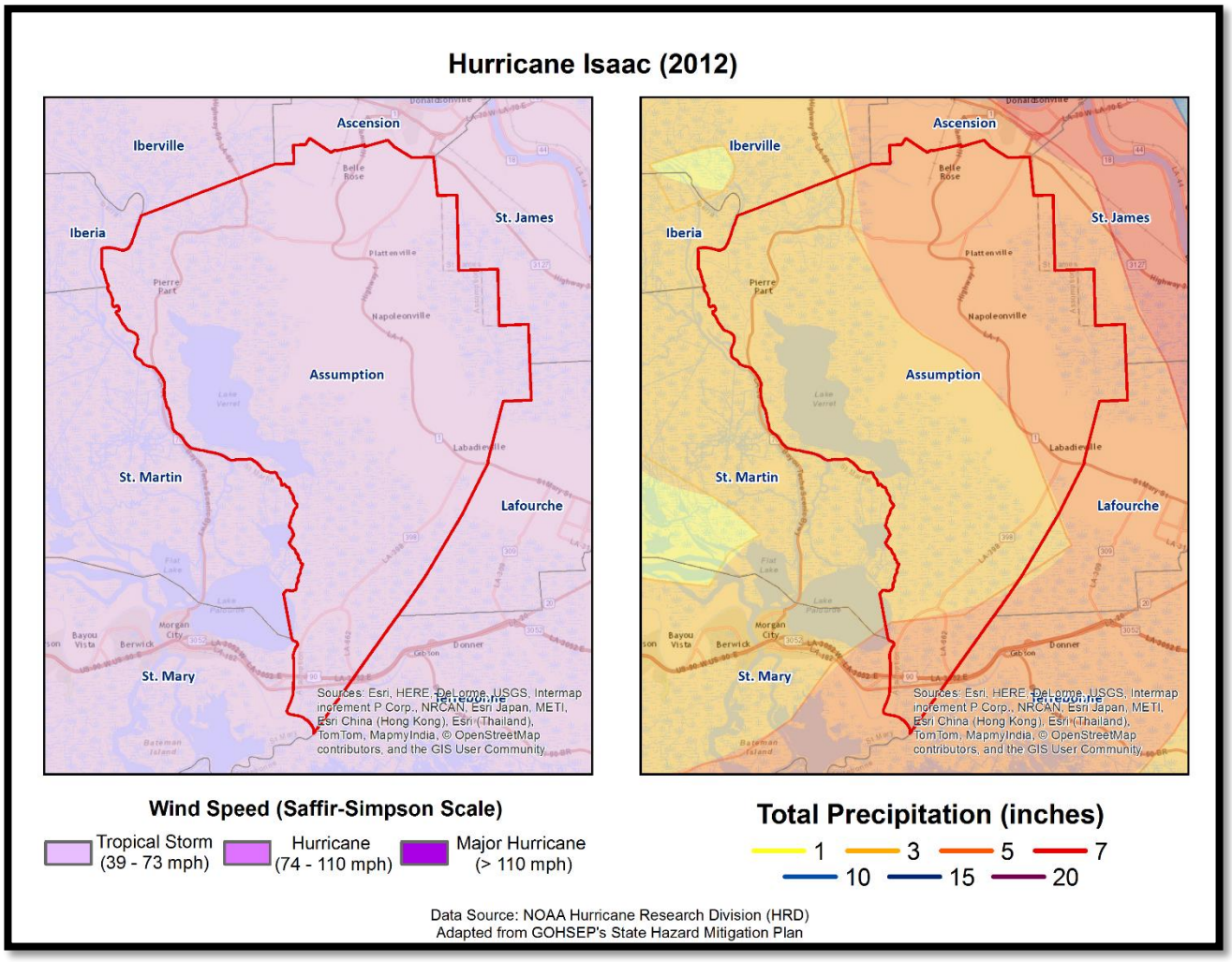


Figure 2-24: Wind Speed and Precipitation Totals in Assumption Parish for Hurricane Isaac

Significant impact also occurred around Lakes Pontchartrain and Maurepas with a storm tide of 5 to 9 feet. Five to ten thousand homes were flooded in low lying areas of that border these lakes of the following parishes: St. Tammany, Tangipahoa, Livingston, Ascension, St James and St John the Baptist. LaPlace in St. John the Baptist was especially hard hit with over 5,000 homes flooded by storm surge. An additional storm surge fatality occurred in St. Tammany Parish on the morning of the 30th when a 75 year old man drove his car into a storm surge filled ditch. Storm surge flooding also affected areas south and southwest of New Orleans with a storm tide of 4 to 7 feet. Roadways and low lying property were flooded. Local levees around Lafitte and Myrtle Grove were overtopped and/or breached, resulting in the flooding of numerous houses and property in this area.

Many areas of southeast Louisiana received 8 to 12 inches of rain, with a few locations having 15 inches of rain or more. Maximum storm total rainfall was 20.66 inches at the New Orleans Carrollton gauge on the Mississippi River. Rainfall run-off produced moderate to major flooding on the Tangipahoa, Tchefuncte, Tickfaw, Amite, Pearl, Bogue Chitto and Bogue Falaya Rivers. Storm surge and high tides restricted outflow of the rivers near the coast and lakes exacerbating flooding in those areas.

Storm surge flooding also affected areas south and southwest of New Orleans with a storm tide of 4 to 7 feet. Roadways and low lying property were flooded. Local levees around Lafitte and Myrtle Grove were overtopped and/or breached resulting flooding of numerous houses and property in this area.

Overall impacts of Isaac resulted in at least $600 million in damages in southeast Louisiana, 3 direct fatalities, and 2 indirect fatalities. Storm surge flooding accounted for the bulk of damage, estimated around $500 million, and the three direct storm surge fatalities in Louisiana. Winds accounted for a much lesser amount of slightly more than a $100 million.

In Assumption Parish, Hurricane Isaac prompted a mandatory evacuation. Over 500 houses were damaged by the storm. Approximately 6.47 inches of rain fell in the incorporated area of Napoleonville.

Figure 2-25 displays the wind zones that affect Assumption Parish in relation to critical facilities throughout the parish.

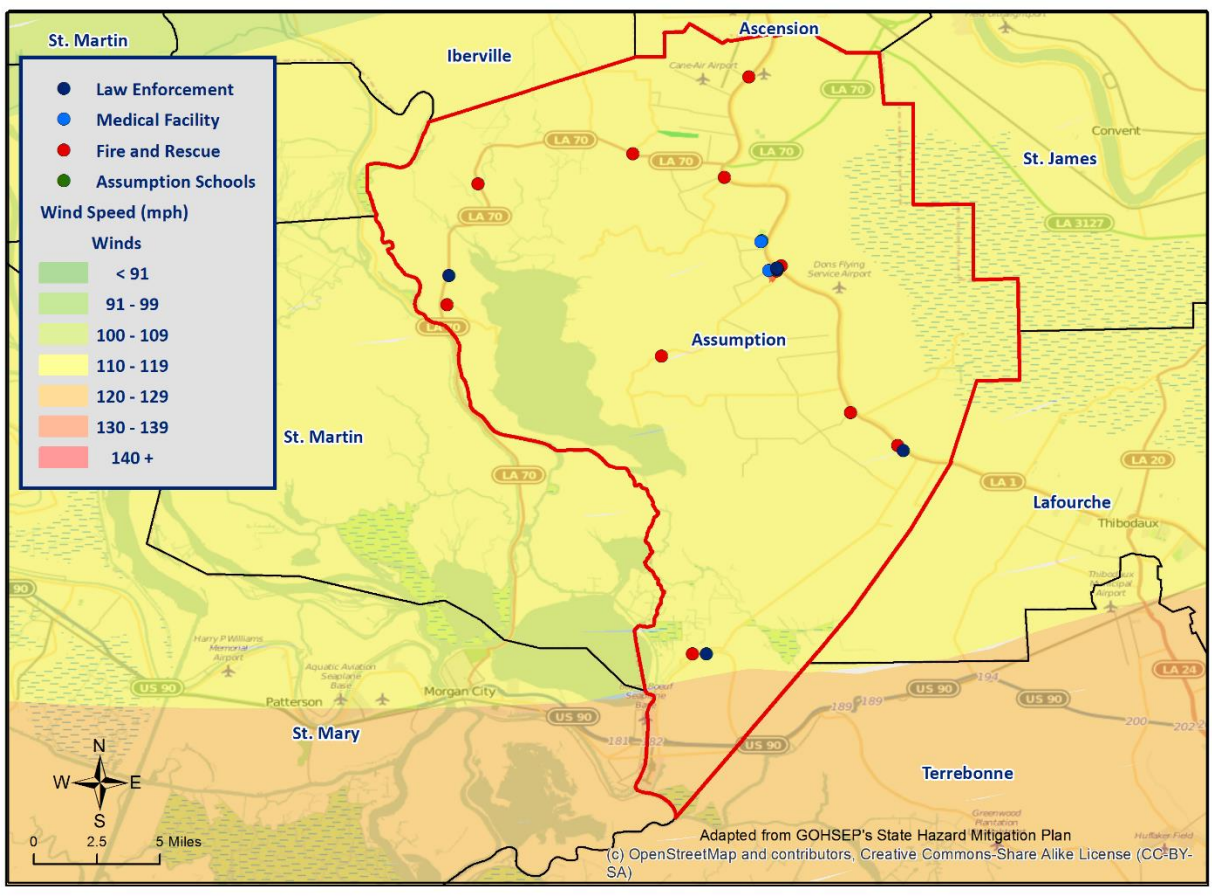


Figure 2-25: Winds Zones for Assumption Parish in Relation to Critical Facilities

Frequency / Probability

Tropical cyclones are large natural hazard events that regularly impact Assumption Parish. The annual chance of occurrence for a tropical cyclone is estimated at 40% for Assumption Parish and its municipalities, with 10 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. Based on geographical location alone, Assumption Parish is highly vulnerable to tropical cyclones. This area has experienced several tropical cyclone events in the past and can expect more in the future.

Estimated Potential Losses

Using the Hazus 2.2 Hurricane Model, the 100-year hurricane scenario was analyzed to determine losses from this worst-case scenario. *Table 2-41* shows the total economic losses that would result from this occurrence.

Table 2-41: Total Estimated Losses for a 100-Year Hurricane Event (Source: Hazus 2.2)

Jurisdiction	Estimated Total Losses from 100-Year Hurricane Event
Assumption Parish (Unincorporated)	$127,961,739
Napoleonville	$3,710,503
Total	$131,672,241

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

Table 2-42: Ratio of Total Losses to Total Estimated Value of Assets for each Jurisdiction in Assumption Parish

Jurisdiction	Estimated Total Losses from 100-Year Hurricane Event	Total Estimated Value of Assets	Ratio of Estimated Losses to Total Value
Unincorporated	$127,961,739	$1,950,638,000	6.6%
Napoleonville	$3,710,503	$64.511,000	5.8%

Based on the Hazus 2.2 Hurricane Model, estimated total losses are approximately 6.6% of the total estimated value of all assets for the unincorporated area of Assumption Parish. The incorporated area of Napoleonville has a slightly lower ratio of 5.8%.

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 below.

Table 2-43: Estimated Losses in Assumption Parish for a 100-Year Hurricane Event (Source: Hazus 2.2)

Assumption Parish (Unincorporated)	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	$681,364
Commercial	$6,652,051
Government	$516,705
Industrial	$2,107,226
Religious / Non-Profit	$968,065
Residential	$115,977,574
Schools	$1,058,754
Total	$127,961,739

Table 2-44: Estimated Losses in Napoleonville for a 100-Year Hurricane Event (Source: Hazus 2.2)

Napoleonville	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	$19,757
Commercial	$192,889
Government	$14,983
Industrial	$61,103
Religious / Non-Profit	$28,071
Residential	$3,362,998
Schools	$30,701
Total	$3,710,503

Threat to People

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

Table 2-45: Number of People Susceptible to a 100-Year Hurricane Event in Assumption Parish (Source: Hazus 2.2)

Number of People Exposed to Hurricane Hazards			
Location	**# in Community**	**# in Hazard Area**	**% in Hazard Area**
Parish (Unincorporated)	**22,761**	**22,761**	**100%**
Napoleonville	**660**	**660**	**100%**

The HAZUS-MH Hurricane Model was also extrapolated to provide an overview of vulnerable populations throughout the jurisdictions in the tables below:

Table 2-46: Vulnerable Populations in Unincorporated Assumption Parish for a 100-Year Hurricane (Source: Hazus 2.2)

Assumption Parish (Unincorporated)		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	22,761	100%
Persons Under 5 Years	1,275	5.6%
Persons Under 18 Years	5,212	22.9%
Persons 65 Years and Over	3,391	14.9%
White	15,546	68.3%
Minority	7,215	31.7%

Table 2-47: Vulnerable Populations in Napoleonville for a 100-Year Hurricane (Source: Hazus 2.2)

Napoleonville		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	660	100%
Persons Under 5 Years	48	7.3%
Persons Under 18 Years	166	25.2%
Persons 65 Years and Over	90	13.6%
White	119	18.0%
Minority	541	82.0%

Vulnerability

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

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 falls, 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 in the state, this type of damage can occur in Louisiana, particularly in north Louisiana. Effects of winter weather more likely to occur in Louisiana, especially south Louisiana, include extreme temperatures which can cause waterlines to freeze and sewer lines to rupture. This is especially true with 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 within 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 Assumption Parish, experience the fewest severe winter events.

Location

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

Previous Occurrences / Extents

According to SHELDUS, there have been three reported winter storm events that have occurred within the boundaries of Assumption Parish between the years of 1989-2014. *Table 2-48* provides a brief synopsis of each event.

Table 2-48: Previous Occurrences for Winter Storm Events

Date	Synopsis	Property Damage	Crop Damage
December 24, 1989	A snowstorm that originated in southern Texas made its way into south Louisiana, causing snow to accumulate overnight.	$7,813	$0
March 12, 1993	The "Storm of the Century" made landfall along the Gulf coast. Snow accumulations were recorded throughout much of the southern portion of the state, and records indicate snowfall spanning from Lafayette to Slidell.	$0	$139,063
February 2, 1996	An arctic air mass overspread much of SE Louisiana, bringing the longest extended period of cold weather since 1989. Many schools were closed and considerable property damage resulted from broken pipes due to the extended period of subfreezing temperatures.	$0	$909,091

Frequency / Probability

With three recorded events in 25 years, winter storm events within the boundaries of Assumption Parish have an annual chance of occurrence calculated at 12%, based on the SHELDUS dataset.

Estimated Potential Losses

Since 1989, there have been three 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 $14,677. 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 (1989 – 2014). This provides an annual estimated potential loss of $587. To assess potential losses to the participating jurisdictions, the 2010 Census population was used to assign the estimated potential losses proportionally across the jurisdictions. Based on the 2010 Census data, the following table provides an estimate of potential property losses for Assumption Parish.

Table 2-49: Estimated Annual Losses for Winter Weather Events in Assumption Parish

Estimated Annual Potential Losses from Winter Weather for Assumption Parish	
Unincorporated Assumption Parish (97.2% of Population)	Napoleonville (2.8% of Population)
$571	$17

There have been no injuries or fatalities as a result of winter weather in Assumption Parish from the years 1989 – 2014).

Vulnerability

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

3. Capability Assessment

This section summarizes the results of the Assumption 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, Assumption 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

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

Table 3-1: Assumption Parish Planning and Regulatory Capabilities

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

Building Codes, Permitting, Land Use Planning and Ordinances

The Assumption Parish Permit Office provides oversight for building permits and codes, land use planning, and all parish ordinances.

As of the 2015 update, Assumption 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 Assumption Parish Permit Office is also responsible for enforcing the Parish Ordinances relating to health and safety, property maintenance standards, condemnation of unsafe structures, and zoning compliance.

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

While local capabilities for mitigation can vary from community to community, Assumption Parish as a whole has a system in place to coordinate and share these capabilities through Assumption 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, Assumption 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 Assumption Parish and its jurisdictions.

Table 3-2: Assumption 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.			
	Assumption Parish	Napoleonville	Comments
Administration	**Yes / No**		
Planning Commission	No	No	n/a
Mitigation Planning Committee	Yes	No	n/a
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	Yes	n/a
Mutual Aid Agreements		No	n/a
Staff	**Yes / No; FT/PT; %**		
Chief Building Official	Yes	No	Contract with South Central Planning to enforce Building Codes
Floodplain Administrator	Yes	Yes	n/a
Emergency Manager	Yes	No	n/a
Community Planner	Yes	No	n/a
Civil Engineer	Yes	No	Contract with C. J. Savoie Consulting Engineers
GIS Coordinator	Yes	No	n/a
Grant Writer	Yes	No	n/a
Other	No	No	n/a
Technical	**Yes / No**		
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	No	n/a
Hazard Data & Information	No	No	n/a
Grant Writing	Yes	No	n/a
Hazus Analysis	No	No	n/a
Other	No	No	n/a

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

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

Table 3-3: Assumption Parish Financial Capabilities

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

Education and Outreach

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

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

Table 3-4: Assumption Parish Education and Outreach Capabilities

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

In some cases, the jurisdictions rely on Assumption Parish OHSEP and/or Assumption 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, Assumption Parish and its jurisdiction remains committed to expanding and improving on the existing capabilities within the parish. Both 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 Assumption 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 Assumption Parish
- Village of Napoleonville

Flood Insurance and Community Rating System

Assumption Parish is not a participant in the Community Rating System (CRS). 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 2015 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 2011[1], the National Flood Insurance Program (NFIP) completed a comprehensive review of the Community Rating System that will result in the release of a new CRS Coordinator's Manual.

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

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

The 2013 CRS Coordinator's Manual changes will impact each CRS community differently. Some communities will see an increase in the points they receive since points for certain activities have increased (e.g., Activity 420 Open Space Preservation). Other communities will receive fewer points for certain activities (e.g., Activity

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

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.

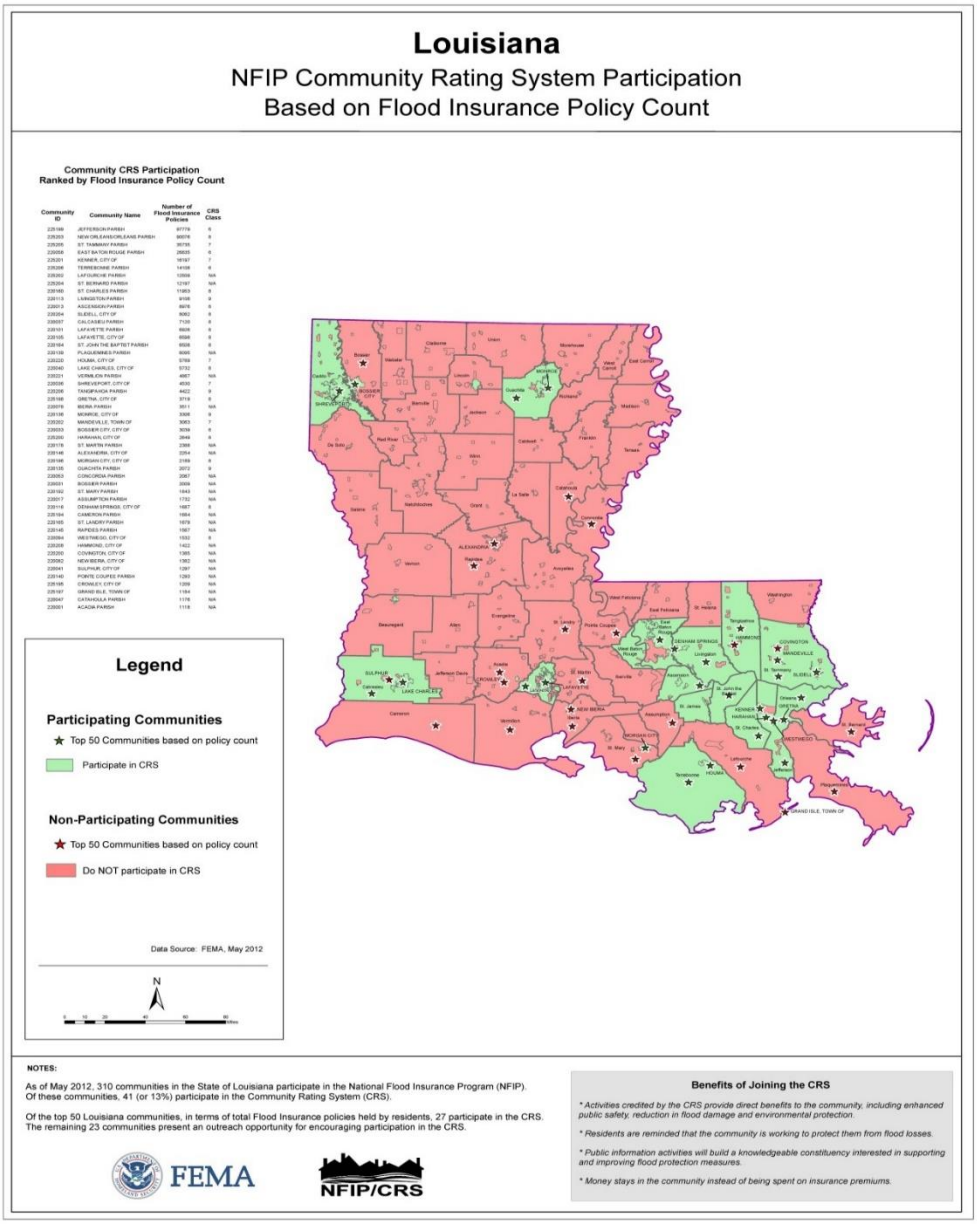


Figure 3-2: Louisiana CRS NFIP Participation
(Source: FEMA[2])

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

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

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

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

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

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

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

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

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

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

NFIP Worksheets

Parish and participating jurisdiction NFIP worksheets can be found in Appendix E: State Required Worksheets

4. Mitigation Strategy

Introduction

Assumption 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.

Assumption 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 2015 update are a product of analysis and review of the Assumption Parish Hazard Mitigation Plan Steering Committee, under the coordination of the Assumption 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 May 2015 – September 2015.

An online public opinion survey was conducted of Assumption Parish residents between July and October 2015. The survey was designed to capture public perceptions and opinions regarding natural hazards in Assumption Parish. In addition, the survey collected information regarding the methods and techniques preferred by the respondents for reducing the risks and losses associated with local hazards.

This activity confirms that the goals and action items developed by the Assumption Parish Hazard Mitigation Plan Steering Committee are representative of the outlook of the community at large. The full Assumption Parish survey can be found at the following link:

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

During the public meeting in September, the committee provided a status of the projects from 2011 and the proposed actions for the 2015 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 Assumption 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, Assumption 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 Assumption 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 nine goals remain valid.

The goals are as follows:

- Reduce the impact of future flooding
- Provide shelter and protection for the citizens of Assumption Parish during a hazard event
- Provide safe travel routes during a hazard event
- Increase public support and understanding of hazard mitigation
- Protect existing infrastructure
- Improve the quality and timeliness of public notification
- Prepare and plan before a disaster strikes
- Improve existing communication system
- Improve floodplain management activities

The Mitigation Action Plan focuses on actions to be taken by Assumption 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.

2015 Mitigation Actions and Update on Previous Plan Actions

The Assumption Parish Hazard Mitigation Plan Steering Committee and participating jurisdictions each identified actions that would reduce and/or prevent future damage within Assumption 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.

Assumption 2011 Hazard Mitigation Action Update

Assumption Parish - Action Update					
Jurisdiction-Specific Action	**Description**	**Funding Source**	**Hazard**	**Responsible Party, Agency, or Department**	**Status**
Hardening Project	Harden Assumption Parish School Buildings	Federal	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	Assumption Parish OHSEP	Completed
Landry Subdivision Pump Station	Expand the pumping capacity of the St Landry Pump Station; upgrade existing St Landry Pump Station pumps to natural gas powered pumps.	FEMA	Flooding, Tropical Cyclones	Landry DD; Parish Manager	In Progress
Knotts Subdivision Pump Station	Upgrade the Knotts Subdivision Pump Station. Homes and schools in this area are subjected to recurring flooding. This upgrade will reduce the impact of water intrusion; Install a backflow preventer on the culvert near the school area to stop water backflow into the school area	FEMA	Flooding, Tropical Cyclones	Knotts DD; Parish Manager	In Progress
Labadieville Drainage District	Clean the canals south of Labadieville. Normal rainfall will cause some home flooding, as the drainage is poor. The canals need opening to create proper drainage	FEMA	Flooding, Tropical Cyclones	Labadv DD & Parish Mgr	In Progress

Water Plant Generator System	Upgrade the emergency generator system at the Parish Water Plant to allow the plant to maintain water for the parish when electrical power is out.	FEMA	Flooding, Thunderstorms - High Wind, Tornadoes, Tropical Cyclones, Winter Weather	Water Mgr & Parish Mgr	Completed
Upgrade the Phone Alert System	Provide phone alert system. This is a computer system that will automatically call a geographic section of the parish and deliver a recorded message. This system will be used to warn of extremely severe weather.	Parish FEMA	Flooding, Sinkholes, Thunderstorms - High Wind, Hail and Lightning, Tornadoes, Tropical Cyclones, Winter Weather	Assumption Parish OHSEP	Completed
Safe Room Survey	Survey existing buildings to identify potential shelters	Parish FEMA	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	Assumption Parish OHSEP	In Progress
Communications System	Create a single radio system that will back up landline and cellular telephone for all parish agencies and those disaster essential organizations such as the Drainage District members, Hospitals, Nursing Homes, School system and shelters.	Ongoing as funds become available	Flooding, Sinkholes, Thunderstorms - High Wind, Hail and Lightning, Tornadoes, Tropical Cyclones, Winter Weather	Assumption Parish OHSEP	Ongoing

Unincorporated Assumption New Mitigation Actions

Assumption Parish - Unincorporated							
Jurisdiction-Specific Action	**Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
A1: Water Source Improvements	Provide another fresh water source for the parish	TBD	As funding is available	Assumption Parish OHSEP, TBD	Flooding, Tropical Cyclones	1	New
A2: Drainage Improvement Projects	Implement recommended drainage improvement/flood mitigation projects to 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. Projects include but are not limited to: HWY 662/HWY 663 drainage upgrades, Hwy. North Dam Pump Station upgrade, Hwy 663 South Dam upgrade, staging area construction and implementation for pump maintenance, Brusly/St. Vincent drainage project including the Whimel Canal, improvements to Hwy 1. to prevent culvert erosion, Landry subdivision canal dredging, elevation of HWY 663 to prevent overflow (South Dam Pump Stations would remove trapped water)	TBD	As funding is available	Assumption Parish OHSEP; B L'Ourse DD & Parish Mgr	Flooding, Tropical Cyclones	1, 3, 5, 7, 9	New
A3: Multi-Use Shelter Construction	Construction of multi-purpose emergency shelters for essential personnel and governmental employees.	FEMA	As funding is available	Assumption Parish OHSEP; Rd & Bridge & Parish Mgr	Sinkholes, Thunderstorms - High Wind, Tornadoes, Tropical Cyclones	2, 7	New

A4: Infrastructure Improvements for Evacuation	Add turning lanes on HWY 70 from LA HWY 1 to the Bell River Bridge.	LA DOT	As funding is available	Assumption Parish OHSEP; LA DOTD & Parish Mgr	Tropical Cyclones	1, 3, 4, 5, 7, 9	New
A5: Bayou L'Ourse Drainage Basin	Conduct an engineering study of the drainage of Bayou L'Ourse to determine the effectiveness of the Bayou L'Ourse Dam.	USACE, FEMA	As funding is available	B L'Ourse DD & Parish Mgr	Flooding, Tropical Cyclones	1, 3, 5, 7, 9	New
A6: Grand Bayou/ Gulf Watershed	Work with adjoining parishes to resolve the water restriction issues of the pass-by water that flows through Assumption Parish.	USACE, FEMA	As funding is available	Assumption Parish; USA COE & Parish Mgr	Flooding, Tropical Cyclones	1, 3, 5, 7, 9	New
A7: Begin the CRS Rating System	Begin the CRS rating process.	Parish	As funding is available	Assumption Parish OHSEP	Flooding, Tropical Cyclones	1, 3, 5, 7, 9	New
A8: Mitigation Outreach and Education	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for flooding, sinkholes, thunderstorms (lightning, high wind, hail), tropical cyclones, and winter weather 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.	Parish, Village	As funding is available	Assumption Parish OHSEP	Flooding, Sinkholes, Thunderstorms - High Wind, Hail, and Lightning, Tornadoes, Tropical Cyclones, Winter Weather	4, 7	New
A9: Evaluate the Building Standard for New Construction	Evaluate and adopt the building codes for new construction	Parish	As funding is available	Assumption Parish OHSEP	Flooding, Sinkholes, Tornadoes, Tropical Cyclones	1, 5, 7, 9	New
A10: Communications System	Create a single radio system that will back up landline and cellular telephone for all parish agencies and those disaster essential organizations such as the Drainage District members, Hospitals,	Parish	Ongoing as funds become available	Assumption Parish OHSEP	Flooding, Sinkholes, Thunderstorms - High Wind, Tornadoes, Tropical Cyclones, Winter Weather	1, 4, 6, 8	New

	Nursing Homes, School system and shelters.						
A11: Safe Room Projects	Construction of a safe room for first responders located in Assumption Parish. Other locations will be identified based on funding availability.	Parish	As funding is available	Assumption Parish OHSEP	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	2, 7	New
A12: Building Retrofit Projects	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.	Parish	As funding is available	Assumption Parish OHSEP	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	2, 5, 7	New
A13: Flood Mitigation of Repetitive Loss Properties and Other Flood Prone Structures	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss or flood prone properties. Benefits: Relieves property owners of the continual flooding problems. Saves flood relief and damage repayment for each property.	Parish	As funding is available	Assumption Parish OHSEP	Flooding, Tropical Cyclones	1, 4, 5, 7, 9	New
A14: Generators for Continuity of Operations and Government	Procurement and Installation of generators at public facilities to ensure continued operations during and after events.	Parish	As funding is available	Assumption Parish OHSEP	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones, Winter Weather	5, 7	New
A15: Lightning Mitigation	Procurement and Installation of lightning rods and surge protectors for public buildings to preserve life and property.	Parish	As funding is available	Assumption Parish OHSEP	Thunderstorms - Lightning	5, 7	New

Village of Napoleonville - New Mitigation Actions

Village of Napoleonville - New Actions							
Jurisdiction-Specific Action	**Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
N1: Safe Room Projects	Build a storm shelter/safe-room/multi-use building in Napoleonville. This building would be available for those needing shelter from storm and tornado threats. Also, this facility would be a refuge of last resort for refugees from Lafourche and Terrebonne Parishes.	Parish	As funding is available	Village of Napoleonville, Assumption Parish OHSEP, Assumption Parish Manager	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	2, 7	New
N2: Mitigation Outreach and Education	Enhance the public outreach programs for the parish and all communities by increasing awareness of risks and safety for flooding, sinkholes, thunderstorms (lightning, high wind, hail), tropical cyclones, and winter weather 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.	Parish, Village	As funding is available	Village of Napoleonville, Parish OHSEP	Flooding, Sinkholes, Thunderstorms - High Wind, Hail, and Lightning, Tornadoes, Tropical Cyclones, Winter Weather	4, 7	New
N3: Evaluate the Building Standard for New Construction	Evaluate and adopt the building codes for new construction	Parish	As funding is available	Village of Napoleonville, Parish OHSEP	Flooding, Sinkholes, Tornadoes, Tropical Cyclones	1, 5, 7, 9	New
N4: Drainage Improvement Projects	Implement recommended drainage improvement/flood mitigation projects to relieve flooding problems, reduce flood damage and costs of damage,	Parish	As funding is available	Village of Napoleonville, Parish OHSEP	Flooding, Tropical Cyclones	1, 3, 5, 7, 9	New

	overtopping of roads with drain water, while also keeping open roadways during periods of high precipitation.						
N5: Building Retrofit Projects	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.	Parish	As funding is available	Village of Napoleonville, Parish OHSEP	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	2, 5, 7	New
N6: Flood Mitigation of Repetitive Loss Properties and Other Flood Prone Structures	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss or flood prone properties. Benefits: Relieves property owners of the continual flooding problems. Saves flood relief and damage repayment for each property.	Parish	As funding is available	Village of Napoleonville, Parish OHSEP	Flooding, Tropical Cyclones	1, 4, 5, 7, 9	New
N7: Generators for Continuity of Operations and Government	Procurement and Installation of generators at public facilities to ensure continued operations during and after events.	Parish	As funding is available	Village of Napoleonville, Parish OHSEP	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones, Winter Weather	5, 7	New
N8: Lightning Mitigation	Procurement and Installation of lightning rods and surge protectors for public buildings to preserve life and property.	Parish	As funding is available	Village of Napoleonville, Parish OHSEP	Thunderstorms - Lightning	5, 7	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 Assumption 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.

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

Appendix A: Planning Process

Purpose

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

The Assumption Parish Hazard Mitigation Plan Update

The Assumption Parish Hazard Mitigation Plan Update process began in June 2015 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.

Assumption Parish includes one incorporated municipality that participated in the plan update process – the Village of Napoleonville. Assumption 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
5/26/2015	Initial Coordination	Telephone/ Email	No	Discuss with Parish HM coordinator and any Steering Committee members expectations and requirements of the project.
6/10/2015	Kick-Off Meeting	Assumption Parish, Bayou Corne, LA	No	Discuss with the plan steering committee expectations and requirements of the project. Assign plan worksheets to jurisdictions.
9/1/2015	Risk Assessment Overview	Police Jury, Napoleonville, LA	No	Discuss and review the risk assessment with the steering committee discuss and review expectations for public meeting.
9/1/2015	Public Meeting	Police Jury, Napoleonville, 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 Assumption 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 Assumption 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/results/SM-MD9L5GYC/
2 Week Period	Public Plan Review (Digital)		Yes	Parish Website and Assumption Parish OHSEP

Planning

The plan update process consisted of several phases

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

Coordination

The Assumption Parish OHSEP oversaw the coordination of the 2015 Hazard Mitigation Plan Update Steering Committee during the update process. The Assumption 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 Committees and key stakeholders to planned meetings and activities. SDMI assisted the Parish Director with meeting notices, website and social media statements for notification to the media and general public for public meetings and public outreach activities.

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

Neighboring Community, Local and Regional Planning Process Involvement

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

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

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

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

The 2015 Hazard Mitigation Plan Update Steering Committee consisted of representatives from the following parish, municipal or community stakeholders:

- Assumption Parish Government
- Assumption Office of Homeland Security and Emergency Preparedness
- Village of Napoleonville

The Parishes of St. James and Lafourche were invited by email by the Assumption Parish OHSEP 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 3 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 2015 update. The completed worksheets can be found in Appendix E – State Required Plan Update Worksheets.

Below is a detailed list of the 2015 Hazard Mitigation Plan Update Steering Committee:

Name	Title	Agency	Address	Email	Phone
Anne Marsh	Planner	Assumption OHSEP	P.O.Box 520, Napoleonville 70390	annemarsh@assumptionoep.com	985-369-7386
B.J. Francis	General Manager	Assumption Waterworks	P.O. Drawer 575, Napoleonville 70390	bjfrancisjr@bellsouth.net	985-369-6156
Bethany Legendre	Hospital Coordinator	OPH Region 3	1434 Tiger Dr., Thibodaux 70301	bethany.Legendre@la.gov	985-447-0916
Bobby Naquin	Parish Manager	Assumption Parish Police Jury	141 Hwy. 1008, Napoleonville 70390	bobbynaquin@assumptionla.com	985-369-7742
Brian Gros	Fire Dept. Representative	Labadieville Volunteer Fire Dept.	P.O. Box 8, Labadieville 80372	bpgros@att.net	985-637-1209
Bruce Prejean	Captain	Assumption Parish Sheriff's Office	P.O. Box 69, Napoleonville 70390	bprejean@assumptionsheriff.com	985-665-2035
Chris Boudreaux	OHSEP Director	Lafourche Parish Government	P.O. Box 425, Mathews 70375	chrisb@lafourchegov.org	985-537-7603
Christy Larose	Administrator	Heritage Manor Nursing Home	252 Hwy. 402, Napoleonville 70390	clarose@asimgt.com	985-369-6001
Eric Deroche	OHSEP Director	St. James Parish Government	P.O. Box 106, Convent 70723	eric.deroche@stjamesla.com	225-562-2364

Name	Title	Agency	Address	Email	Phone
Gerald Richard	Assistant Fire Chief	Napoleonville Vol. Fire Department	P.O. Box 51, Napoleonville 70390		985-369-2491
Ginger Rushing	Plant Superintendent	Assumption Waterworks	P.O. Drawer 575, Napoleonville 70390	grushing@apwwla.com	985-369-6756
Heidi Mattingly	Sr. Administrative Specialist	Dow Chemical	875 Hwy. 70, Belle Rose, LA 70341	hrmattingly@dow.com	985-493-6004
Joey Comeaux	Director Transportation	Assumption Parish School Board	4901 Hwy. 308, Napoleonville 70390	jcomeaux@assumptionschools.com	985-369-2980
John Boudreaux	Director	Assumption OHSEP	P.O.Box 520, Napoleonville 70390	johnboudreaux@assumptionoep.com	985-369-7386
Karen Price	Senior Environmental Scientist	DEQ	602 N. Fifth St. Baton Rogue 70802	karen.price2@la.gov	225-219-3612
Kayla Guerrero	PH Emerg. Response Coordinator	Region 3 DHH	1434 Tiger Dr., Thibodaux 70301	kguerrer@dhh.la.gov	985-447-0916
Kayte Landry	Special Assistant	Assumption OHSEP	P.O.Box 520, Napoleonville 70390	kaytelandry@assumptionoep.com	985-369-7386
Keven Bergeron	Sr. Field Technician	Boardwalk Pipeline	P.O. Box 1039, Napoleonville	deven.bergeron@bwpmlp.com	985-369-6486
Kim Beetz	Region 3 Hospital DRC	Met. Hospital Assoc. - LHA	311 Killarney, Thibodaux 70301	Region3drc@yahoo.com	985-413-2859
Kim Torres	Secretary-Treasurer	Assumption Parish Police Jury	P.O.Box 520, Napoleonville 70390	kimtorres@assumptionla.com	985-369-7435
Liz Templet	Safety Coordinator	Assumption Community Hospital	135 Hwy. 402,Napoleonville 70390	elizabeth.templet@ololrmc.com	985-369-3600
Mercedes Bernard	Director, Federal Programs	Assumption Parish Police Jury	P.O. Box 520, Napoleonville 70390	mbernard@assumptionla.com	985-369-7435
Meshaun Blame	Administrative Assistant	Village of Napoleonville	P.O. Box 6, Napoleonville 70390	meshaun.blame@aol.com	985-369-6365
Nakeitha Mills	Assistant Parish Mgr.	APPJ - Road & Bridge Department	141 Hwy. 1008, Napoleonville 70390	nakeithamills@assumptionla.com	985-369-7742
Pam Roussel	Region 3 Coordinator	GOHSEP	P.O. Box 1870, Gray 70359	Pam.Roussel@LA.GOV	225-439-2047
Ray Traigle	Captain	Assumption Parish Sheriff's Office	P.O. Box 69, Napoleonville 70390	rtraigle@assumptionsheriff.com	985-369-7281
Richard Blanchard	Trooper	LA State Police Troop C	4047 West Park Avenue, Gray 70359		985-857-3680

Name	Title	Agency	Address	Email	Phone
Ron Animashaun	Mayor - Village	Village of Napoleonville	P.O. Box 6, Napoleonville 70390	ronanimashaun@aol.com	985-369-6365
Teddy Crochet	Operations Supervisor	Acadian Ambulance	171 Hwy.402, Napoleonville 70390	tcrochet@acadian.com	985-369-2524
Tracy Hebert	Journalist	Bayou Journal Newspaper	P.O. Box 695, Pierre Part 70339	bayoujournaltracy@teche.net	985-252-0501
Wayne Arboneaux	Hospital Administrator	Assumption Community Hospital	135 Hwy. 402,Napoleonville 70390	warbonea@ololrmc.com	985-369-3600

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

- Emergency Operations Plan (Parish and Jurisdictions)
- State of Louisiana's Coastal 2050 Plan
- Sea, Lake, and Overland Surge from Hurricanes (SLOSH)
- 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 Assumption Parish.

Meeting #1: Coordination Discussion

Date: May 26, 2015

Location: Email

Purpose: Discuss with the Hazard Mitigation Lead for the parish (OHSEP Director) the expectations and requirements of the Hazard Mitigation Plan Update process and to establish and initial project timeline.

Public Initiation: No

Invitees Included: Assumption Parish OHSEP, SDMI Staff

Meeting #2: Hazard Mitigation Plan Update Kick-Off

Date: June 10, 2015

Location: Bayou Corne, 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
Anne Marsh	Planner	Assumption OHSEP
B.J. Francis	General Manager	Assumption Waterworks
Bethany Legendre	Hospital Coordinator	OPH Region 3
Bobby Naquin	Parish Manager	Assumption Parish Police Jury
Brian Gros	Fire Dept. Representative	Labadieville Volunteer Fire Dept.
Bruce Prejean	Captain	Assumption Parish Sheriff's Office
Chris Boudreaux	OHSEP Director	Lafourche Parish Government
Christy Larose	Administrator	Heritage Manor Nursing Home
Eric Deroche	OHSEP Director	St. James Parish Government
Gerald Richard	Assistant Fire Chief	Napoleonville Vol. Fire Department
Ginger Rushing	Plant Superintendent	Assumption Waterworks
Heidi Mattingly	Sr. Administrative Specialist	Dow Chemical
Joey Comeaux	Director Transportation	Assumption Parish School Board
John Boudreaux	Director	Assumption OHSEP
Karen Price	Senior Environmental Scientist	DEQ
Kayla Guerrero	PH Emerg. Response Coordinator	Region 3 DHH
Kayte Landry	Special Assistant	Assumption OHSEP
Keven Bergeron	Sr. Field Technician	Boardwalk Pipeline
Kim Beetz	Region 3 Hospital DRC	Met. Hospital Assoc. - LHA
Kim Torres	Secretary-Treasurer	Assumption Parish Police Jury
Liz Templet	Safety Coordinator	Assumption Community Hospital
Mercedes Bernard	Director, Federal Programs	Assumption Parish Police Jury
Meshaun Blame	Administrative Assistant	Village of Napoleonville
Nakeitha Mills	Assistant Parish Mgr.	APPJ - Road & Bridge Department
Pam Roussel	Region 3 Coordinator	GOHSEP
Ray Traigle	Captain	Assumption Parish Sheriff's Office
Richard Blanchard	Trooper	LA State Police Troop C
Ron Animashaun	Mayor - Village	Village of Napoleonville
Teddy Crochet	Operations Supervisor	Acadian Ambulance
Tracy Hebert	Journalist	Bayou Journal Newspaper
Wayne Arboneaux	Hospital Administrator	Assumption Community Hospital

Meeting #3: Risk Assessment Overview

Date: September 1, 2015

Location: Napoleonville, 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
Anne Marsh	Planner	Assumption OHSEP
B.J. Francis	General Manager	Assumption Waterworks
Bethany Legendre	Hospital Coordinator	OPH Region 3
Bobby Naquin	Parish Manager	Assumption Parish Police Jury
Brian Gros	Fire Dept. Representative	Labadieville Volunteer Fire Dept.
Bruce Prejean	Captain	Assumption Parish Sheriff's Office
Chris Boudreaux	OHSEP Director	Lafourche Parish Government
Christy Larose	Administrator	Heritage Manor Nursing Home
Eric Deroche	OHSEP Director	St. James Parish Government
Gerald Richard	Assistant Fire Chief	Napoleonville Vol. Fire Department
Ginger Rushing	Plant Superintendent	Assumption Waterworks
Heidi Mattingly	Sr. Administrative Specialist	Dow Chemical
Joey Comeaux	Director Transportation	Assumption Parish School Board
John Boudreaux	Director	Assumption OHSEP
Karen Price	Senior Environmental Scientist	DEQ
Kayla Guerrero	PH Emerg. Response Coordinator	Region 3 DHH
Kayte Landry	Special Assistant	Assumption OHSEP
Keven Bergeron	Sr. Field Technician	Boardwalk Pipeline
Kim Beetz	Region 3 Hospital DRC	Met. Hospital Assoc. - LHA
Kim Torres	Secretary-Treasurer	Assumption Parish Police Jury
Liz Templet	Safety Coordinator	Assumption Community Hospital
Mercedes Bernard	Director,Federal Programs	Assumption Parish Police Jury
Meshaun Blame	Administrative Assistant	Village of Napoleonville
Nakeitha Mills	Assistant Parish Mgr.	APPJ - Road & Bridge Department
Pam Roussel	Region 3 Coordinator	GOHSEP
Ray Traigle	Captain	Assumption Parish Sheriff's Office
Richard Blanchard	Trooper	LA State Police Troop C
Ron Animashaun	Mayor - Village	Village of Napoleonville
Teddy Crochet	Operations Supervisor	Acadian Ambulance
Tracy Hebert	Journalist	Bayou Journal Newspaper
Wayne Arboneaux	Hospital Administrator	Assumption Community Hospital

Meeting #4: Public Meeting

Date: September 1, 2015

Location: Napoleonville, 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 Assumption Parish communities were provided for the meeting attendees to identify specific areas where localized hazards occur.

Public Initiation: Yes

Invitees Included:

Name	Title	Agency
Anne Marsh	Planner	Assumption OHSEP
B.J. Francis	General Manager	Assumption Waterworks
Bethany Legendre	Hospital Coordinator	OPH Region 3
Bobby Naquin	Parish Manager	Assumption Parish Police Jury
Brian Gros	Fire Dept. Representative	Labadieville Volunteer Fire Dept.
Bruce Prejean	Captain	Assumption Parish Sheriff's Office
Chris Boudreaux	OHSEP Director	Lafourche Parish Government
Christy Larose	Administrator	Heritage Manor Nursing Home
Eric Deroche	OHSEP Director	St. James Parish Government
Gerald Richard	Assistant Fire Chief	Napoleonville Vol. Fire Department
Ginger Rushing	Plant Superintendent	Assumption Waterworks
Heidi Mattingly	Sr. Administrative Specialist	Dow Chemical
Joey Comeaux	Director Transportation	Assumption Parish School Board
John Boudreaux	Director	Assumption OHSEP
Karen Price	Senior Environmental Scientist	DEQ
Kayla Guerrero	PH Emerg. Response Coordinator	Region 3 DHH
Kayte Landry	Special Assistant	Assumption OHSEP
Keven Bergeron	Sr. Field Technician	Boardwalk Pipeline
Kim Beetz	Region 3 Hospital DRC	Met. Hospital Assoc. - LHA
Kim Torres	Secretary-Treasurer	Assumption Parish Police Jury
Liz Templet	Safety Coordinator	Assumption Community Hospital
Mercedes Bernard	Director, Federal Programs	Assumption Parish Police Jury
Meshaun Blame	Administrative Assistant	Village of Napoleonville
Nakeitha Mills	Assistant Parish Mgr.	APPJ - Road & Bridge Department
Pam Roussel	Region 3 Coordinator	GOHSEP
Ray Traigle	Captain	Assumption Parish Sheriff's Office
Richard Blanchard	Trooper	LA State Police Troop C
Ron Animashaun	Mayor - Village	Village of Napoleonville
Teddy Crochet	Operations Supervisor	Acadian Ambulance
Tracy Hebert	Journalist	Bayou Journal Newspaper
Wayne Arboneaux	Hospital Administrator	Assumption Community Hospital

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

Meeting Public Notice

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 Assumption Parish Hazard Mitigation Draft Plan was placed on the Assumption 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.

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

By law, the plan must be updated every five years prior to re-submittal to the Federal Emergency Management Agency (FEMA) for re-approval. The first part of this subsection describes the whole update process, including the responsible parties, methods to be used, evaluation criteria to be applied, and, scheduling for monitoring and evaluating the plan. These descriptions are followed by an explanation of how and when the plan will be periodically updated. The plan must be updated every five years prior to re-submittal to FEMA for re-approval. The first part of this subsection describes the whole update process, including sections on the following:

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

Responsible Parties

Assumption 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 jurisdictions participating in this plan will remain active in the steering committee. Each of the jurisdictions are listed below:

- Unincorporated Assumption
- Village of Napoleonville

Although the people filling the positions may change from year to year, each jurisdiction will have a representative 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 Emergency Manager to be assigned as deemed appropriate.

Methods for Monitoring and Evaluating the Plan and Plan Evaluation Criteria

In order to track progress and update the action items identified in the Mitigation Strategies, the committee recommended that the parish revisit the Assumption Parish Natural Hazard Mitigation Plan annually or after a significant hazard event. The annual review will begin in March of each year beginning in 2016 and the Director of the Assumption Office of Homeland Security & Emergency Preparedness will initiate the review. The committee believes an annual review will keep the Plan focused on the issues that are current and need attention.

The OHSEP Director when initiating the plan's review, will recommend a committee roster to the Assumption Police Jury. The Jury will then form the Natural Hazard Mitigation Plan Evaluation Committee. Once the committee is formed, the OHSEP Director will provide the written reports from the Project Coordinators for the Evaluation Committee for their use and any public comments that were accumulated over the past year. This process will begin in January so the committee will be able to meet in late February with the OHSEP Director to discuss the parish-wide planning and the Natural Hazard Plans. The committee recommends the membership of the Evaluation Committee include elected parish officials, the Parish Engineer, a representative from the Village of Napoleonville, a hospital staff person, Parish Office of Homeland Security, representatives from homeowners association, drainage districts, Chamber of Commerce and citizens at large.

Each project consisted of one or more action items. Each project has a responsible office designated as the Project Coordinator. The director in charge of that office will run the project, initiating funding requests, tracking and directing the work and/or procurement to accomplish the project. The Project Coordinator will submit a written report to the Director, OHSEP by February 15th reporting the results of the previous year activity reporting specifically on the percentage completed, narrative of the previous year's accomplishments and the plan for the upcoming year and any key project issues that need resolution.

The task of the Evaluation Committee is to review each goal and objective to determine their relevance to changing situations in the parish. Furthermore the Evaluation Committee will review the risk assessment portion of the plan to determine if the risks remain current and the remainder of the plan to insure it is accurate and review the reports of the approved and funded Action Plan Projects. This evaluation will be performed on an annual basis. As always, soliciting input from outside organizations, other government organizations, support groups such as the Red Cross, Chamber of Commerce, civic groups and public hearings to receive public comment on plan maintenance and updating need to be held during this review. Proposed changes to the plan to adjust for projects that have failed or projects that are not considered feasible will be part of the Evaluation Committee's report. The Action Items not included in the Mitigation Strategy will be reviewed and considered for inclusion in the list of proposed changes. If events and situations have changed to the degree that the plan requires a full update, the Evaluation Committee will make that recommendation.

The Evaluation Committee is to report their findings in a report to the Assumption Police Jury for approval. Once the report is approved, the OHSEP Director will forward the Evaluation Committee's report to the State Hazard Mitigation Officer and take the appropriate action. If the approved report has no changes to make, a report must still be forwarded to the State Hazard Mitigation Officer.

Updating the Plan

Updates will follow the original planning process outlined in Appendix A. The update process will entail a detailed and structured re-examination of all aspects of the original plan, followed by recommended updates. The update process will be undertaken by the Assumption Parish OHSEP in coordination with the Assumption Parish Hazard Mitigation Steering Committee. The recommendations will be presented to the Assumption

Parish Hazard Mitigation Steering Committee for consideration and approval. It is expected that the parish and each jurisdiction's administration and will issue a letter of adoption for each update of the plan.

At a minimum, the plan will be updated and re-submitted to FEMA for re-approval every five years, as required by DMA 2000. The five-year update for FEMA re-approval requires that all the original steps outlined in Appendix A be revisited to make sure the plan assumptions and results remain valid as a basis for further decision-making and priority-setting. The OHSEP Director is responsible for keeping the plan update and will initiate an update of the plan when the Evaluation Committee's approved report calls for updating or four years after the FEMA approval of the current plan.

The plan will also be subject to amendments as significant changes or new information is identified in the periodic evaluations described above. The degree to which the entire process is repeated will depend on the circumstances that precipitate the update.

Assumption Parish Steering Committee, led by the Assumption Parish OHSEP, will initiate, coordinate, and lead all plan updates in collaboration with each jurisdiction.

2015 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 2015 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 Assumption Parish Hazard Mitigation Plan Steering Committee and participating jurisdictions to determine additional implementation procedures when appropriate. This may include integrating the requirements of the Assumption Parish Hazard Mitigation Plan into each jurisdiction's planning documents, processes, or mechanisms as follows:

- Ordinances, Resolutions, Regulations
- Floodplain Ordinances (Parish and Jurisdictions)
- Emergency Operations Plan (Parish and Jurisdictions)
- Comprehensive Master Plan (Entire Parish)
- Economic Development Plan (Parish and Jurisdictions)
- Stormwater Management Plan
- Continuity of Operations Plan

Opportunities to integrate the requirements of this plan into other local planning mechanisms will continue to be identified through future meetings of the Assumption 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 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 Assumption Parish Hazard Mitigation Plan, and will not contribute to increased hazard vulnerability within the parish.

During the planning process for new and updated local planning documents at the parish and jurisdiction level, such as a risk assessment, comprehensive plan, capital improvements plan, or emergency operations

plan, the jurisdictions will provide a copy of the Parish Hazard Mitigation Plan to the appropriate parties and recommend that all goals and strategies of new and updated local planning documents are consistent with and support the goals of the Parish Hazard Mitigation Plan and will not contribute to increased hazards.

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

On behalf of the jurisdictions of the Village of Napoleonville, Assumption 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:

Assumption Unincorporated
Comprehensive Master Plan/Updated as needed/Assumption Parish Police Jury
Local Emergency Operations Plan/Updated as needed/Assumption Parish OHSEP

Village of Napoleonville
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 may include:

- 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

Assumption Parish Essential Facilities – All Jurisdictions

Assumption Unincorporated Essential Facilities									
Type	**Name**	**Flood**	**Tropical Cyclone**	**Hail**	**Lightning**	**Wind**	**Tornado**	**Sinkholes**	**Winter Storms**
Fire and Rescue	Napoleonville Volunteer Fire Dept Station 3		X	X	X	X	X		
	Napoleonville Volunteer Fire Dept Station 2	X	X	X	X	X	X		
	Paincourtville Volunteer Fire Department		X	X	X	X	X		
	Paincourtville Volunteer Fire Department		X	X	X	X	X		
	Pierre Part Belle River Volunteer Fire Dept 3	X	X	X	X	X	X		
	Paincourtville Volunteer Fire Department	X	X	X	X	X	X	X	
	Amelia Fire Dept	X	X	X	X	X	X		
	Labadieville Fire Dept		X	X	X	X	X		
	Labadie Fire Dept		X	X	X	X	X		
	Unknown	X	X	X	X	X	X		
	Pierre Part Fire and Rescue		X	X	X	X	X		
	Unknown	X	X	X	X	X	X		
Government	Assumption Media Center		X	X	X	X	X		
	Assumption Parish School Board		X	X	X	X	X		
	Assumption Parish Dept of Social Services		X	X	X	X	X		
	Louisiana Secretary of State		X	X	X	X	X		
	Louisiana National Guard		X	X	X	X	X		

Assumption Unincorporated Essential Facilities									
Type	Name	Flood	Tropical Cyclone	Hail	Lightning	Wind	Tornado	Sinkholes	Winter Storms
	Assumption Parish Council on Aging		X	X	X	X	X		
	Assumption Parish Maintenance		X	X	X	X	X		
	State of Louisiana Office of Motor Vehicles		X	X	X	X	X		
	Assumption Parish Road and Bridge Dept #2		X	X	X	X	X		
	Pupil Appraisal Center		X	X	X	X	X		
	LA Department of Transportation and Development		X	X	X	X	X		
	Assumption Library		X	X	X	X	X		
	Assumption Library	X	X	X	X	X	X		
Law Enforcement	Assumption Parish Sheriff Station	X	X	X	X	X	X		
	Assumption Sheriff Office		X	X	X	X	X		
	Sheriff	X	X	X	X	X	X		
Public Health	Assumption Parish Health Unit		X	X	X	X	X		
	Assumption Rural Health Clinic		X	X	X	X	X		
	Assumption Community Hospital		X	X	X	X	X		
Schools	Assumption High		X	X	X	X	X		
	Belle Rose Middle School		X	X	X	X	X		
	Labadieville Primary		X	X	X	X	X		
	Labadieville Middle School		X	X	X	X	X		
	Napoleonville Primary		X	X	X	X	X		
	Napoleonville Middle School		X	X	X	X	X		
	Pierre Part Primary	X	X	X	X	X	X		
	Pierre Part Middle	X	X	X	X	X	X		
	Bayou L'Ourse Primary	X	X	X	X	X	X		

Napoleonville Essential Facilities									
Type	Name	Flood	Tropical Cyclone	Hail	Lightning	Wind	Tornado	Sinkholes	Winter Storms
Fire and Rescue	Napoleonville Volunteer Fire Department		X	X	X	X	X		
Government	Assumption Parish Court House		X	X	X	X	X		
	Assumption Parish Police Jury		X	X	X	X	X		
	Assumption Parish 911 and Permit Office		X	X	X	X	X		
	Town Hall		X	X	X	X	X		
	Louisiana Department of Veterans Affairs		X	X	X	X	X		
	Village of Napoleonville City Hall		X	X	X	X	X		
	Assumption Parish District Attorney		X	X	X	X	X		
	Assumption Parish Court House		X	X	X	X	X		
Law Enforcement	Assumption Parish Sheriffs Office		X	X	X	X	X		
	Assumption Parish 911 and Permit Office		X	X	X	X	X		
	Assumption Parish Police Jury		X	X	X	X	X		

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Appendix D: Plan Adoption

VILLAGE OF NAPOLEONVILLE
4813 HIGHWAY 1
POST OFFICE BOX 6
NAPOLEONVILLE, LOUISIANA 70390-0006
PHONE (985) 369-6365 – FAX (985) 369-6361
ronanimashaun@aol.com

RON ANIMASHAUN
MAYOR

JOYCE BELL
ALDERMAN

RICHARD J. BILELLO
ALDERMAN

VELMA C. JUPITER
ALDERMAN

Resolution No. 16-03

A RESOLUTION AUTHORIZING THE ACCEPTANCE OF THE 2016 HAZARD MITIGATION PLAN FOR ASSUMPTION PARISH WHICH INCLUDES THE VILLAGE OF NAPOLEONVILLE

WHEREAS, the Village of Napoleonville has been presented with the Assumption Parish Hazard Mitigation Plan- 2016 Update. This plan would help to eliminate or significantly reduce the long-term risk of hazards to life and property.

WHEREAS, the Assumption Parish Hazards Mitigation Plan- 2016 Update, outlines goals and objectives that are designed to create specific actions that can help to alleviate risks and vulnerabilities, and will help "to eliminate or significantly reduce the long-term risks of hazards to life or property".

NOW, THEREFORE BE IT RESOLVED by the Board of Aldermen of the Village of Napoleonville that the Mayor is hereby authorized to negotiate and execute the Assumption Parish Hazards Mitigation Plan- 2011Update on behalf of the Village of Napoleonville.

BE IT FURTHER RESOLVED that a certified copy of this resolution shall be forwarded to the Assumption Parish Office of Emergency Preparedness P.O. Box 520, Napoleonville, Louisiana, 70390.

A vote on the above resolution was as follows:

YEAS: 3 Alderman Joyce Bell, Alderman Richard Bilello and Alderman Velma Jupiter

NAYS: _____

ABSENT _____

And the resolution was declared adopted on the 14th day of March, 2016

Mayor

Alderman, Village of Napoleonville

Attest:

Mayor Ron Animashaun Dated March 14, 2016
STATE OF LOUISIANA
PARISH OF ASSUMPTION
VILLAGE OF NAPOLEONVILLE

I do hereby certify that the foregoing Resolution No. 16-03 is a true and correct copy of a resolution presented to and adopted by the Board of Alderman of the Village of Napoleonville, Louisiana, at a duly authorized meeting thereof held on the 14 day of March 2016, as shown by the minutes of said meeting in my possession.

(SEAL)

Meshaun Blame, Clerk

ASSUMPTION PARISH POLICE JURY

MARTIN S. TRICHE – PRESIDENT
WARD 5

HENRY DUPRE – VICE PRESIDENT
WARD 7

4813 HIGHWAY 1
P. O. BOX 520
NAPOLEONVILLE, LA 70390

PHONE: (985) 369-7435
FAX: (985) 369-2972

TDD Available
800-846-5277

RON ALCORN
WARD 1

JEFF "BIG DADDY" NAQUIN
WARD 2

IRVING COMEAUX
WARD 3

PATRICK JOHNSON
WARD 4

CHRIS CARTER
WARD 6

BOOSTER BREAUX
WARD 8

MYRON MATHERNE
WARD 9

KIM M. TORRES
SECRETARY-TREASURER

On a motion by Mr. Irving Comeaux, seconded by Mr. Booster Breaux, the following resolution was adopted:

RESOLUTION

BE IT RESOLVED that the Assumption Parish Police Jury does hereby approve and adopt the Hazardous Mitigation Plan Update as presented by the OEP Director.

Upon being placed to a vote, the above resolution was adopted as follows:

Yeas: 9
Nays: 0
Absent: 0

E:\My Documents\WORD\Resolutions\General Fund\Hazard Plan Update.doc

CERTIFICATE

I, Kim M. Torres, Secretary-Treasurer of the Assumption Parish Police Jury, do hereby certify that the above is a true and correct copy of a resolution adopted by said Police Jury during a Regular meeting held on the 9th day of March, 2016, In accordance with the laws of The State of Louisiana and the Parish of Assumption. GIVEN UNDER MY HAND AND SEAL OF OFFICE on this the 15th day March, 20 16.

SEAL

Kim M Torres
Secretary-Treasurer

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
Anne Marsh	Planner	Assumption OHSEP	P.O.Box 520, Napoleonville 70390	annemarsh@assumptionoep.com	985-369-7386
B.J. Francis	General Manager	Assumption Waterworks	P.O. Drawer 575, Napoleonville 70390	bjfrancisjr@bellsouth.net	985-369-6156
Bethany Legendre	Hospital Coordinator	OPH Region 3	1434 Tiger Dr., Thibodaux 70301	bethany.Legendre@la.gov	985-447-0916
Bobby Naquin	Parish Manager	Assumption Parish Police Jury	141 Hwy. 1008, Napoleonville 70390	bobbynaquin@assumptionla.com	985-369-7742
Brian Gros	Fire Dept. Representative	Labadieville Volunteer Fire Dept.	P.O. Box 8, Labadieville 80372	bpgros@att.net	985-637-1209
Bruce Prejean	Captain	Assumption Parish Sheriff's Office	P.O. Box 69, Napoleonville 70390	bprejean@assumptionsheriff.com	985-665-2035
Chris Boudreaux	OHSEP Director	Lafourche Parish Government	P.O. Box 425, Mathews 70375	chrisb@lafourchegov.org	985-537-7603
Christy Larose	Administrator	Heritage Manor Nursing Home	252 Hwy. 402, Napoleonville 70390	clarose@asimgt.com	985-369-6001
Eric Deroche	OHSEP Director	St. James Parish Government	P.O. Box 106, Convent 70723	eric.deroche@stjamesla.com	225-562-2364
Gerald Richard	Assistant Fire Chief	Napoleonville Vol. Fire Department	P.O. Box 51, Napoleonville 70390		985-369-2491
Ginger Rushing	Plant Superintendent	Assumption Waterworks	P.O. Drawer 575, Napoleonville 70390	grushing@apwwla.com	985-369-6756
Heidi Mattingly	Sr. Administrative Specialist	Dow Chemical	875 Hwy. 70, Belle Rose, LA 70341	hrmattingly@dow.com	985-493-6004
Joey Comeaux	Director Transportation	Assumption Parish School Board	4901 Hwy. 308, Napoleonville 70390	jcomeaux@assumptionschools.com	985-369-2980
John Boudreaux	Director	Assumption OHSEP	P.O.Box 520, Napoleonville 70390	johnboudreaux@assumptionoep.com	985-369-7386
Karen Price	Senior Environmental Scientist	DEQ	602 N. Fifth St. Baton Rogue 70802	karen.price2@la.gov	225-219-3612

Name	Title	Agency	Address	Email	Phone
Kayla Guerrero	PH Emerg. Response Coordinator	Region 3 DHH	1434 Tiger Dr., Thibodaux 70301	kguerrer@dhh.la.gov	985-447-0916
Kayte Landry	Special Assistant	Assumption OHSEP	P.O.Box 520, Napoleonville 70390	kaytelandry@assumptionoep.com	985-369-7386
Keven Bergeron	Sr. Field Technician	Boardwalk Pipeline	P.O. Box 1039, Napoleonville	deven.bergeron@bwpmlp.com	985-369-6486
Kim Beetz	Region 3 Hospital DRC	Met. Hospital Assoc. - LHA	311 Killarney, Thibodaux 70301	Region3drc@yahoo.com	985-413-2859
Kim Torres	Secretary-Treasurer	Assumption Parish Police Jury	P.O.Box 520, Napoleonville 70390	kimtorres@assumptionla.com	985-369-7435
Liz Templet	Safety Coordinator	Assumption Community Hospital	135 Hwy. 402,Napoleonville 70390	elizabeth.templet@ololrmc.com	985-369-3600
Mercedes Bernard	Director,Federal Programs	Assumption Parish Police Jury	P.O. Box 520, Napoleonville 70390	mbernard@assumptionla.com	985-369-7435
Meshaun Blame	Administrative Assistant	Village of Napoleonville	P.O. Box 6, Napoleonville 70390	meshaun.blame@aol.com	985-369-6365
Nakeitha Mills	Assistant Parish Mgr.	APPJ - Road & Bridge Department	141 Hwy. 1008, Napoleonville 70390	nakeithamills@assumptionla.com	985-369-7742
Pam Roussel	Region 3 Coordinator	GOHSEP	P.O. Box 1870, Gray 70359	Pam.Roussel@LA.GOV	225-439-2047
Ray Traigle	Captain	Assumption Parish Sheriff's Office	P.O. Box 69, Napoleonville 70390	rtraigle@assumptionsheriff.com	985-369-7281
Richard Blanchard	Trooper	LA State Police Troop C	4047 West Park Avenue, Gray 70359		985-857-3680
Ron Animashaun	Mayor - Village	Village of Napoleonville	P.O. Box 6, Napoleonville 70390	ronanimashaun@aol.com	985-369-6365
Teddy Crochet	Operations Supervisor	Acadian Ambulance	171 Hwy.402, Napoleonville 70390	tcrochet@acadian.com	985-369-2524
Tracy Hebert	Journalist	Bayou Journal Newspaper	P.O. Box 695, Pierre Part 70339	bayoujournaltracy@teche.net	985-252-0501
Wayne Arboneaux	Hospital Administrator	Assumption Community Hospital	135 Hwy. 402,Napoleonville 70390	warbonea@ololrmc.com	985-369-3600

Capability Assessment

Assumption Unincorporated

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

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.		
	Assumption Parish	Comments
Administration	Yes / No	
Planning Commission	No	n/a
Mitigation Planning Committee	Yes	n/a
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	n/a
Mutual Aid Agreements		n/a
Staff	Yes / No;	
Chief Building Official	Yes	Contract with South Central Planning to enforce Building Codes
Floodplain Administrator	Yes	n/a
Emergency Manager	Yes	n/a
Community Planner	Yes	n/a
Civil Engineer	Yes	Contract with C. J. Savoie Consulting Engineers
GIS Coordinator	Yes	n/a
Grant Writer	Yes	n/a
Other	No	n/a
Technical	Yes / No	
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	n/a
Hazard Data & Information	No	n/a
Grant Writing	Yes	n/a
Hazus Analysis	No	n/a
Other	No	n/a

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Assumption Parish Yes / No	Comments
Capital Improvements project funding	Yes	n/a
Authority to levy taxes for specific purposes	Yes	n/a
Fees for water, sewer, gas, or electric services	Yes	n/a
Impact fees for new development	Yes	n/a
Stormwater Utility Fee	No	n/a
Community Development Block Grant (CDBG)	Yes	n/a
Other Funding Programs	Yes	n/a

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	Assumption Parish Yes / No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes	n/a
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	No	n/a
Natural Disaster or safety related school program	No	n/a
Storm Ready certification	No	n/a
Firewise Communities certification	Yes	n/a
Public/Private partnership initiatives addressing disaster-related issues	Yes	n/a
Other	No	n/a

Village of Napoleonville

Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Village of Napoleonville		
Plans	Yes/No	Comments
Comprehensive / Master Plan	No	*Based on current parish agreements, Napoleonville has the ability to utilize the capabilities of the parish government.
Capital Improvements Plan	No	
Economic Development Plan	No	
Local Emergency Operations Plan	Yes	
Continuity of Operations Plan	No	
Transportation Plan	No	
Stormwater Management Plan	No	
Community Wildfire Protection Plan	No	
Other plans (redevelopment, recovery, coastal zone management)	No	
Building Code, Permitting and Inspections		
Building Code	Yes	*Based on current parish agreements, Napoleonville has the ability to utilize the capabilities of the parish government.
Building Code Effectiveness Grading Schedule (BCEGS) Score		
Fire Department ISO/PIAL rating	Yes	
Site plan review requirements	Yes	
Land Use Planning and Ordinances		
Zoning Ordinance	No	*Based on current parish agreements, Napoleonville has the ability to utilize the capabilities of the parish government.
Subdivision Ordinance	Yes	
Floodplain Ordinance	Yes	
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	No	
Flood Insurance Rate Maps	No	
Acquisition of land for open space and public recreation uses	No	
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	No	*Based on current parish agreements, Napoleonville has the ability to utilize the capabilities of the parish government.
Mitigation Planning Committee	No	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	
Staff		
Chief Building Official	No	*Based on current parish agreements, Napoleonville has the ability to utilize the capabilities of the parish government.
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)	No	*Based on current parish agreements, Napoleonville has the ability to utilize the capabilities of the parish government.
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	*Based on current parish agreements, Napoleonville has the ability to utilize the capabilities of the parish government.
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	Yes	
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	*Based on current parish agreements, Napoleonville has the ability to utilize the capabilities of the parish government.
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	Lat	Long	Assessed Value	Date Built	Constr. Type
Assumption Unicorp.									
	Assumption Parish Sheriff's Office	Offices for the Assumption Parish Sheriff's Administration	112 Franklin Street	Napoleonville	n/a	n/a	n/a	n/a	n/a
	Assumption Parish OHSEP	Offices for the Assumption Parish OHSEP	105 Dr. Martin Luther King Drive	Napoleonville	n/a	n/a	n/a	n/a	n/a
	Assumption Parish Police Jury	Administrative Offices for Police Jury	4813 Hwy. 1	Napoleonville	n/a	n/a	n/a	n/a	n/a
	Assumption Parish Court House	Courtroom, Assessor's office, Clerk of Court Office and D. A. Offices	4809 Hwy. 1	Napoleonville	n/a	n/a	n/a	n/a	n/a
	Assumption Parish Juvenile Detention Center	Juvenile Detention Center and Offices	122 Parish Complex Road	Napoleonville	n/a	n/a	n/a	n/a	n/a
	Assumption Parish Detention Center	Detention Center and Offices	108 Parish Complex Road	Napoleonville	n/a	n/a	n/a	n/a	n/a
	Assumption Community Hospital	Hospital and Administrative Offices	135 Hwy. 402	Napoleonville	n/a	n/a	n/a	n/a	n/a
	Napoleonville Volunteer Fire Department	Volunteer Fire Station	213 Franklin Street	Napoleonville	n/a	n/a	n/a	n/a	n/a
	Paincourtville/Belle Rose Fire Department	Volunteer Fire Station	6074 LA Hwy. 1	Paincourtville	n/a	n/a	n/a	n/a	n/a
	Pierre Part Volunteer Fire Department	Volunteer Fire Station	2550 Lee Drive	Paincourtville	n/a	n/a	n/a	n/a	n/a
	Bayou L'Ourse Fire Department	Volunteer Fire Station	333 Hwy 663	Morgan City	n/a	n/a	n/a	n/a	n/a

Critical Facility (If Yes, Mark X)	Name of Building	Purpose of Building	Address	City	Lat	Long	Assessed Value	Date Built	Constr. Type
Assumption Unicorp.									
	Labadieville Volunteer Fire Department	Volunteer Fire Station	2709 LA Hwy. 1	Labadieville	n/a	n/a	n/a	n/a	n/a
	Assumption Parish Road & Bridge Office	Public Works Department - Offices and Parish Yard	141 Hwy. 1008	Napoleonville	n/a	n/a	n/a	n/a	n/a
	Napoleonville Middle School	Shelter	4847 LA Hwy. 1	Napoleonville	n/a	n/a	n/a	n/a	n/a
	Belle Rose Middle School	Shelter	7177 LA Hwy. 1	Belle Rose	n/a	n/a	n/a	n/a	n/a
	Assumption Parish Waterworks	Water Plant and Administrative Offices	4633 Hwy. 1	Napoleonville	n/a	n/a	n/a	n/a	n/a
Napoleonville									
	Napoleonville Community Center	Community Building	4770 Highway 1	Napoleonville	n/a	n/a	n/a	n/a	n/a
	Veteran's Affair Office	Veteran's Affair Department	4751 Highway 1	Napoleonville	n/a	n/a	n/a	n/a	n/a
	Napoleonville Municipal Building	File Storage	123 Washington St	Napoleonville	n/a	n/a	n/a	n/a	n/a
	Napoleonville Police Department	Police Department / File Storage	125 Washington St	Napoleonville	n/a	n/a	n/a	n/a	n/a

Vulnerable Populations

Vulnerable Populations Worksheet

Assumption Parish

Name	Street	City	Zip Code	Lat	Long
All Hospitals (Private or Public)					
Assumption Community Hospital	135 Hwy. 402	Napoleonville	70390	n/a	n/a
*** There are no Hospitals located in the Village of Napoleonville**					
Nursing Homes (Private or Public)					
Heritage Manor of Napoleonville	525 Hwy. 402	Napoleonville	70390	n/a	n/a
Mobile Home Parks					
Crochet's Trailer Park	Reno Street	Pierre Part	70339	n/a	n/a
Jerry Landry's Trailer Park	Derrick Street	Pierre Part	70339	n/a	n/a
Theriot's Trailer Park	3203 Hwy. 70S	Pierre Part	70339	n/a	n/a
Crochet's Trailer Park	3203 Hwy. 70S	Pierre Part	70339	n/a	n/a
Nicesse Templet Trailer Park	Tut Street	Pierre Part	70339	n/a	n/a
C&C Trailer Park	Sugar Cane Lane	Pierre Part	70339	n/a	n/a
Gerald Theriot's Mobile Home Park	Gerald Street	Pierre Part	70339	n/a	n/a
J&J Properties	Jerome Ct.	Labadieville	70372	n/a	n/a
Jimmy Westerfield's Mobile Home Park	Brule Road	Labadieville	70372	n/a	n/a

Quentin Meads - Mobile Home Park	Hwy. 1014	Labadieville	70372	n/a	n/a
Mike Dubois -Trailer Park	Hw. 308	Napoleonville	70390	n/a	n/a
Pelican Park Mobile Home Park	Hwy. 663, Jamie Ct.,Rayne Ct., Griffin Ct.	Bayou L'Ourse	70380	n/a	n/a
Country Side Trailer Park	313 Aristle Road	Bayou L'Ourse	70380	n/a	n/a
Moffett's Trailer Park	Hwy. 308, Moffette Ct.&Fernandez Ct.	Bayou L'Ourse	70380	n/a	n/a
B & L Trailer Park	B&L Street	Bertrandville	70391	n/a	n/a

National Flood Insurance Program (NFIP)

Assumption Parish

ELEMENT F: STATE REQUIREMENT
National Flood Insurance Program (NFIP)

Jurisdiction: Assumption Unincorporated

	Assumption	Napoleonville	
Insurance Summary			**Comments**
How many NFIP polices are in the community? What is the total premium and coverage?	Policies = 1,600 Premiums = $771,438 Total Coverage=$277,204,500	3	n/a
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?	Paid Claims = 957 Total Amt Paid Claims = $4,195,748; Substantial Damages = Not Sure	5 paid for $10,430.62	n/a
How many structures are exposed to flood risk with in the community?	n/a	n/a	n/a
Describe any areas of flood risk with limited NFIP policy coverage.	n/a	none	n/a
Staff Resources			
Is the Community FPA or NFIP Coordinator certified?	No	No	n/a
Is flood plain management an auxiliary function?	No	n/a	n/a
Provide an explanation of NFIP administration services (e.g., permit review, GIS, education or outreach, inspections, engineering capability)	Permit Reviews, GIS, Education Outreach, Inspections	n/a	n/a

What are the barriers to running an effective NFIP program in the community, if any?	Public unaware of rules and regulations with the NFIP Program.	n/a	n/a
Compliance History			
Is the community in good standing with the NFIP?	Yes	yes	n/a
Are there any outstanding compliance issues(i.e., current violations)?	No	no	n/a
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact(CAC)?	2014	n/a	n/a
Is a CAV or CAC scheduled or needed? If so when?	No		n/a
Regulation			
When did the community enter the NFIP?	1/24/1975	n/a	n/a
Are the FIRMs digital or paper?	Yes	n/a	n/a
Do floodplain development regulations meet or exceed FEMA or State minimum requirements? If so, in what ways?	Yes, requiring all structures built in a flood zone to be elevated to the proper BFE and Certified Final Elevation Certificates are required	n/a	n/a
Community Rating System (CRS)			
Does the community participate in CRS?	No	n/a	n/a
What is the community's CRS Class Ranking?	None	n/a	n/a
Does the plan include CRS planning requirements?	No	n/a	n/a