



ST. HELENA PARISH HAZARD MITIGATION UPDATE – 2015



This Page Intentionally Left Blank

ST. HELENA PARISH HAZARD MITIGATION PLAN UPDATE

Prepared for:

St. Helena Parish



Prepared by:

Stephenson Disaster Management Institute

Mr. Brant Mitchell

Ms. Alexa Andrews

Ms. Lauren Stevens

Dr. Carol J. Friedland, P.E., Ph.D., C.F.M.

Mr. Joseph B. Harris

Louisiana State University - Business Education Complex
Baton Rouge, LA 70803



This Page Intentionally Left Blank

ACKNOWLEDGMENTS

This 2015 St. Helena Parish Hazard Mitigation Plan Update was coordinated by the St. Helena 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:

St. Helena Parish
Town of Greensburg
Village of Montpelier

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

Albert Franklin	SHP Police Jury
Bradley Graves	Fire Department – SHP
Burke Jones	Mayor – Town of Greensburg
Charles Graves	Fire Department – SHP
Charlie New	Fire Department – SHP
Collins Simoneaux	GOHSEP
Donald Langston	Town of Greensburg
Jack Anderson	Fire Department – SHP
Dr. Kelli Joseph	SHP School System
Kenneth Giardina	Mayor – Village of Montpelier
LeeAnn Lindsey	Department of Health and Hospitals –
Lester Easley	OPH
Pevey Lee	SHP Economic Development
Rita Allen	OHSEP – SHP
Sharon Hornsby	LA Technical College
Sharonda Brown	SHP Police Jury
Theodore McCray, Jr.	SHP Police Jury
Tim Brown	Law Enforcement - SHP
Tommy Strickland	Fire Department – SHP
Teresa Byrd	SHP Police Jury
Virginia Bell	Grants - SHP

The 2015 St. Helena Parish Hazard Mitigation Plan Update was written by the Stephenson Disaster Management Institute, Louisiana State University. Further comments should be directed to the St. Helena Parish Office of Homeland Security and Emergency Preparedness: 17911 Highway 43, Greensburg, LA, 70441.

Contents

Section 1: Introduction	1-1
Location, Demography, and Economy.....	1-1
Hazard Mitigation	1-4
General Strategy.....	1-5
2015 Plan update.....	1-6
Section 2: Hazard Identification and Parishwide Risk Assessment	2-1
Prevalent Hazards to the Community	2-1
Previous Occurrences	2-2
Probability of Future Hazard Events.....	2-3
Inventory of Assets for the Entire Parish.....	2-4
Essential Facilities of the Parish.....	2-4
Future Development Trends	2-11
Future Hazard Impacts	2-12
Land Use	2-13
Hazard Identification.....	2-15
Flooding	2-15
Thunderstorms	2-31
Tornadoes.....	2-42
Tropical Cyclones	2-48
Section 3: Capability Assessment	3-1
Policies, Plans, and Programs	3-1
Administration, Technical, and Financial.....	3-Error! Bookmark not defined.
Section 4: Mitigation Strategy	4-1
Introduction.....	4-1
Goals	4-1
Mitigation Actions	4-2
St. Helena Parish Mitigation Actions	4-3
Mitigation Action Update	4-122
Action Prioritization.....	4-122
Appendix A: Planning Process	A-1
Purpose.....	A-1
The St. Helena Parish Hazard Mitigation Plan Update	A-1
Planning	A-2
Coordination.....	A-2

Neighboring Community, Local, and Regional Planning Process Involvement.....	A-3
Program Integration	A-4
Documentation (Meetings and Public Outreach).....	A-5
Meeting #1: Hazard Mitigation Plan Update Kick-Off	A-5
Meeting #3: Risk Assessment Meeting.....	A-6
Meeting #4: Public Meeting	A-7
Outreach Activity #1: Public Opinion Survey.....	A-8
Outreach Activity #2: Incident Questionnaire	A-8
Outreach Activity #3 Mapping Activities	A-8
Public Notices	A-9
Appendix B – Plan Maintenance.....	B-11
Purpose.....	B-11
Monitoring, Evaluating, and Updating the Plan	B-11
2015 Plan Version Plan Method and Schedule Evaluation	B-13
Incorporation into Existing Planning Programs	B-13
Continued Public Participation	B-14
Appendix C – St. Helena Parish Essential Facilities.....	C-1
Appendix D – Plan Adoption.....	D-1
Appendix E – State Required Worksheets.....	E-1
St. Helena Parish - Building Inventory (Greensburg, Montpelier).....	E-1
Vulnerable Populations	E-7
St. Helena Parish – National Flood Insurance Program (NFIP) (St. Helena Unincorporated, Greensburg, Montpelier).....	E-8
Capability Assessment	E-10
St. Helena Unincorporated.....	E-10
Town of Greensburg	E-13
Town of Montpelier.....	E-16

This Page Left Intentionally Blank

Section 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 St. Helena Parish Hazard Mitigation Plan Update (HMPU) process; (b) identifies natural hazards and risks within the parish; and (c) identifies the parish's hazard mitigation strategy to make St. Helena Parish less vulnerable and more disaster resistant. Information in the plan will be used to help guide and coordinate mitigation activities and local policy decisions affecting future land use.

The St. Helena Parish HMPU is a multi-jurisdictional plan that includes the unincorporated areas of the parish as well as the following incorporated communities which participated in the planning process:

1. Town of Greensburg
2. Village of Montpelier

Localized but unincorporated settlements within the parish are included in this plan, as well as additional intra-parish districts and organizations within St. Helena Parish that participated in the planning process.

This plan addresses natural hazards only. The HMPU Committee agreed at its first meeting not to pursue human-caused hazards in this update. Although the Federal Emergency Management Agency (FEMA) encourages integration of human-caused hazards into the mitigation planning process, the scope of this effort did not address these human-caused hazards for two reasons. First, planning activities for mitigation of and emergency response to human-caused hazards are the responsibility of specially designated organizations. Secondly, the Disaster Mitigation Act of 2000 (DMA) requires extensive public information and input conflicting with security and confidentiality issues associated with elements such as chemical hazards deemed to be particularly vulnerable to terrorist acts.

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-Hurricanes Katrina and Rita environment in south Louisiana.

The DMA requires state and local governments to develop and periodically update hazard mitigation plans to maintain eligibility for certain federal disaster assistance and hazard mitigation funding programs. Compliance with these requirements will maintain continued eligibility for certain hazard mitigation grant programs from FEMA for each organization participating in this planning process.

Location, Demography, and Economy

This plan will identify cost effective and environmentally sound mitigation strategies that will reduce or eliminate long-term risk to human life and property from natural hazards. Implementation of this plan can reduce the enormous cost of disasters to property owners and all levels of government. Mitigation strategies often include protecting critical community facilities, reducing exposure to liability and minimizing community disruption. Land development planning, adoption of building codes, elevation of

homes, and acquisition and relocation of homes away from floodplains are just a few examples of mitigation strategies.

St. Helena Parish, commonly referred to as one of the Florida Parishes, is located in the southeasterly part of the State of Louisiana. It occupies the land area bordered by the 31 degree North Latitude (which is the southern boundary line of the State of Mississippi), the parish of Tangipahoa to the east, the parish of Livingston to the south, and the parishes of East Baton Rouge and East Feliciana to the west, as well as the Amite River, which separates the last two parishes from St. Helena.



Figure 1-1: St. Helena Parish

St. Helena Parish provides the perfect balance between urban and rural lifestyles. Its location near the state capital at Baton Rouge and the Greater New Orleans Metropolitan Area enables residents to experience easy access to services of state government and one of America's most colorful cities. Yet the parish's rural, country like atmosphere provides unlimited opportunities to enjoy outdoor activities and recreational pursuits. Of all the resources of St. Helena Parish the most remarkable is the proud spirit of the population. They are hardworking people with an agricultural background who have learned to respect the natural resources such as the land and the water. The great transportation corridors link them to nearby urban areas giving great advantage of their location while being ever mindful of the effect of growth on their rural values.

The topographical landscape of the parish consists of rolling terrain covered by slash pine and hardwood forests approximately 50 to 80 feet above sea level. The western border of the parish is the Amite River and the Tickfaw River, another small river which empties into Lake Maurepas, drains the eastern portion of the parish. There are also a variety of streams, bayous and swales.

St. Helena Parish lies in the region commonly known as "high terraces". Pliocene fluvial sediments of the Citronelle Formation underlie the high terraces. Regionally, they consist largely of variegated and mottled,

poorly sorted, fine to very coarse grained, sandy gravel, gravelly sand, sand, and minor beds of silt, clay, and mud. Typically, individual beds have limited vertical and lateral extent. The sand within the Citronelle Formation consists of quartzarenites to sublitharenites that completely lack feldspar. Within the area of this feature, the Citronelle Formation is about 300 to 350 feet (91 to 107 meters) thick.

Field investigations have found that the Citronelle Formation within the area of St. Helena Parish consists of poorly sorted, fine- to coarse-grained sand overlying laminated clays and silts. The sand is 30 to 40 feet (9 to 12 meters) thick and consists of deeply weathered, reddish brown, fine to very coarse-grained, moderately well sorted sand. In outcrops, the sand can be both massive and cross-bedded.

The land area is 408.36 square miles (261,371 acres); the water area is 1.09 square miles (701 acres). St. Helena Parish is located at latitude 30.82 degrees North, longitude 90.71 degrees West.

DEMOGRAPHY

Recent demographic data and projections are shown in the following table (US Census 2013):

Table 1-1: St. Helena Parish Demographic Statistics

	2010 Census	2013 Census	(Current Yr) Estimate	Percent Change 2010 -2013	Percent Change 2010 -(Current Year)
Total Population	11,203	10,851	10,619	-3.10%	-5.20%
Population Density (Pop/Sq Mi)	27.4	—	—	—	—
Total Households	4,130	4,130	—	—	—

ECONOMY

Table 1-2: St. Helena Parish Business Patterns

Business Description	Number of Employees	Number of Establishments	Annual Payroll (\$1,000)
Retail trade	291	29	5,158
Agriculture, Forestry, Fishing and Hunting	0-19	1	1,000
Manufacturing	148	4	7,131
Health Care, Social Assistance	396	14	10,490
Utilities	20-99	2	1,000
Wholesale Trade	0-19	1	1,000
Mining, Oil and Gas Extraction	24	3	1,134
Transportation / Warehousing	62	9	2,988
Construction	37	9	1,299
Administration, Support, Waste Management, Remediation Services	0-19	1	—
Real Estate, Rental, Leasing	0-19	3	—

Wholesale Trade	0-19	1	—
Other Services, Except Public Administration	22-99	15	—
Accommodation, Food Services	24	7	222
Finance and Insurance	32	9	864
Professional, Scientific, Technical Services	0-19	4	317
Information	0-19	2	—
Educational Services	25	4	577
Arts, Entertainment, Recreation	20-99	2	—

Health Care and Social Assistance is the largest employment base in St. Helena Parish. It is followed closely by the Retail Trade and then Manufacturing industries. These three economic sectors constitute nearly 73% of parish wide employment.

Hazard Mitigation

To fully understand hazard mitigation efforts in St. Helena 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., floodproofing 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 in advance of 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 1-2 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 1-2: The four phases of emergency management and their relation to future hazard mitigation (Source: Louisiana State Hazard Mitigation Plan 2014).

General Strategy

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 St. Helena Parish Hazard Mitigation Plan (HMP) maintains much of the information from the 2006 and 2010 plan versions, but it now reflects the order and methodologies of the 2014 Louisiana State Hazard Mitigation Plan. The sections in the 2010 St. Helena HMP were as follows:

- Section One Introduction
- Section Two Parish Profile
- Section Three Planning Process
- Section Four Risk Assessment
- Section Five Mitigation Strategy
- Section Six Plan Maintenance Procedures
- Section Seven Action Plan
- Tables
- Maps
- Appendices

This plan update now also coheres with the Plain Writing Act of 2010, which requires federal agencies to use clear communication that is accessible, consistent, understandable, and useful to the public. While the State of Louisiana and its political subdivisions are not required to meet such standards, the Act aligns with best practices in hazard mitigation. Since successful hazard mitigation relies on full implementation and cooperation at all levels of government and community, a successful hazard mitigation plan must also be easily used at all of these levels. Nevertheless, the St. Helena Parish Hazard Mitigation Planning 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 four previous goals of the St. Helena Parish hazard mitigation plan. The current goals are as follows:

Goal 1: Identify and pursue preventative measures that will reduce future damages from hazards.

Goal 2: Enhance public awareness and understanding of disaster preparedness.

Goal 3: Reduce repetitive flood losses in the parish.

Goal 4: Facilitate sound development in the parish to reduce or eliminate the potential impact of hazards.

This plan update makes a number of textual changes throughout. But the most obvious changes are data related and structural. 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. In addition, the present plan update has four sections and five appendices. The most significant changes are the newly developed hazard profiles and Risk Assessments, the removal of much 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 Parishwide Risk Assessment
- Section Three Capability Assessment
- Section Four Mitigation Strategies
- Appendix A Planning Process
- Appendix B Plan Maintenance
- Appendix C Essential Facilities
- Appendix D Plan Adoption
- Appendix E State Required Worksheets

Table 1-3: Plan Change Crosswalk

2010 Plan	Revised Plan (2015)
Section 1: Introduction	Section 1: Introduction
Section 2: Parish Profile	Section 1: Introduction
Section 3: Planning Process	Appendix A: Planning Process
Section 4: Risk Assessment	Section 2: Hazard Identification and Risk Assessment
Section 5: Mitigation Strategy	Section 4: Mitigation Strategies
Section 6: Plain Maintenance Procedures	Appendix B: Plan Maintenance
Section 7: Action Plan	Section 4: Mitigation Strategies
Tables, Maps, Appendices	Appendix A: Planning Process; Appendix B: Plan Maintenance; Appendix C: Essential Facilities; Appendix D: Plan Adoption; Appendix E: State Required Worksheets

Despite numerous 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 St. Helena Parish and its municipalities. The extent of this risk is dictated primarily by its geographic location. Most significantly, St. Helena Parish remains at high risk of water inundation from various sources, including storm surge caused by tropical storms and hurricanes, backwater flooding, and failure of dams/levees and forced drainage systems. The entire parish is also at high risk of damages from high winds and wind-borne debris caused by various meteorological phenomena.

This Page Left Intentionally Blank

Section 2: Hazard Identification and Parishwide Risk Assessment

This section assesses the various hazard risks St. Helena 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 St. Helena 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			
Floods	X	X	X
Extreme Heat			
Sinkhole			
Termites			
Thunderstorms (Hail, Lightning & Wind)	X	X	X
Tornado	X	X	X
Tropical Cyclones	x	X	X
Tsunami			
Wildfires			
Winter Storm			

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 stormwater event)**
- b) **Tropical Cyclones (flooding and high winds)**
- c) **Tornadoes**
- d) **Thunderstorms (Hail, Lightning, Wind)**

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) Stormwater
 - c) Surge
 - d) Back water flooding (as the result of river flooding and surge)
- High wind damage most commonly resulting from hurricanes, thunderstorms and tornadoes

The potential destructive power of tropical cyclones was determined to be the most prevalent hazards to the parish. Nine of the twelve presidential declarations St. Helena Parish has received resulted from tropical cyclones which validates them as the most significant hazard. Therefore, the issue of hurricanes will both serve as the main focus during the mitigation planning process. Hurricanes present risks from the potential for flooding, primarily resulting from storm surge, and high wind speeds. While storm surge is considered the hazard with the most potential destructive potential, the risk assessment will also assess non-storm surge flooding as well. Flooding can also occur from non-hurricane events due to heavy rainfall.

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

St. Helena Parish is also susceptible to tornadoes. Tornadoes can spawn from tropical cyclones or severe weather systems that pass through St. Helena 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 destroying the natural and human environment such as building materials and trees.

[Previous Occurrences](#)

Table summarizes federal disaster declarations for St. Helena Parish since 1965. Information includes names, dates and types of disaster.

Table 2-2: St. Helena Parish Major Disaster Declarations

Disaster Declaration Number	Date	Type of Disaster
208	9/10/1965	Tropical Cyclone - Hurricane Betsy
3031	2/22/1977	Drought & Freezing - Snow
833	6/16/1989	Severe Storm, Tornadoes
956	8/26/1992	Tropical Cyclone – Hurricane Andrew
1380	6/11/2001	Tropical Cyclone – Tropical Storm Allison
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
1668	11/2/2006	Severe Storm, Flooding
1786	9/2/2008	Tropical Cyclone – Hurricane Gustav
4080	8/27/2012	Tropical Cyclone – Hurricane Isaac

Probability of Future Hazard Events

The probability of a hazard event occurring in St. Helena Parish is estimated below. The percent chance of an event happening during any given year was calculated by posting past events and dividing by the time period. Unless otherwise indicated the time period used to access probability followed the method used in the State of Louisiana's most current Hazard Mitigation Plan. The primary source for historical data used throughout the plan is the Spatial Hazards Events and Losses Database (SHELDUS) which provides historical hazard data from 1960 to 2014. In staying consistent with the state plan, the SHELDUS database was evaluated for the last 25 years (1989 – 2014) in order to determine future probability of a hazard occurring. While the 25-year record used by the State was adopted for the purpose of determining the overall probability, 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 table on the following page 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		
	St. Helena Parish (Unincorporated	Greensburg	Montpelier
Flood	12%	4%	4%
Thunderstorms (Hail)	<1%	<1%	<1%
Thunderstorms (Lightning)	<1%	<1%	<1%
Thunderstorms (Wind)	100%	100%	100%
Tornado	20%	20%	20%
Tropical Cyclones	28%	28%	28%

As shown in Table , thunderstorm winds have the highest annual chance of occurrence in the parish (100%) followed by tropical cyclones (28%). Floods have an annual chance of occurrence of 12% in the unincorporated area of St. Helena Parish, but these probability percentages decrease for the incorporated areas of the parish. Greensburg and Montpelier both have an annual chance of occurrence for a flood event calculated at 4%. Both hail and lightning were determined to have less than a 1% annual chance of occurrence within the borders of St. Helena 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 on critical infrastructure from a previous hazard mitigation project.

Within the entire planning area there are an estimated value of \$833,445,000 in structures throughout the parish. The tables below provide the total estimated value for each structure by occupancy.

Table 2-4: Estimated Total of Potential Losses throughout St. Helena Parish

Occupancy	St. Helena Parish	Unincorporated	Greensburg	Montpelier
Agricultural	\$2,657,000	\$2,657,000	\$0	\$0
Commercial	\$68,556,000	\$51,635,000	\$15,793,000	\$1,128,000
Government	\$13,300,000	\$10,254,000	\$2,644,000	\$402,000
Industrial	\$21,389,000	\$21,298,000	\$91,000	\$0
Religion	\$22,042,000	\$18,722,000	\$2,365,000	\$955,000
Residential	\$700,620,000	\$631,777,000	\$45,455,000	\$23,388,000
Education	\$4,881,000	\$4,368,000	\$513,000	\$0
Total	\$833,445,000	\$740,711,000	\$66,861,000	\$25,873,000

Essential Facilities of the Parish.

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

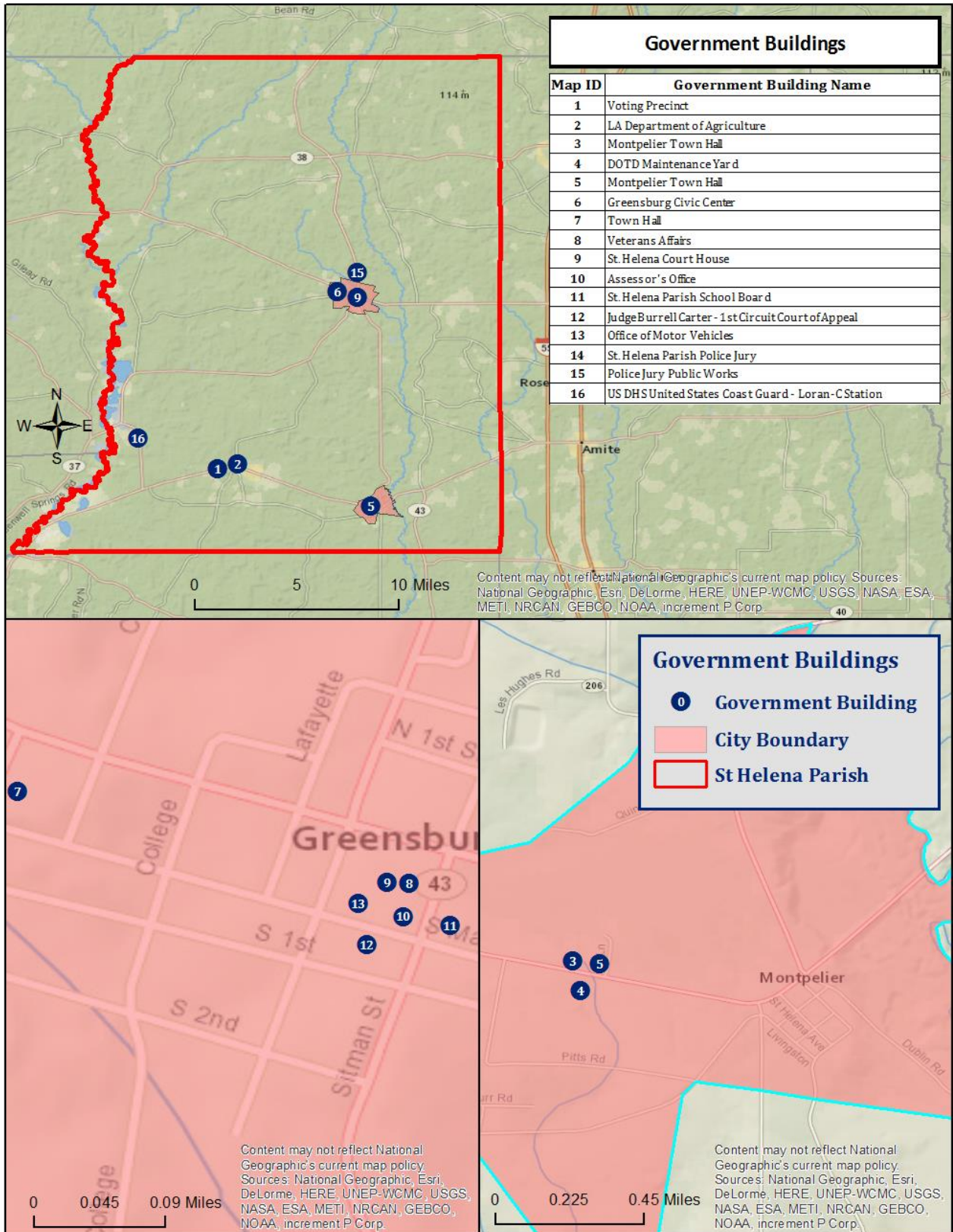


Figure 2-1: Government Buildings Located in St. Helena Parish

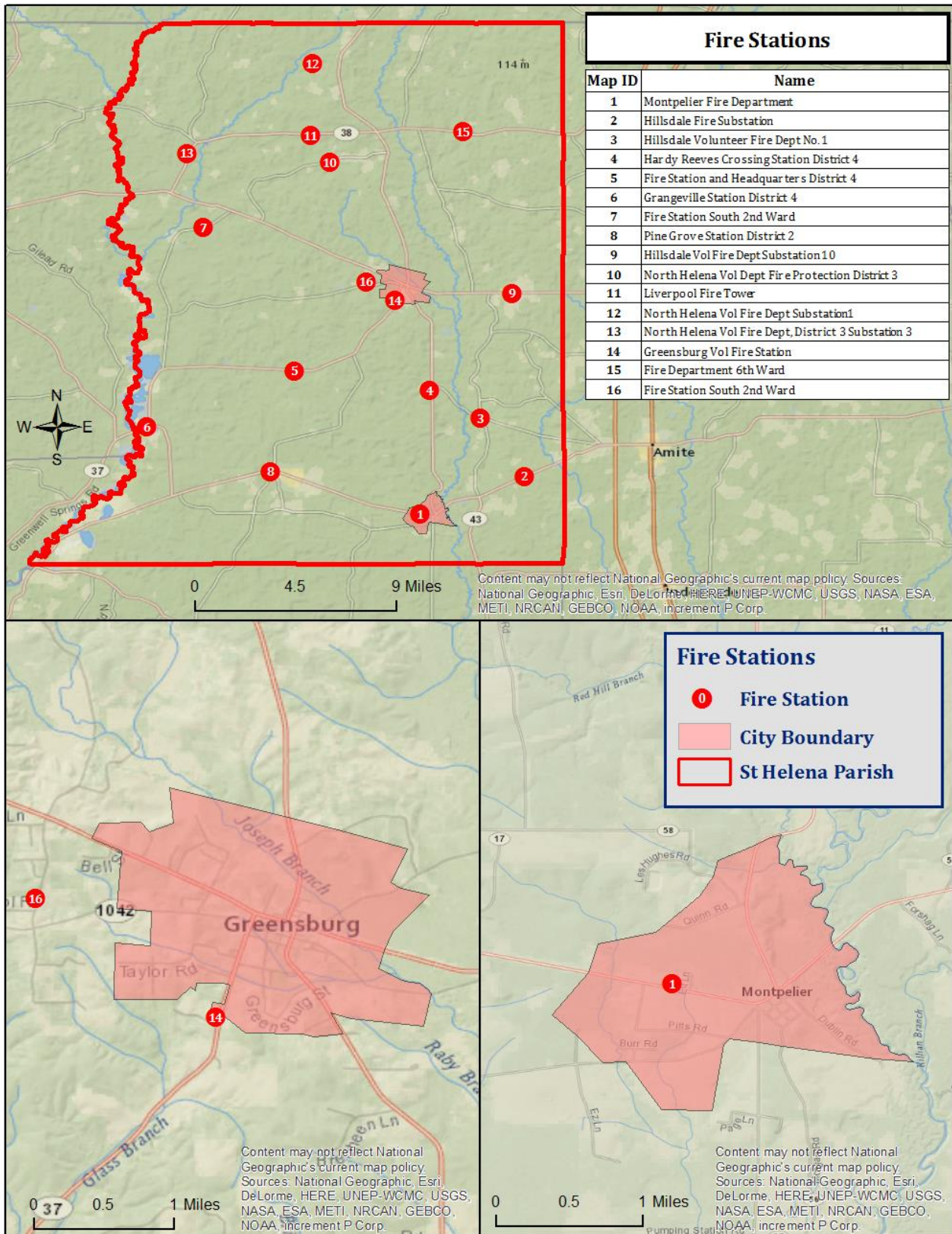
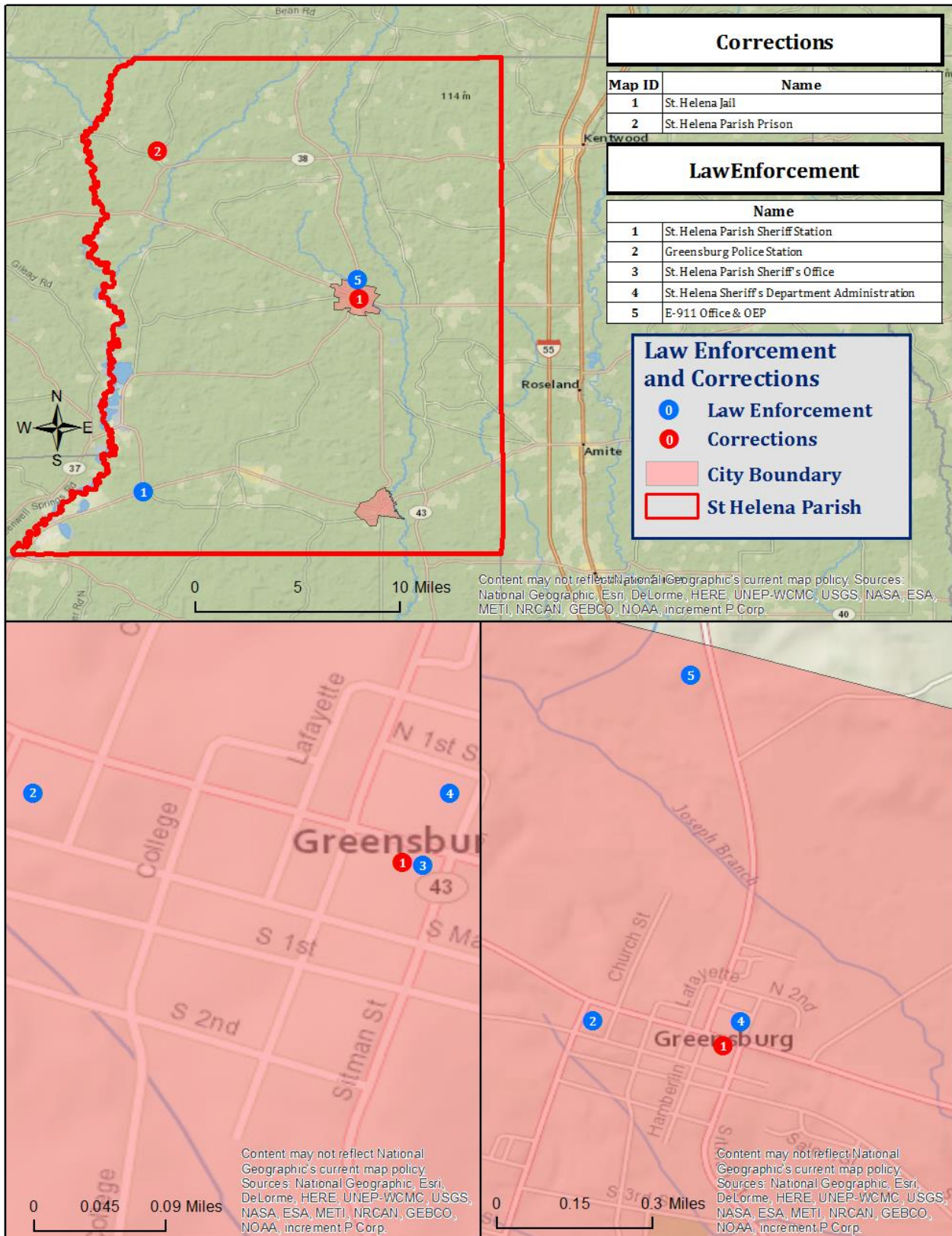


Figure 2-2: Fire Stations Located in St. Helena Parish



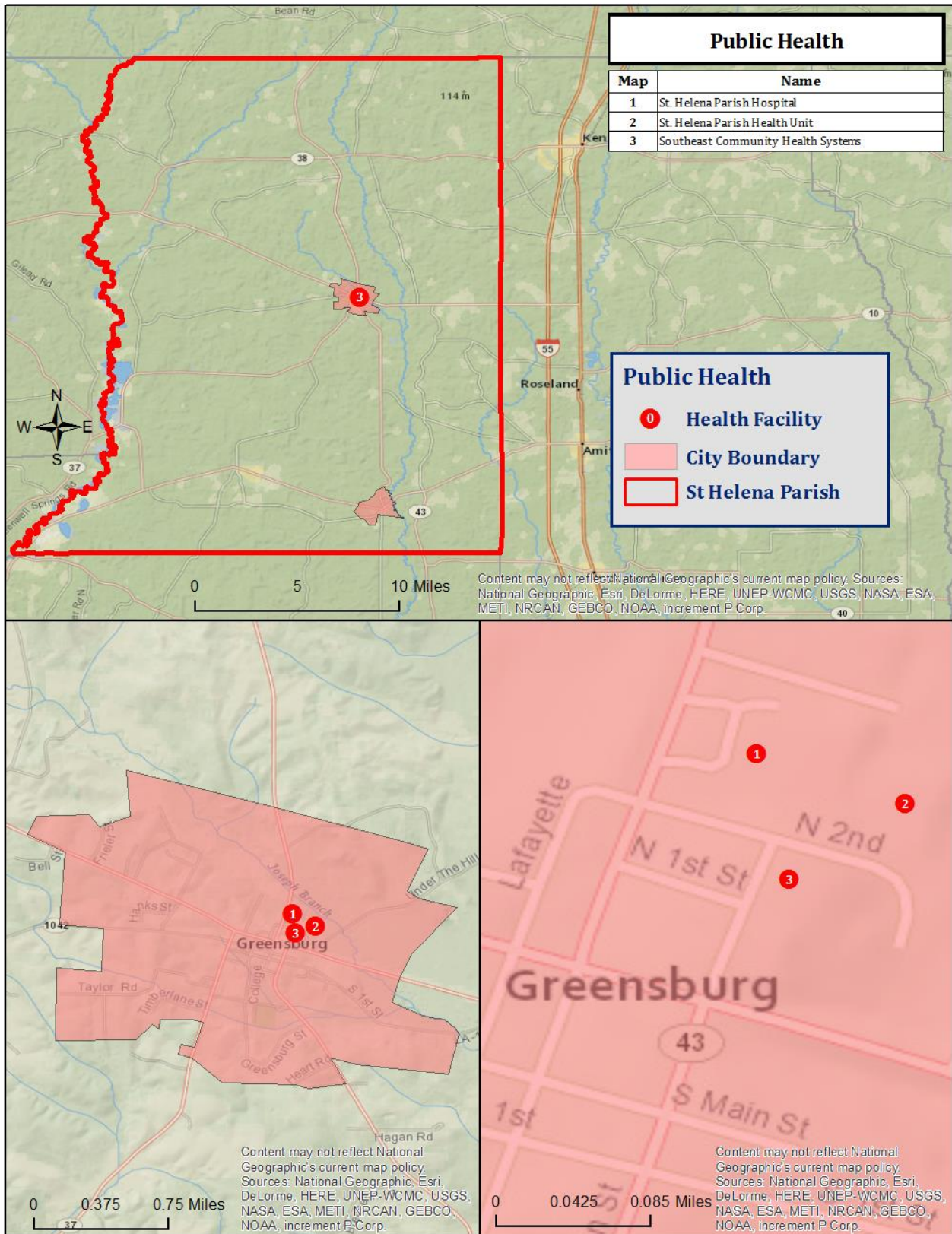


Figure 2-4: Public Health Facilities Located in St. Helena Parish

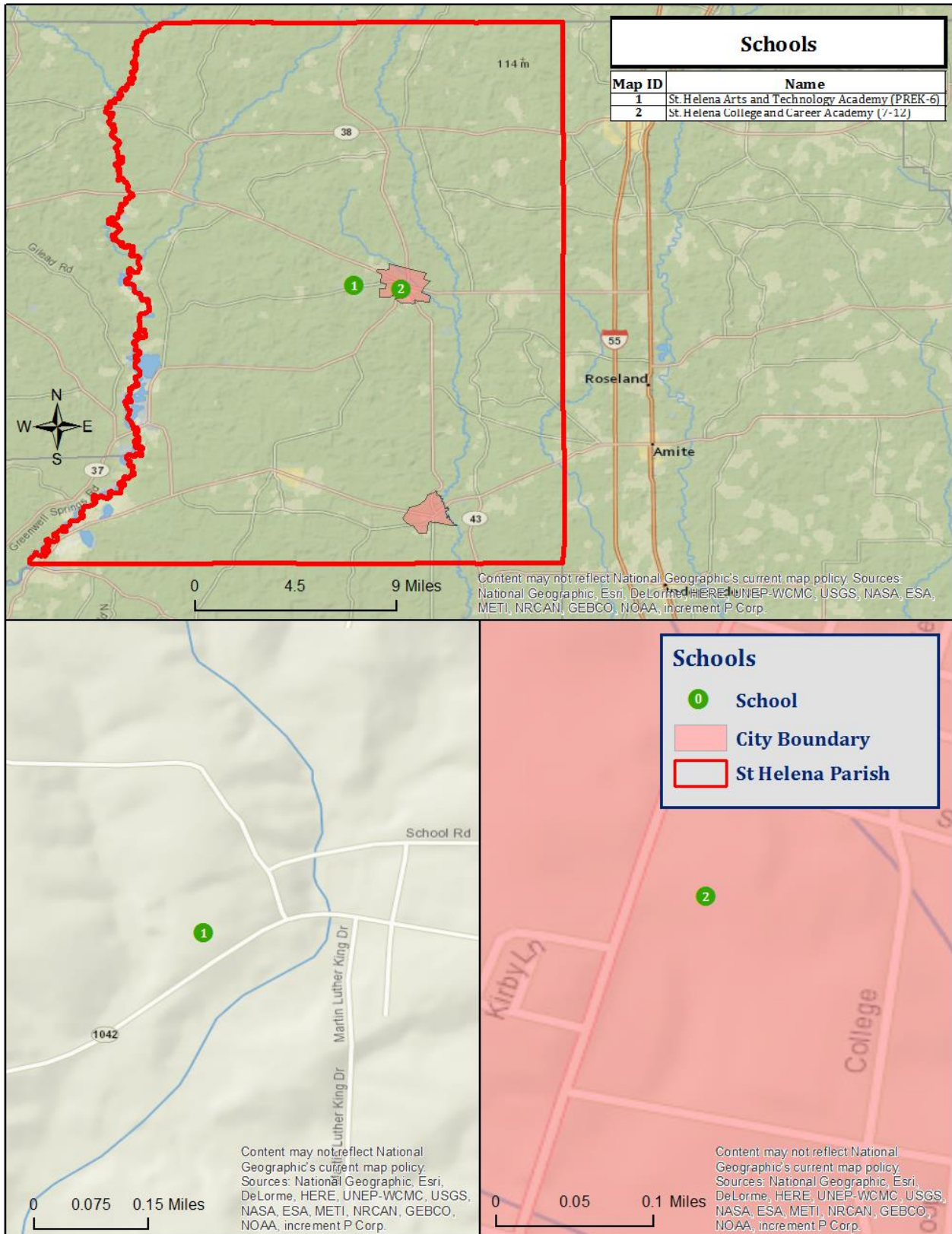


Figure 2-5: Educational Facilities Located in St. Helena Parish.

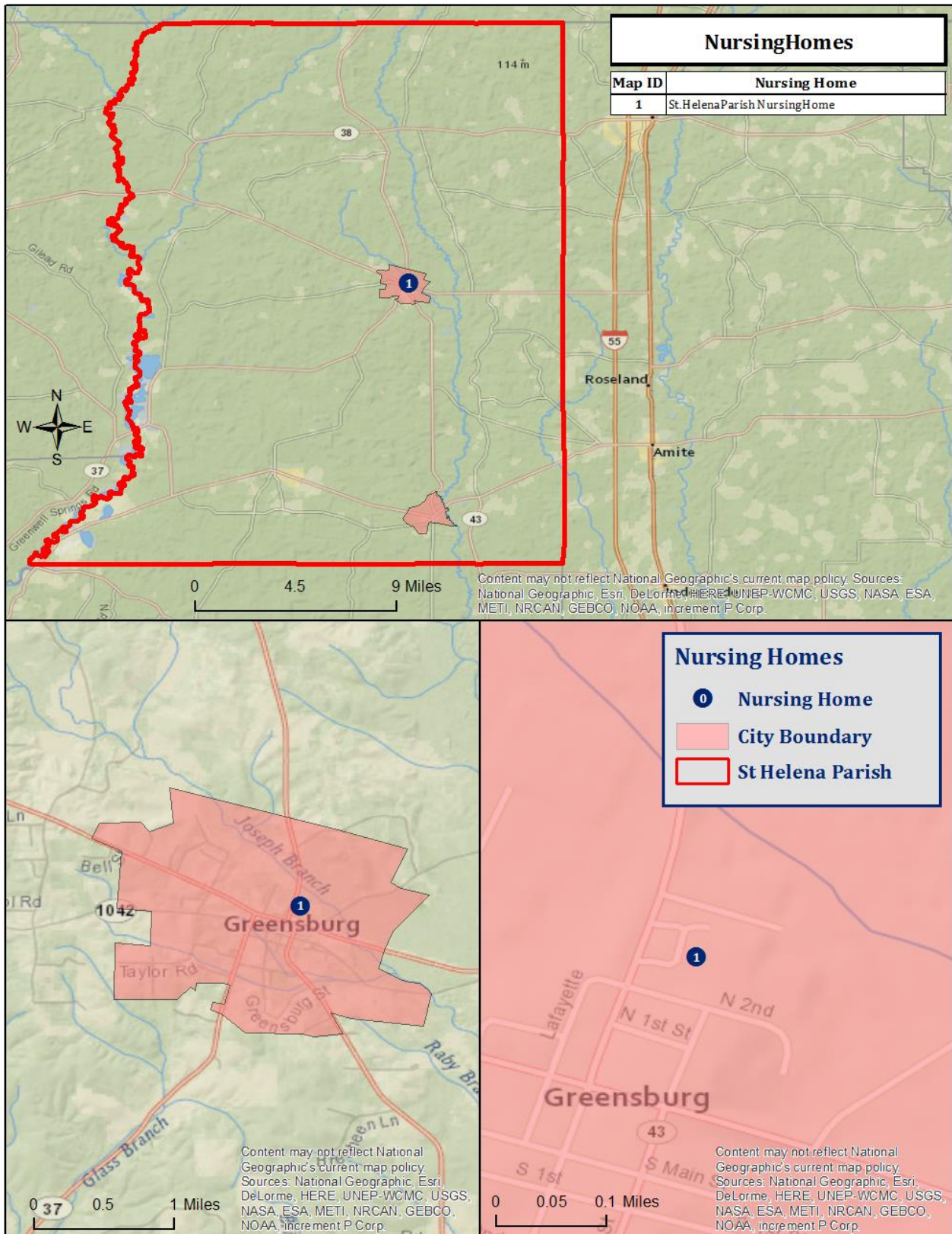


Figure 2-6: Nursing Home Facilities Located in St. Helena Parish

Future Development Trends

St. Helena Parish experienced a small growth in population and housing between the years of 2000 and 2010 growing from a population of 10,525 with 5,034 housing units in 2000 to a population of 11,203 with 5,150 housing units in 2010. This growth experienced throughout St. Helena Parish with the incorporated area of Montpelier experience the largest growth with a 2.4% annual growth rate. From 2010 to 2013, population in parish began to decline. Montpelier experienced the largest decline with an annual decrease in growth of 2.26%. 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 St. Helena Parish

Total Population	St. Helena Parish	Unincorporated	Greensburg	Montpelier
1-Apr-00	10,525	9,680	631	214
1-Apr-10	11,203	10,219	718	266
1-Jul-13	11,062	10,071	743	248
Population Growth between 2000 – 2010	6.4%	5.6%	13.8%	24.3%
Average Annual Growth Rate between 2000 – 2010	0.6%	0.6%	1.4%	2.4%
Population Growth between 2010 – 2013	-1.3%	-1.4%	3.5%	-6.8%
Average Annual Growth Rate between 2010 – 2013	-0.42%	-0.48%	1.16%	-2.26%

Table 2-6: Housing Growth Rate for St. Helena Parish

Total Housing Units	St. Helena Parish	Unincorporated	Greensburg	Montpelier
1-Apr-00	5,034	4,648	275	111
1-Apr-10	5,150	4,721	301	128
1-Jul-13	5,141	4,738	295	108
Housing Growth between 2000 – 2010	2.3%	1.6%	9.5%	15.3%
Average Annual Growth Rate between 2000 – 2010	0.2%	0.2%	0.9%	1.5%
Housing Growth between 2010 – 2013	-0.2%	0.4%	-2.0%	-15.6%
Average Annual Growth Rate between 2010 – 2013	-0.1%	0.1%	-0.7%	-5.2%

As shown in Table 2- and Table , St. Helena Parish has experienced slight growth in both population and housing units during the time period between 2000 and 2010. Population growth rates grew at 0.6% annually in the parish from 2000 to 2010. The unincorporated areas grew at a rate of 0.6%, Greensburg at a rate of 1.4%, and Montpelier at a rate of 2.4% annual during this time period. From 2010 to 2013, population numbers began to decline in the parish at a rate of 0.1% annually. The incorporated area of Greensburg is the only area in the parish that experienced a slight population growth at an annual rate of 1.16%. Montpelier's population decreased during this time period at an annual rate of 2.26%, and the unincorporated area at an annual rate of 0.48%.

Housing growth from 2000 to 2010 increased at a slightly slower rate than population. Overall, the parish experienced an annual housing rate of 0.2%. Montpelier had the largest annual housing rate at 1.5%, followed by Greensburg at 0.9%, and the unincorporated area at 0.2%. Just as with population, housing experienced a decline from 2010 to 2013 at an annual housing rate of 0.1%. The unincorporated area of St. Helena Parish is the only area within the parish to experience a slight increase in housing at an annual rate of 0.1%. Montpelier experienced a decline at an annual rate of 5.2% and Greensburg at 0.7%.

Future Hazard Impacts

Hazard impacts were estimated for five years and ten years in the future (2019 and 2024). Yearly population and housing growth rates were applied to parish inventory assets for composite flood and tropical cyclones. Based on a review of available information, it is assumed that population and housing units will grow slightly within St. Helena 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	5,149	2,516	2,537	2,562
Value of Structures	\$843,322,751	\$412,063,620	\$437,067,617	\$469,083,177
# of People	11,105	5,426	5,534	5,665
Tropical Cyclone				
Structures	5,149	5,149	5,192	5,243
Value of Structures	\$843,322,751	\$843,322,751	\$894,495,527	\$960,018,054
# of People	11,105	11,105	11,325	11,594

Land Use

The St. Helena Parish Land Use table is provided below. Residential, commercial and industrial areas account for only 6% of the parish's land use. Forest land at 164,641 acres is the largest category accounting for 63% of parish land. Wetlands at 53,847 acres account for 21% of parish lands, while agricultural areas at 25,261 acres accounts for 9% of parish lands. The parish also consists of water areas with 2,258 acres accounting for 1% of all parish lands.

*Table 2-8: St. Helena Parish Land Use
(Source: USGS Land Use Map)*

Land Use	Acres	Percentage
Agricultural Land, Cropland, and Pasture	25,261	9%
Wetlands	53,847	21%
Forest land (not including forested wetlands)	164,641	63%
Urban/Development	16,048	6%
Water	2,258	1%

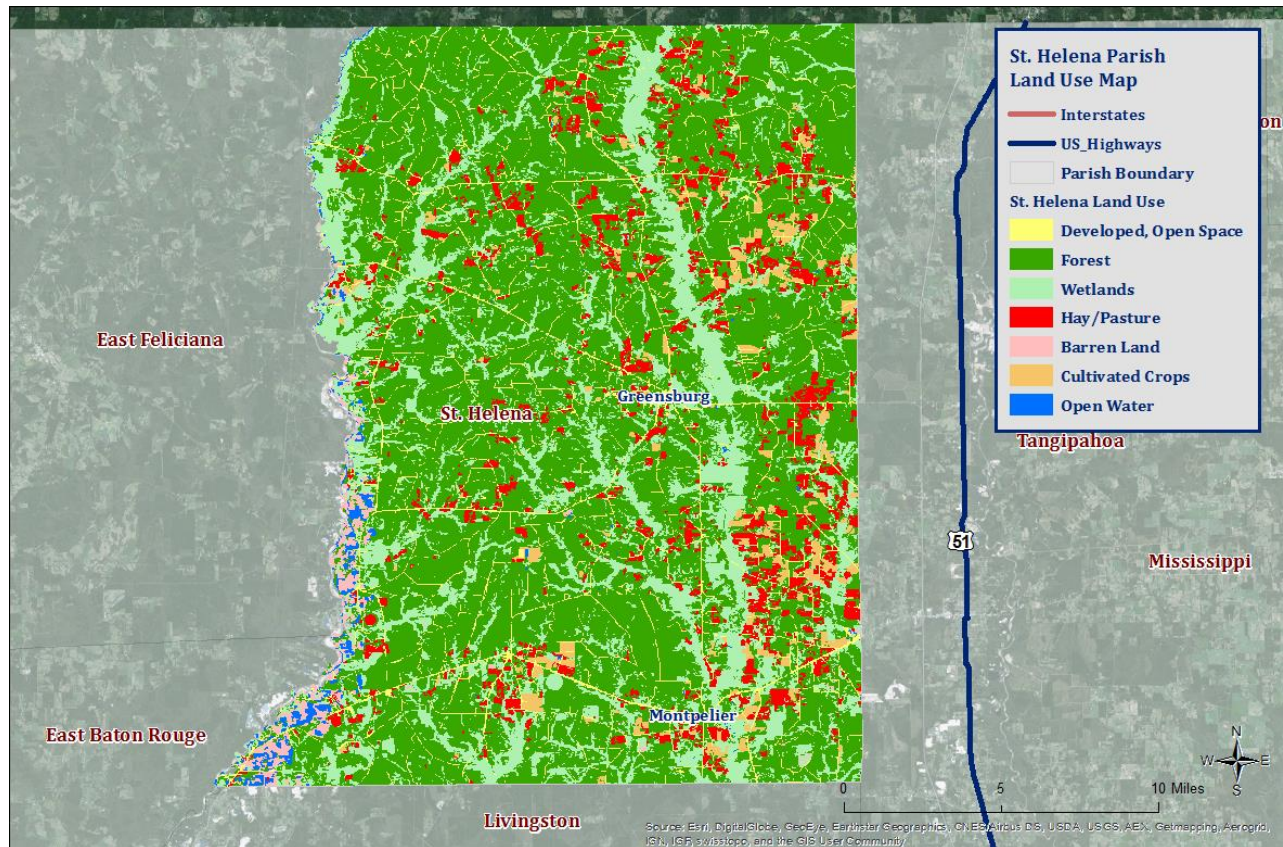


Figure 2-7: St. Helena Parish Land Use Map.
(Source: USGS Land Use Map)

Hazard Identification

Flooding

A flood is the overflow of water onto land that is usually not inundated. The National Flood Insurance Program 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 (e.g., agricultural and forestry tend to remove native vegetation and accelerate soil erosion), and the presence of flood-control structures such as levees and dams.

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

In cooler months, particularly in the spring, Louisiana is in peak season for severe thunderstorms. The fronts that cause these thunderstorms often stall while passing over the state, occasionally producing rainfall totals exceeding 10 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, and low-lying, poorly drained areas are particularly prone 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 and the shape and land cover of its drainage basin. The smaller the river, the faster 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, 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, tsunami, and gradual sea level rise.

In St. Helena Parish, all six types of flooding have historically been observed. For purposes of this assessment, ponding, flash flood and urban flooding are considered to be flooding as a result of storm water from heavy precipitation thunderstorms

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

- **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 hydro-meteorological conditions are such that there is a threat of flooding, but the occurrence is neither certain nor imminent.

Floods are measured mainly by probability of occurrence. A 10-year flood event, for example, is an event of small magnitude (in terms of stream flow or precipitation) but with a relatively high annual probability of recurrence (10%). A 100-year flood event is larger in magnitude, but it has a smaller chance of recurrence (1%). A 500-year flood is significantly larger than both a 100-year event and a 10-year event, but it has a lower probability than both to occur in any given year (0.2%). It is important to understand that an x-year flood event does not mean an event of that magnitude occurs only once in x years. Instead,

it just means that on average, we can expect a flood event of that magnitude to occur once every x years. Given that such statistical probability terms are inherently difficult for the lay population to understand, the Association of State Floodplain Managers (ASFPM) promotes the use of more tangible expressions of flood probability. As such, the ASFPM also expresses the 100-year flood event as having a 25% chance of occurring over the life of a 30-year mortgage.

It is essential to understand that the magnitude of an x-year flood event for a particular area depends on the source of flooding and the area's location. The size of a specific flood event is defined through historic data of precipitation, flow, and discharge rates. Consequently, different 100-year flood events can have very different impacts. The 100-year flood events in two separate locations have the same likelihood to occur, but they do not necessarily have the same magnitude. For example, a 100-year event for the Mississippi River means something completely different in terms of discharge values (ft^3/s) than, for example, for the Amite River. Not only are the magnitudes of 100-year events different between rivers, they can be different along any given river. A 100-year event upstream is different from one downstream since river characteristics (volume, discharge, and topography) change. 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 change over time. 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 (NFIP) Rate Maps. The NFIP and FEMA suggest insurance rates based on special flood hazard areas (SFHAs), as diagrammed in *Figure 0-1*.

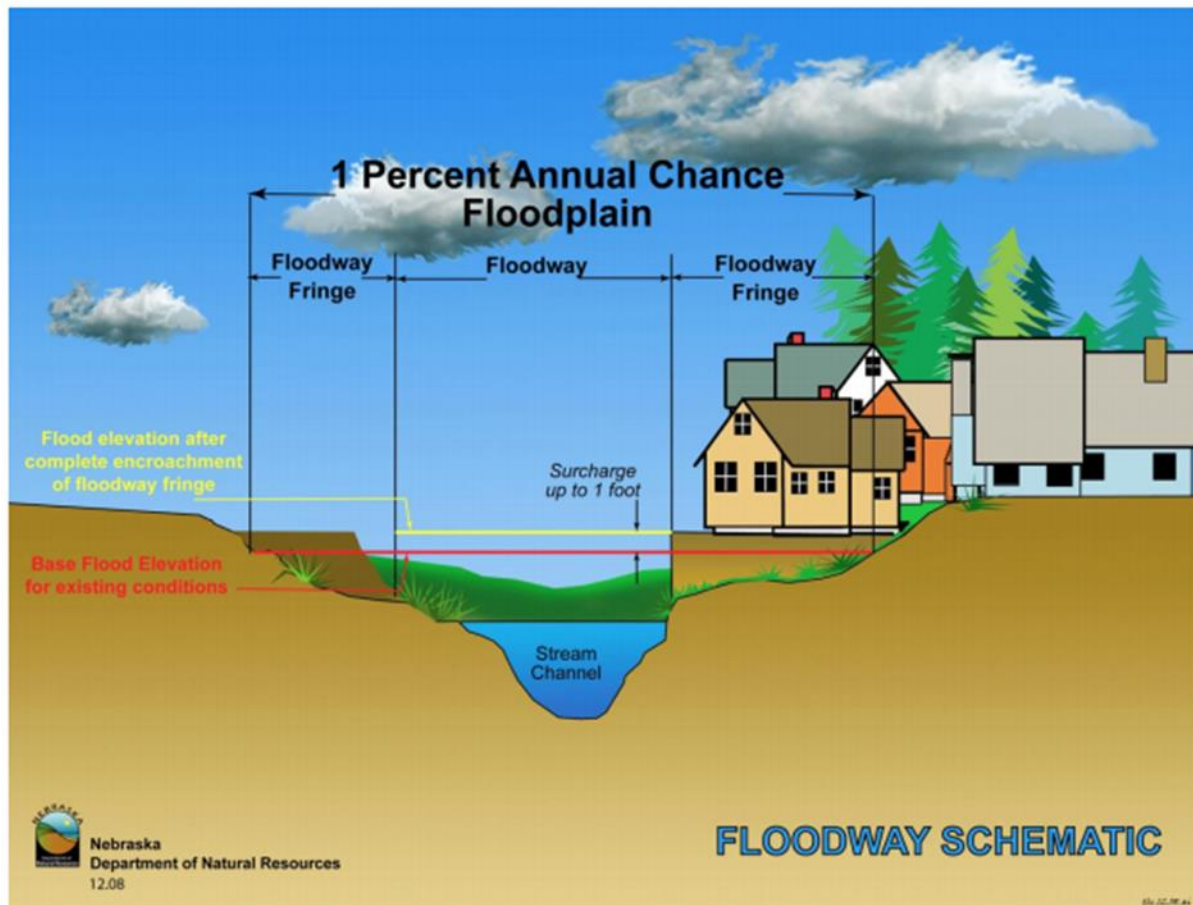


Figure 0-1: Schematic of 100 year Floodplain. The special hazard area (SFHA) extends to the end of the floodway fringe.

(Source: Nebraska Department of Natural Resources)

A SFHA is the land area covered by the floodwaters of the base flood (red line in *Figure 0-1*), 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 too quickly, will crack, split, or warp. Plywood can come apart and gypsum wallboard has the potential to fall apart 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. Has incurred flood-related damage on two occasions, in which the cost of the repair, on the 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 St. Helena Parish are provided below:

Table 2-9: Repetitive Loss Structures for St. Helena Parish.

Jurisdiction	Number of Structures	Residential	Commercial	Government	Total Claims	Total Claims Paid	Average Claim Paid
St. Helena Parish (Unincorporated)	2	2	0	0	4	27,338	\$6,835
Greensburg	0	0	0	0	0	\$0	\$0
Montpelier	0	0	0	0	0	\$0	\$0
Total	2	2	0	0	4	\$27,338	\$6,835

Both repetitive loss structures were able to be geocoded to provide an overview of where the repetitive loss structures were located throughout the parish. Figure shows the approximate location of the two

structures, while Figure 0-2 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 around the Greensburg area.

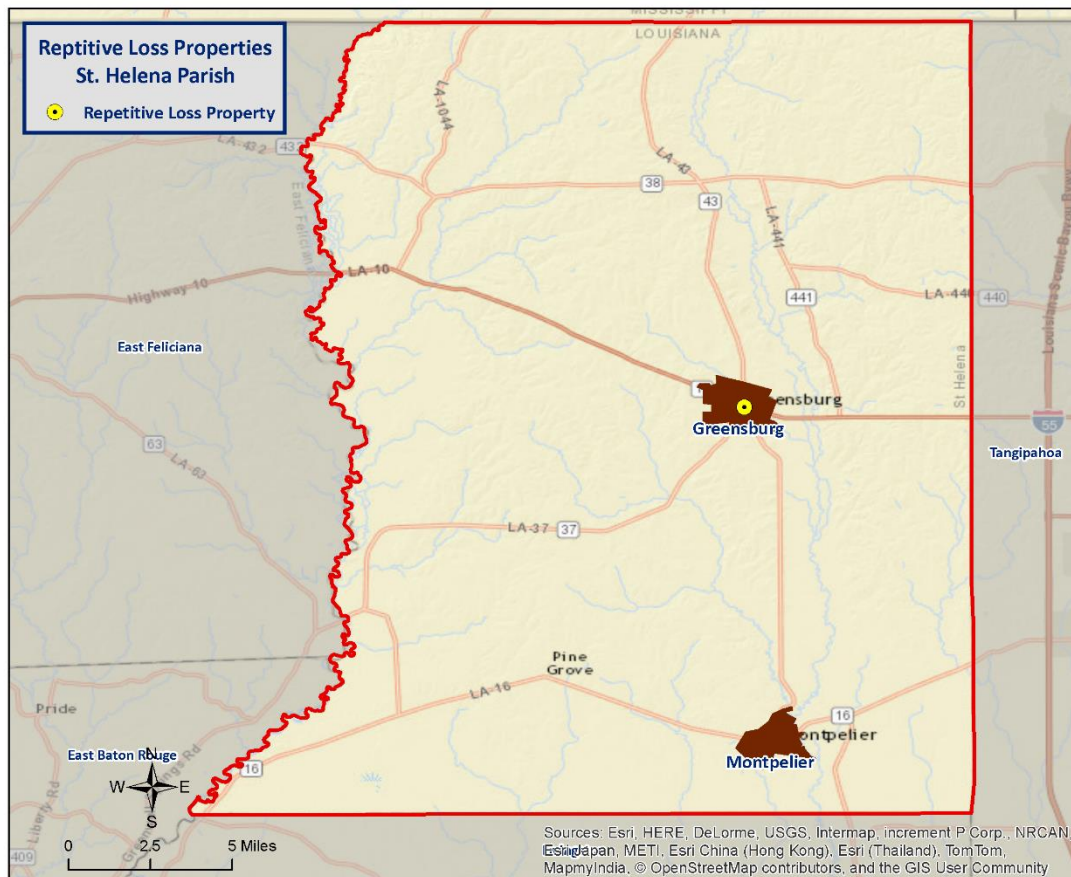


Figure 2-9: Repetitive Loss Properties in St. Helena Parish.

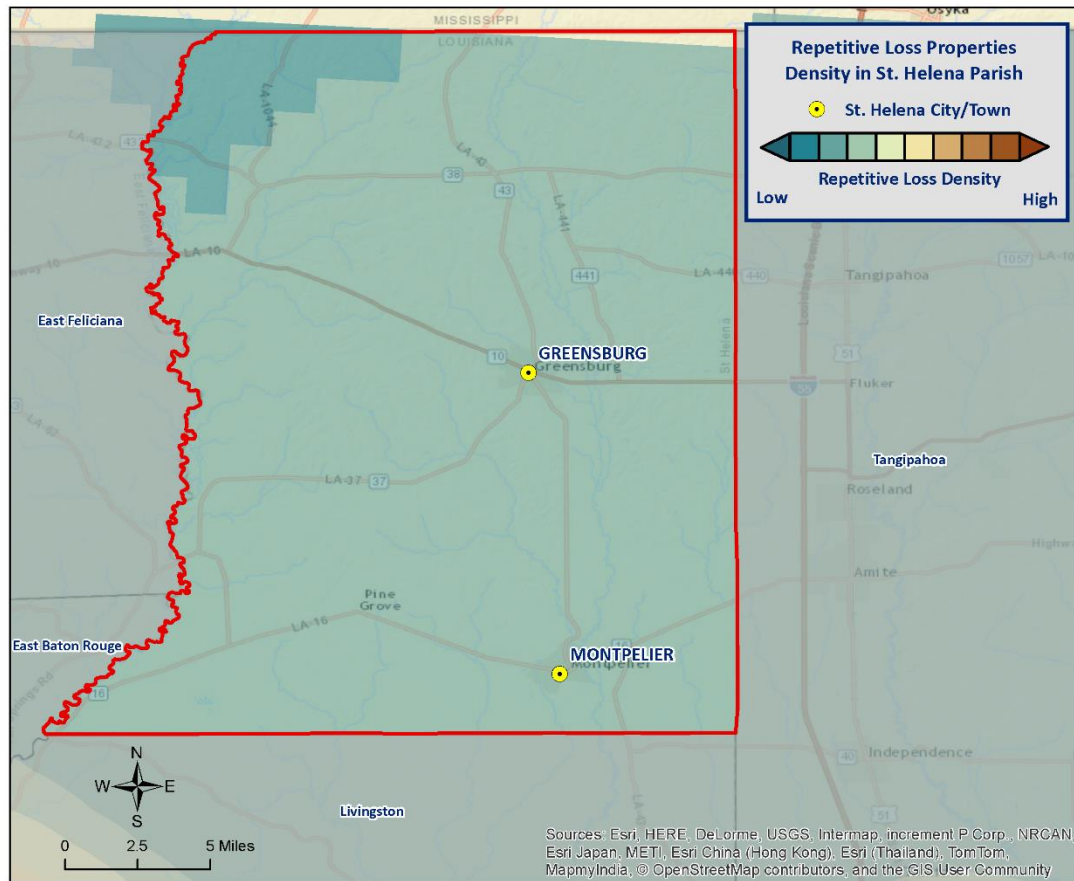


Figure 0-2: Repetitive Loss Property Densities in St. Helena Parish.

National Flood Insurance Program

Flood insurance statistics indicate that St. Helena Parish has sixty flood insurance policies with the NFIP with total annual premiums of \$54,414. St. Helena Parish, the town of Greensburg, and the village of Montpelier are all participants in the NFIP. St. Helena Parish and each of the incorporated jurisdictions 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 map updates. Flood insurance statistics and additional NFIP participation details for St. Helena Parish is provided in the tables to follow.

Table 2-10: Summary of NFIP Policies for St. Helena Parish.

Location	No. of Insured Structures	Total Insurance Coverage Value	Annual Premiums Paid	No. of Insurance Claims Filed Since 1978	Total Loss Payments
St. Helena Parish (Unincorporated)	56	\$16,384,000	\$51,144	6	\$73,310
Greensburg	2	\$276,200	\$2,515	1	\$45,255
Montpelier	2	\$385,500	\$755	0	\$0
Total	60	\$17,045,700	\$54,414	7	\$118,565

Table 2-11: Summary of Community Flood Maps for St. Helena Parish.

CID	Community Name	Initial FHBM Identified	Initial FIRM Identified	Current Effective Map Date	Date Joined the NFIP	Tribal
220161#	St. Helena Parish	-	9/27/1991	4/2/2013	9/27/1991	No
220330#	Greensburg, Town of	2/7/1975	4/1/1980	4/2/2013	4/1/1980	No
220300#	Montpelier, Village of	11/12/1976	3/20/1979	4/2/2013	3/20/1979	No

According to the Community Rating System (CRS) list of eligible communities dated June 1, 2014, there are no jurisdictions or unincorporated areas within St. Helena Parish that participate in the CRS.

Threat to People

Just as with property damage, depth and velocity are major factors in determining the threat posed to people by flooding. It takes very little depth or velocity for flood waters to become dangerous. A car will float in less than two feet of moving water and can be swept downstream into deeper waters, trapping the passengers within the vehicle. Victims of floods 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 creating a breeding ground for dangerous bacteria. This infiltration may also cause water supplies to become contaminated and undrinkable.

Flooding in St. Helena 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 that St. Helena Parish experiences.

Flash Floods: Flash floods are characterized by a rapid rise in water level, high velocity, and large amounts of debris. They are 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 and 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, or bayou and marsh hinders drainage outflow causing backwater flooding to the same areas susceptible to storm surge.

Riverine: Overbank flooding of rivers and streams is the most common type of flood event. Riverine floodplains range from narrow, confined channels to wide, flat areas.

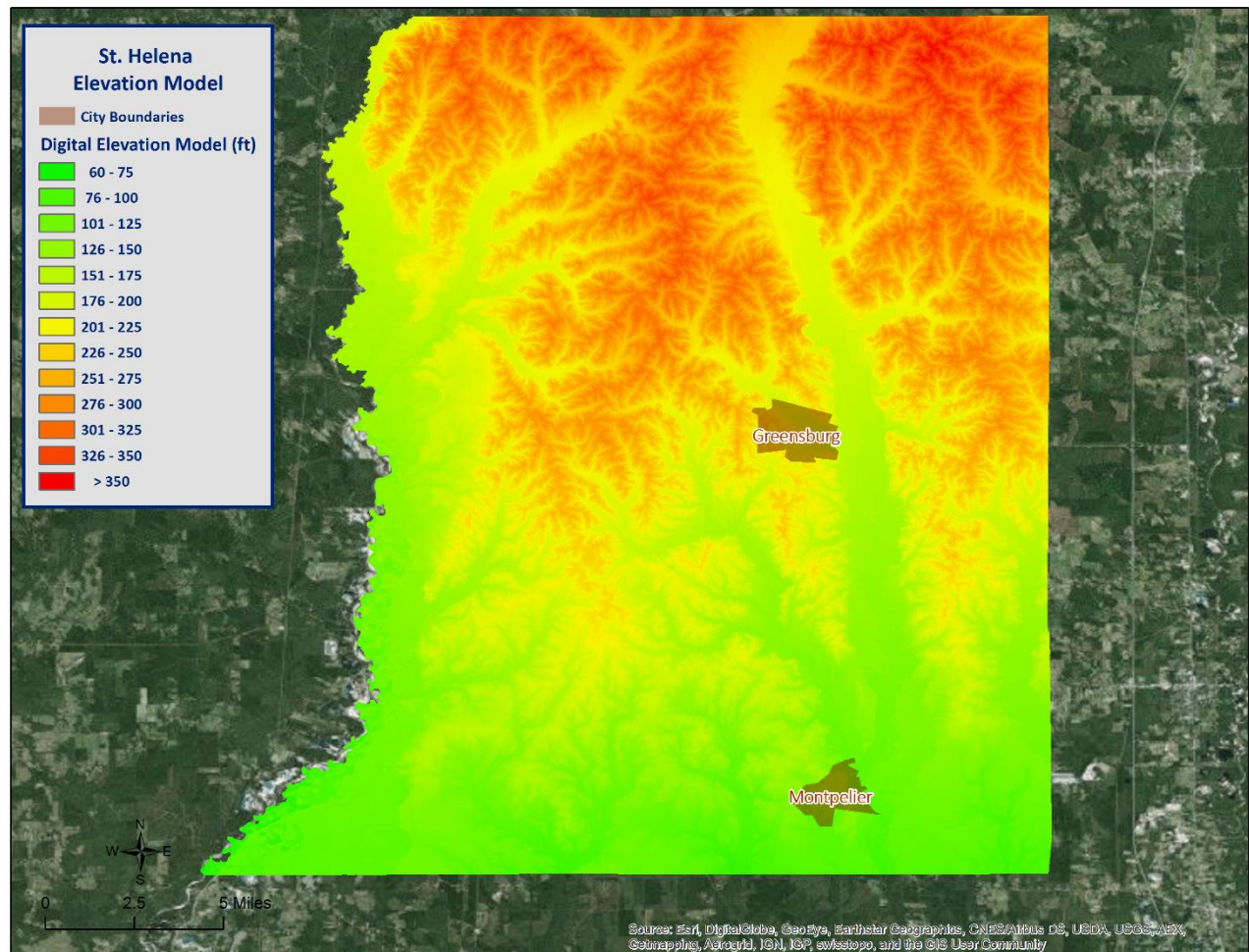


Figure 2-11: Elevation throughout St. Helena Parish.

Looking at the digital elevation model (DEM) in Figure for St. Helena Parish is instructive in visualizing where the low lying and risk areas are for the parish. Elevations in the parish range from approximately 65 feet to over 350 feet. The highest elevations in the parish are approximately 362 feet in the northern portion of the parish. These higher elevations are located in the northern section of the parish while the lower elevations dominate the southern areas. The incorporated area of Greensburg has an average elevation of approximately 220 feet, and the incorporated area of Montpelier has an average elevation of approximately 121 feet.

Location

St. Helena Parish has experienced several flooding events in its history and can expect more in the future. St. Helena Parish is susceptible to several different types of flooding due to its geographical location including riverine and flash flooding.

Below are enlarged maps of the incorporated areas showing the areas within each jurisdiction that are at risk to flooding.

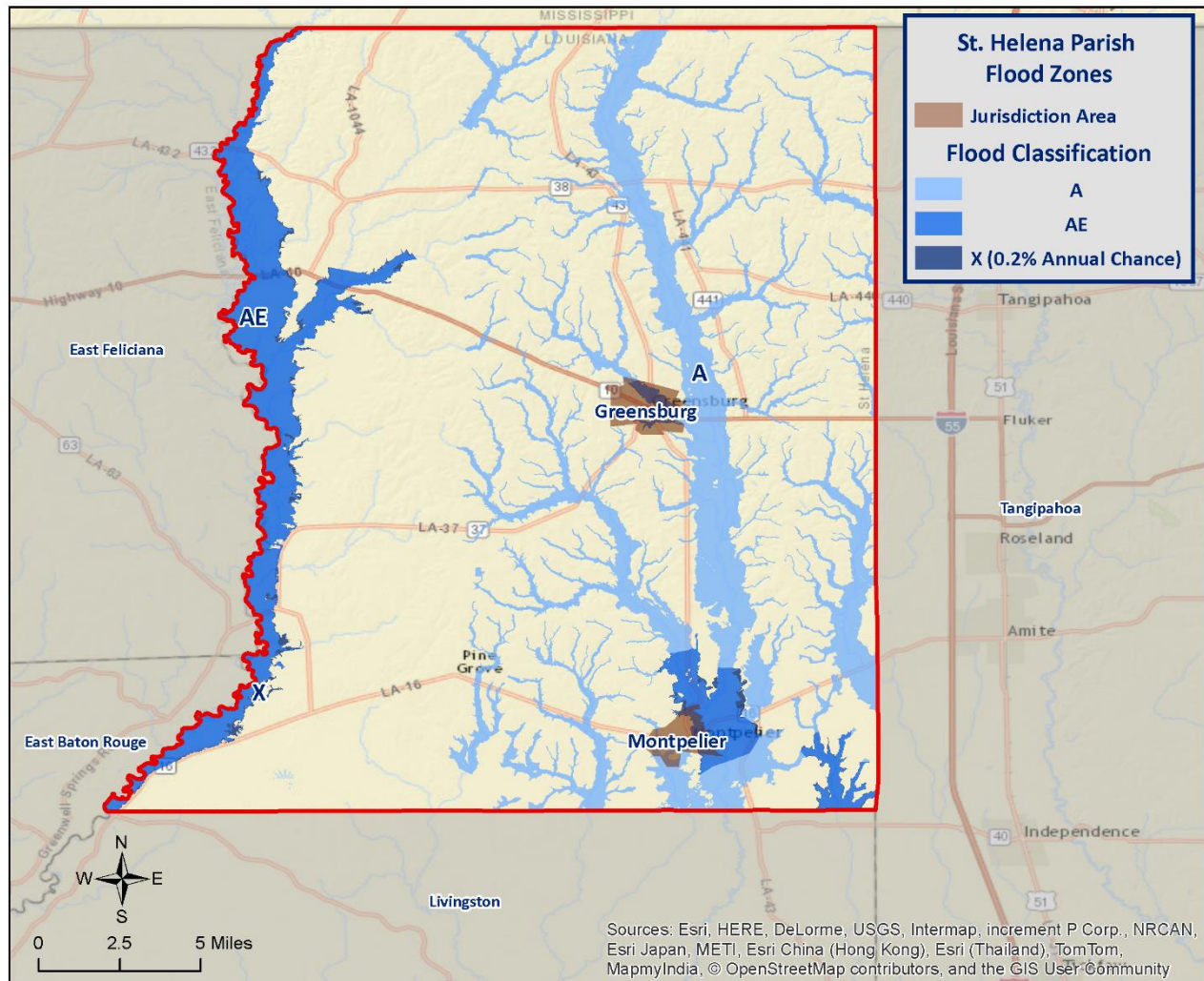


Figure 2-12: St. Helena Parish Areas within the Flood Zones.

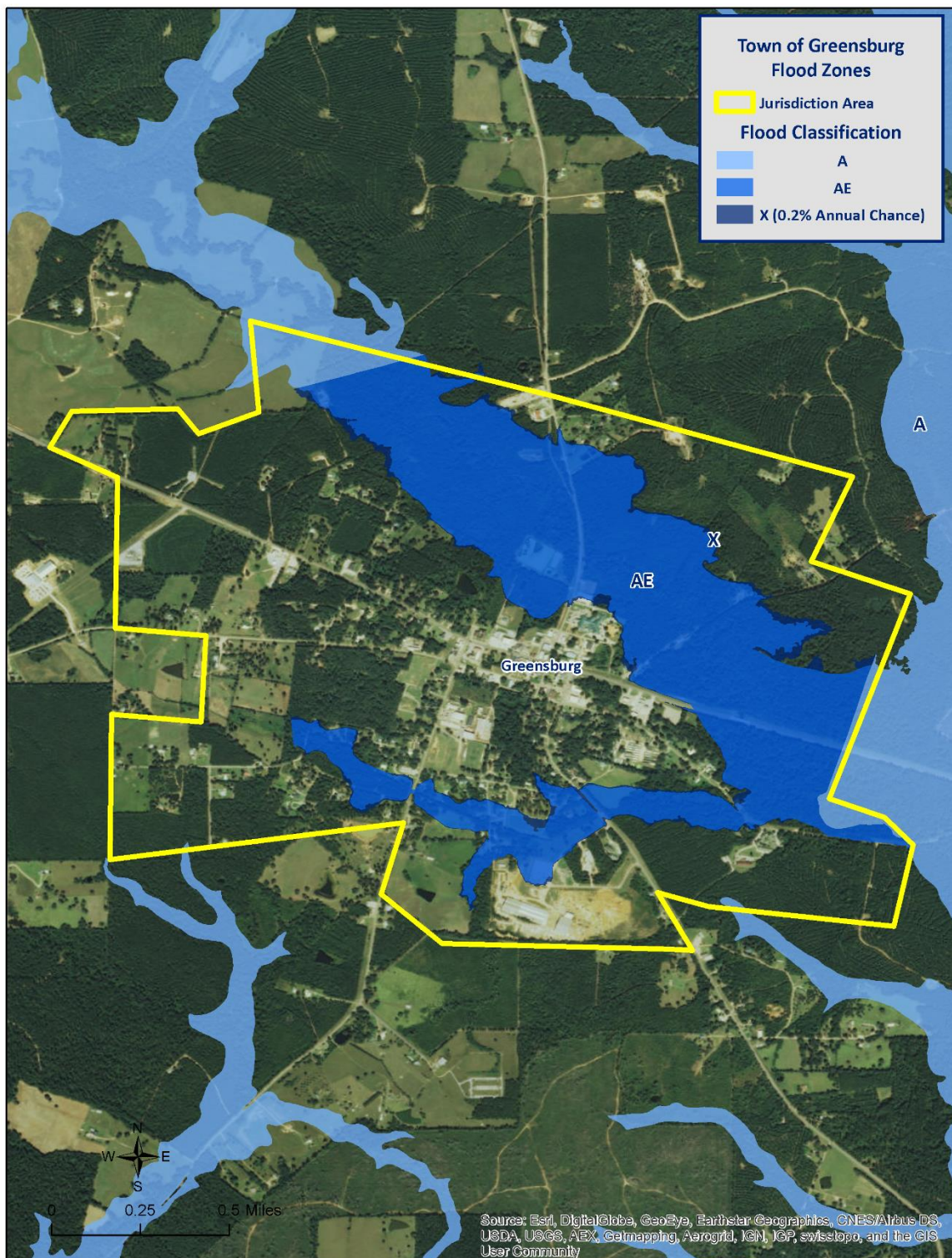


Figure 2-13: Town of Greensburg Areas within the Flood Zones.

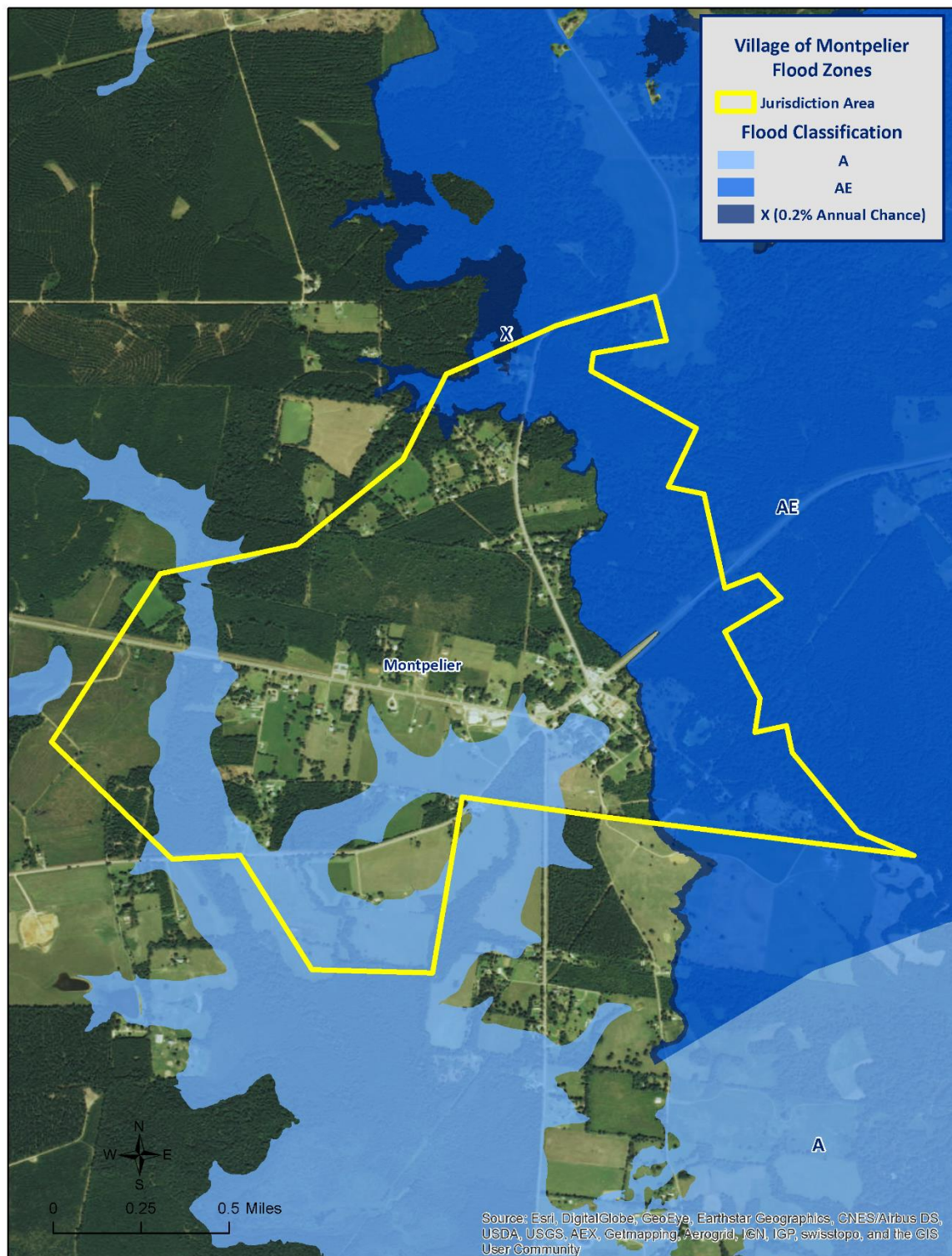


Figure 2-14: Village of Montpelier Areas within the Flood Zones.

Previous Occurrences and Extents

Historically, there have been three flood events that have created significant flooding in St. Helena Parish between 1989 and 2014. Below is a brief synopsis of two flooding events that have occurred since 2009, including each flooding event that has occurred since the parish's last planning update.

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

Date	Extents	Type of Flooding	Estimated Damages	Location
March 8, 2011	Flash floods caused several roads in the northeast quadrant of the parish near Beaver Creek. Highways 441, 440, and 38 were some of the roads that were impassable.	Flash Flood	\$50,000	GREENSBURG AND UNINCORPORATED AREA
February 20, 2014	An eight foot box culvert was washed out on David Allen and Joe Smith Road. Several homes in northern St. Helena Parish had minor flooding.	Flash Flood	\$25,000	MONTPELIER AND UNINCORPORATED AREA

Based on previous flood events, the worst-case scenarios for flooding would be two to four feet in the southern portion of the parish, the low-lying areas, and in the incorporated area of Montpelier. Flood depths of one to three feet are worst-case scenarios for the northern portions of the parish and the incorporated area of Greensburg.

Frequency / Probability

While other parts of this plan, along with the State's Hazard Mitigation Plan have relied on the SHELATUS database to provide the annual probability, due to St. Helena Parish having multiple jurisdictions, it was necessary to assess the historical data found in the National Climatic Data Center's for St. Helena 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 NAME Parish

Jurisdiction	Annual Probability	Return Frequency
St. Helena Parish (Unincorporated)	12%	8 to 9 years
Greensburg	4%	25 years
Montpelier	4%	25 years

Based on historical record, the overall probability for the entire St. Helena Parish Planning area is 12% with three events occurring over a 25-year period.

Estimated Potential Losses

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

*Table 2-14: Estimated Losses in St. Helena Parish from a 100-year Flood Event
(Source: Hazus 2.2)*

Jurisdiction	Estimated total Losses from 100-Year Flood Event
St. Helena Parish (Unincorporated)	\$272,796,000
Greensburg	\$13,676,000
Montpelier	\$1,751,000
Total	\$288,223,000

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 St. Helena Parish by Sector
(Source: Hazus 2.2)*

St. Helena Parish (Unincorporated)	Estimated total Losses from 100-Year Flood Event
Agricultural	\$1,030,000
Commercial	\$27,978,000
Government	\$4,681,000
Industrial	\$1,514,000
Religious / Non-Profit	\$5,784,000
Residential	\$230,817,000
Schools	\$992,000
Totals	\$272,796,000

*Table 2-16: Estimated 100-year Flood Losses for Greensburg by Sector
(Source: Hazus 2.2)*

Greensburg	Estimated total Losses from 100-Year Flood Event
Agricultural	\$0
Commercial	\$1,013,000
Government	\$124,000
Industrial	\$4,000
Religious / Non-Profit	\$981,000
Residential	\$11,540,000
Schools	\$14,000
Totals	\$13,676,000

*Table 2-17: Estimated 100-year Flood Losses for Montpelier by Sector
(Source: Hazus 2.2)*

Montpelier	Estimated total Losses from 100-Year Flood Event
Agricultural	\$0
Commercial	\$145,000
Government	\$36,000
Industrial	\$0
Religious / Non-Profit	\$112,000
Residential	\$1,458,000
Schools	\$0
Totals	\$1,751,000

Threat to People

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

*Table 2-18: 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
St. Helena Parish (Unincorporated)	10,219	5,061	49.5%
Greensburg	718	316	44.0%
Montpelier	266	97	36.5%
Total	11,203	5,474	48.9%

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

*Table 2-19: Vulnerable Populations Susceptible to a 100-year Flood Event in Unincorporated St. Helena Parish
(Source: Hazus 2.2)*

St. Helena Parish (Unincorporated)		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	5,061	49.5%
Persons Under 5 years	304	6.0%
Persons Under 18 years	1,154	22.8%
Persons 65 Years and Over	840	16.6%
White	2,293	45.3%
Minority	2,768	54.7%

*Table 2-20: Vulnerable Populations Susceptible to a 100-year Flood Event in Greensburg
(Source: Hazus 2.2)*

Greensburg		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	316	44.0%
Persons Under 5 years	22	6.8%
Persons Under 18 years	50	15.7%
Persons 65 Years and Over	66	20.8%
White	157	49.6%
Minority	159	50.4%

*Table 2-21: Vulnerable Populations Susceptible to a 100-year Flood Event in Montpelier
(Source: Hazus 2.2)*

Montpelier		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	97	36.5%
Persons Under 5 years	5	5.6%
Persons Under 18 years	18	18.4%
Persons 65 Years and Over	17	17.7%
White	44	45.1%
Minority	53	54.9%

Vulnerability

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

Thunderstorms

The term “thunderstorm” is usually used as a catch-all term for several kinds of storms. Here “thunderstorm” is defined to include any precipitation event in which thunder is heard or lightning is seen. Thunderstorms are often accompanied by heavy rain and strong winds and, depending on conditions, occasionally by hail or snow. Thunderstorms form when humid air masses are heated, which causes them to become convectively unstable and therefore 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, and warming the surrounding environment, thus making it less dense than the surrounding air. This process intensifies the updraft and creates a localized lateral rush of air from all directions into the area beneath the thunderstorm to feed continued updrafts. At the mature stage, the rising air is accompanied by downdrafts caused by the shear of falling rain (if melted completely), or hail, freezing rain, sleet, or snow (if not melted completely). The dissipation stage is characterized by the dominating presence of the downdraft as the hot surface that gave the updrafts their buoyancy is cooled by precipitation. During the dissipation stage, the moisture in the air mass largely empties out.

The Storm Prediction Center in conjunction with the National Weather Service (NWS) have the ability to issue advisory messages based on forecasts and observations. The following are the advisory messages that may be issued 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 counties (parishes).

A variety of hazards might be produced by thunderstorms, including lightning, hail, tornadoes or waterspouts, flash floods, and high-speed winds called downbursts. Nevertheless, given all of these 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 develops in the upper atmosphere initially as ice crystals that are bounced about by high-velocity updraft winds. The ice crystals grow through deposition of water vapor onto their surface, fall partially to a level in the cloud where the temperature exceeds the freezing point, melt partially, get caught in another updraft whereupon re-freezing and deposition grows another concentric layer of ice, and fall after developing enough weight, sometimes after several trips up and down the cloud. The size of hailstones varies depending on the severity and size of the thunderstorm. Higher surface temperatures generally mean stronger updrafts, which allows more massive hailstones to be supported by updrafts, leaving them suspended longer. This longer time means larger hailstone sizes. The following tables display the TORRO Hailstorm Intensity Scale along with a spectrum of hailstone diameters and their everyday equivalents.

Table 2-22: 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

Intensity Category		Hail Diameter (mm)	Probable Kinetic Energy	Typical Damage Impacts
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 2-23: Spectrum of hailstone diameters and their everyday description
(Source: National Weather Service)*

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

Hailstorms can cause widespread damage to 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 .

*Table 2-24: High winds categorized by source, frequency, and duration
(Source: Making Critical Facilities Safe from High Wind, FEMA)*

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

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

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

*Table 2-25: 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	
12	74+	Hurricane	

Major damage directly caused by thunderstorm winds is relatively rare, while minor damage is common and pervasive, and most noticeable when it contributes to power outages. These power outages can have major negative impacts such as increased tendency for traffic accidents, loss of revenue for businesses, increased vulnerability to fire, food spoilage, and other losses that might be sustained by a loss of power.

Power outages may pose a health risk for those requiring electric medical equipment and/or air conditioning.

Lightning

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

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

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

Table 2-26: 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 is a climatological based hazard, the entire planning area for St. Helena Parish is equally at risk for hailstorms.

Previous Occurrences / Extents

The SHELATUS database reports no significant hailstorm events occurring within the boundaries of St. Helena Parish between the years of 1989 to 2014. The SHELATUS database only records hail events that have caused property or crop damage and/or fatalities or injuries. The National Climatic Data Center reports twelve hailstorm events occurring within the boundaries of St. Helena Parish. The hailstorm diameters experienced in St. Helena Parish have ranged from 0.75 inches to 1.75 inches according to the National Climatic Data Center since 1989. The most frequently recorded hail size has been 1.75 inch diameters. *Figure* displays the density of hailstorms in St. Helena Parish and adjacent parishes. *Table* provides an overview of hail storms that have impacted the St. Helena Parish Planning area since 2009 based on the National Climatic Data Center dataset. St. Helena Parish can expect to experience hail up to 1.75 inches for future events.

Table 2-27: Previous Occurrences of Hailstorms in St. Helena Parish
(Source: NCDC)

Date	Recorded Hail Size (inches)	Location
February 14, 2009	1	Greensburg
April 21, 2011	1	Greensburg
April 5, 2012	1.75	Montpelier

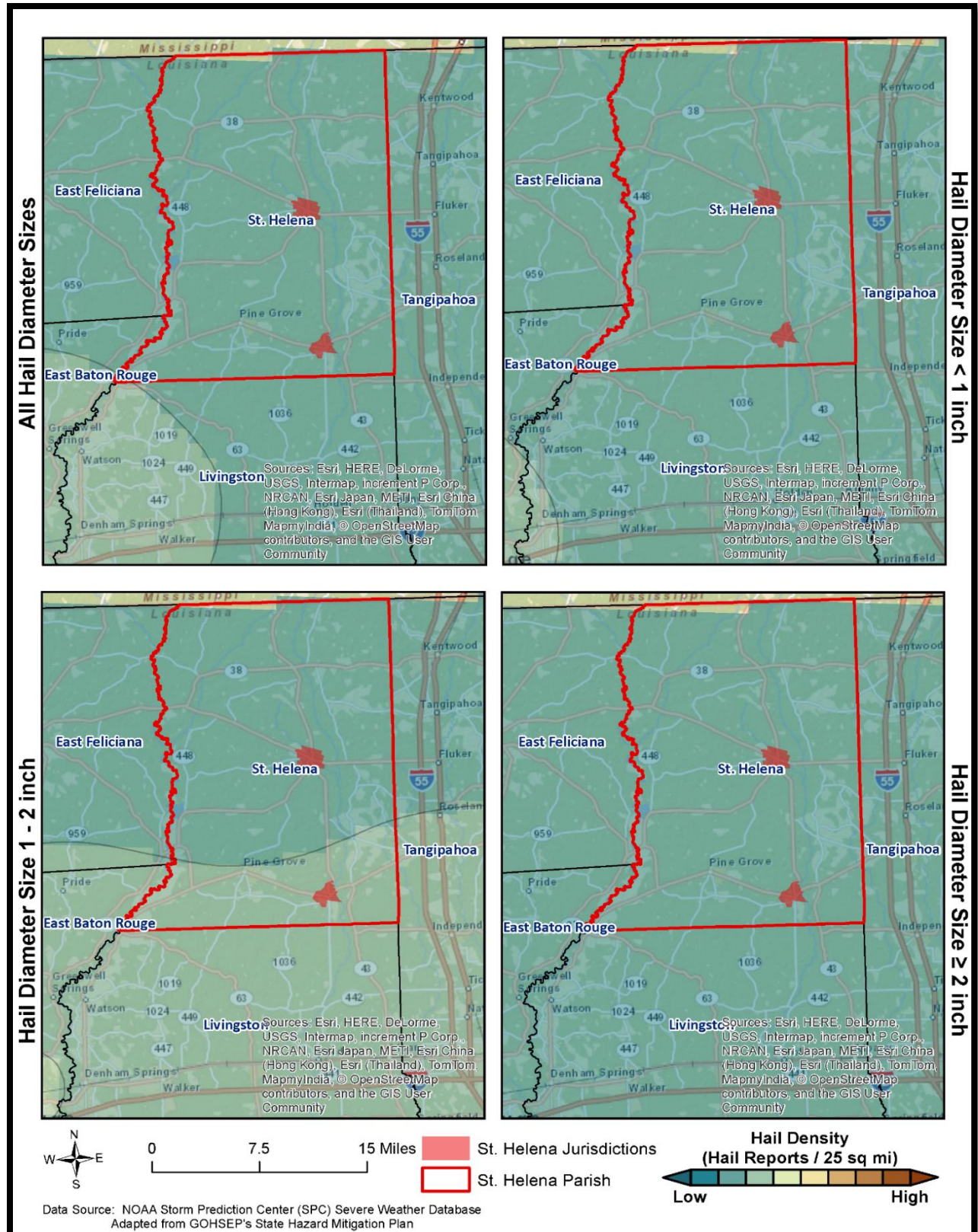


Figure 2-15: Density of Hailstorms by Diameter from 1950-2012
(Source: State of Louisiana Hazard Mitigation Plan 2014)

Frequency

Based on historical data from SHEL DUS for the past 25 years, it is estimated the probability of occurrence for a significant hailstorm event is less than 1% with a return frequency of less than once every eight years. The probability was determined based on a review of significant hail data that has caused damages in the last twenty-five years, in which St. Helena Parish has had no recorded events.

Estimated Potential Losses

According to the SHEL DUS and NCDC database, there have been no reports of property damage due to hailstorms in St. Helena Parish.

The Parish has suffered no deaths or injuries due to hailstorms from 1989 to 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 St. Helena Parish is equally at risk for high winds.

Previous Occurrences / Extents

The SHEL DUS database reports a total of twenty-nine thunderstorm wind events occurring within the boundaries of St. Helena Parish between the years of 1989 to 2014. The significant thunderstorm wind events experienced in St. Helena Parish have ranged from a wind speed of 58 mph to 69 mph. St. Helena Parish can expect to receive thunderstorm winds up to 69 mph for future high wind events.

Table 2-28: Previous Occurrences for Thunderstorm High Wind Events

Location	Date	Recorded Wind Speeds (mph)	Property Damage	Crop Damage
CHIPOLA	February 1, 2011	69	\$2,000	\$0
GREENSBURG	November 15, 2011	58	\$2,000	\$0
GREENSBURG	July 2, 2014	60	0	\$0
GEORGEVILLE	November 16, 2014	64	0	\$0
GREENSBURG	April 9, 2015	69	0	\$0

Frequency

High winds are a fairly common occurrence within St. Helena Parish with an annual chance of occurrence calculated at 100%. According to the State Hazard Mitigation Plan, St. Helena Parish has a future probability of experiencing one to two wind events annually.

Estimated Potential Losses

Since 1989, there have been twenty-nine significant wind events that have resulted in property damages according to the SHEL DUS database. The total property damages associated with those storms have totaled \$40,551. 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 SHEL DUS (1989 – 2014). This provides an annual estimated potential loss of \$1,398. The following table provides an estimate of potential property losses for St. Helena Parish:

Table 2-29: Estimated Annual Property Losses in St. Helena Parish Resulting from Wind Damage

Estimated Annual Potential Losses from Thunderstorm Winds for St. Helena Parish		
Unincorporated St. Helena Parish (91.2% of Population)	Greensburg (6.4% of Population)	Montpelier (2.4% of Population)
\$1,480	\$104	\$39

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-1 to C-2 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 St. Helena Parish.

Previous Occurrences / Extent

The SHEL DUS and NCDC database reports no significant lightning events occurring within the boundaries of St. Helena Parish between the years of 1989 to 2014. The SHEL DUS and NCDC database only record 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 St. Helena Parish which occur on a nearly monthly basis.

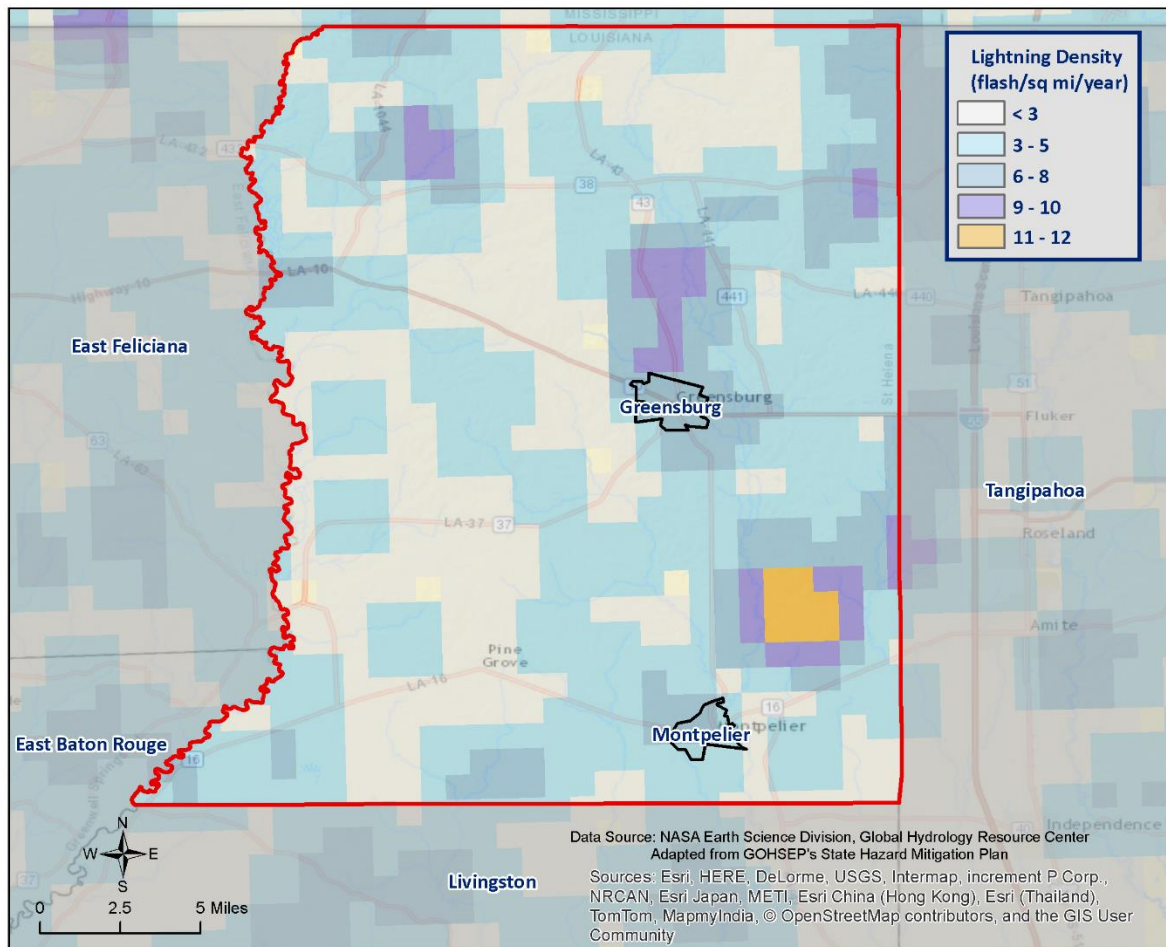


Figure 2-16: Lightning Density Reports for St. Helena Parish

Frequency

Lightning can strike anywhere and is produced by every thunderstorm, so the chance of lightning occurring in St. Helena Parish is high. However, lightning that meets the definition that is used by SHELATUS and the NCDC that actually results in damages to property and injury or death to people is a less likely event. This is consistent with SHELATUS, which has no lightning events that have caused property damages or injuries over the last twenty-five years, establishing an annual probability of less than 1%.

Estimated Potential Losses

According to the SHELATUS and NCDC database, there have been no reports of property damage due to lightning in St. Helena Parish.

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

Vulnerability

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

Tornadoes

Tornadoes (also called twisters and cyclones) are rapidly rotating funnels of wind extending between storm clouds and the ground. For their size, tornadoes are the most severe storms, and 70% of the world's reported tornadoes occur within the continental United States, making them one of the most significant hazards Americans face. Tornadoes and waterspouts form during severe weather events, such as thunderstorms and hurricanes, when cold air overrides a layer of warm air, causing the warm air to rise rapidly, which usually occurs 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 2-37 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 2-30: Comparison of the Enhanced Fujita (EF) Scale to the Fujita (F) Scale

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

Table 2-31: 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 off 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.

Scale	Typical Damage
F5/EF5	Incredible damage. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 meters (109 yards); trees debarked; incredible phenomena will occur.

The National Weather Service (NWS) has the ability to issue advisory messages based on forecasts and observations. The following are the advisory messages that may be issued 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 on 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 St. Helena Parish with actual locations, tornadoes in general are a climatological based hazard and have the same approximate probability of occurring in St. Helena Parish as all of its jurisdictions. Because a tornado has a similar probability of striking anywhere within the planning area for St. Helena Parish, all jurisdictions are equally at risk for tornadoes.

Previous Occurrences / Extent

SHELDUS reports a total of five tornadoes or waterspouts occurring within the boundaries of St. Helena Parish between the years of 1989 to 2014. The tornadoes experienced in St. Helena Parish have ranged EF0 to EF1 on the EF scale and ranged from F1 to F2 on the F scale. The worst case scenario St. Helena Parish can expect in the future is an EF2 tornado.

The tornado that caused the most damage to property occurred on November 15, 2006. The F2 tornado was responsible for approximately \$250,000 in damage. The tornado touched down near the intersection of Louisiana Highway 441 and 1046 destroying a home and travel trailer. The tornado is also responsible for the only fatality reported in the parish due to a tornado per SHELDUS. The tornado responsible for the most injuries occurred on December 11, 1983. The tornado injured four people when it touched down in the unincorporated area of St. Helena Parish.

*Table 2-32: Historical Tornadoes in St. Helena Parish with Locations from 1989-2014
(NCDC and SHELDUS)*

Date	Impacts	Property Damage	Location	Magnitude
June 8, 1989	1.5 mile path with a width of 50 yards. Caused minor damage to buildings in the area.	\$4,766	UNINCORPORATED AREA	F2
June 8, 1989	2 mile path with a width of 40 yards. Heavily damaged 8 mobile homes and 12 houses.	\$94,221	UNINCORPORATED AREA	F1
April 3, 2000	6 mile path with a width of 75 yards. Damaged several mobile homes and the roofs of numerous houses.	\$67,641	LIVERPOOL	F1
November 15, 2006	3.36 mile path with a width of 100 yards. Destroyed a home and travel trailer. A 43-year old man was fatally injured.	\$288,885	MONTPELIER	F2
February 17, 2008	0.3 mile path with a width of 15 yards. Overturned a mobile home and ripped the roofs off of several others.	\$32,460	GREENSBURG	EF1
November 16, 2011	0.45 mile path with a width of 150 yards. Wind moved a home off of its foundation and collapsed one of the exterior walls.	\$50,000	LIVERPOOL	EF1

Since 2010, the year the last update to this hazard mitigation plan was written, St. Helena Parish has had one tornado touch down. The following is a brief synopsis of that event:

November 16, 2011 – EF1 Tornado in Liverpool

A strong severe thunderstorm developed as a strong upper level disturbance moved along a cold front. A tornado spawned from this storm system approximately five miles northeast of Greensburg. Estimated maximum wind speeds were around 105 mph. Damage was reported to one residence which was blown about ten feet off its foundation. The home also had a collapse of one exterior wall. Scattered trees and power lines experienced wind damage.

Frequency / Probability

Tornadoes are a sporadic occurrence within St. Helena Parish with an annual chance of occurrence calculated at 20% based on the records for the past 25 years (1989-2014). Figure displays the density of tornado touchdowns in St. Helena Parish and neighboring parishes.

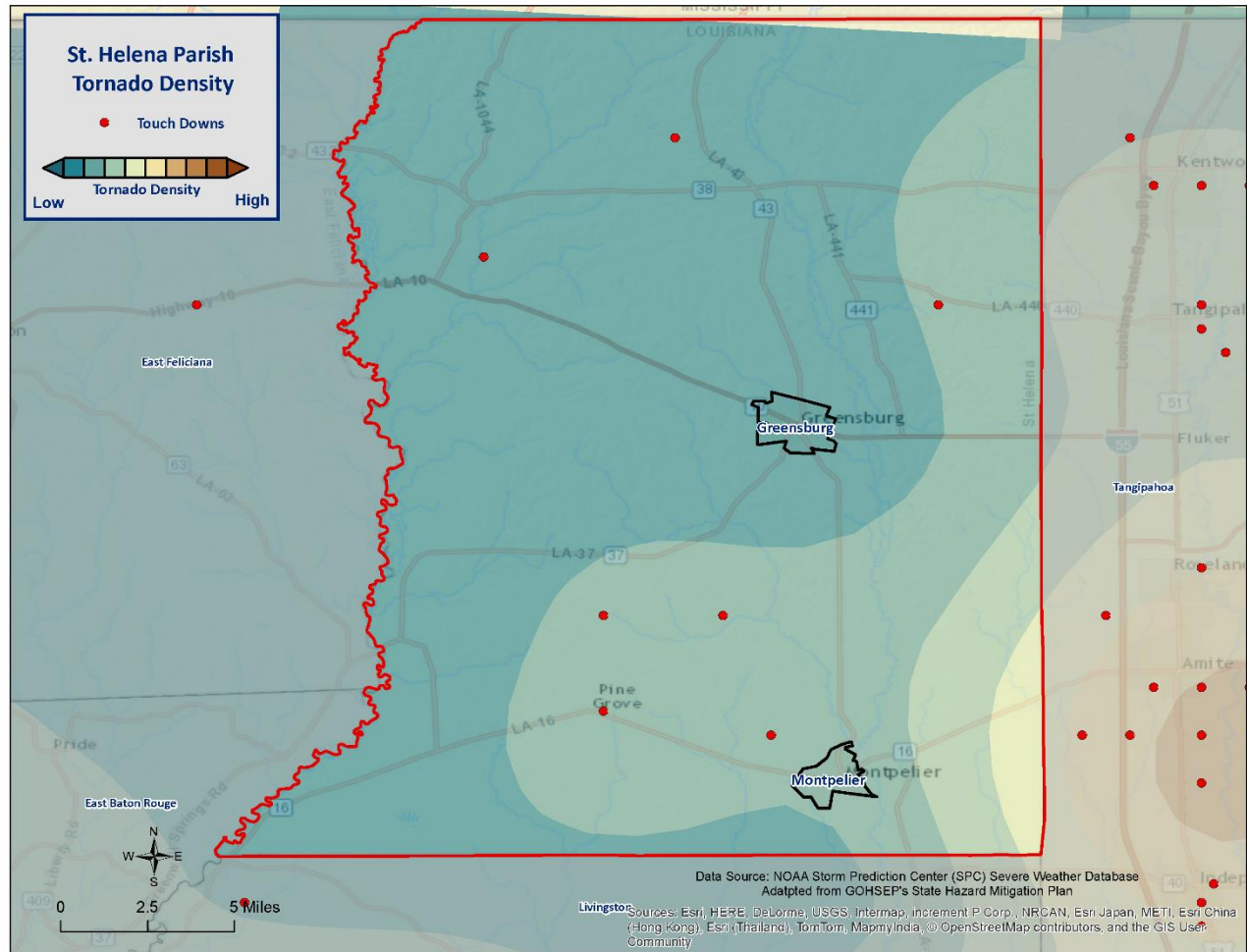


Figure 2-17: Location and Density of Tornadoes to Touchdown in St. Helena Parish
(Source: NOAA/SPC Severe Weather Database)

Estimated Potential Losses

According to the SHELATUS database, there have been five tornadoes that have caused some level of property damage. The total damage from the actual claims for property is \$487,614 with an average cost of \$97,523 per tornado strike. When annualizing the total cost over the 25-year record, total annual losses based on tornadoes are estimated to be \$19,505. To provide an estimated annual estimated potential loss per jurisdiction, the 2010 Census population was used to assign the estimated potential losses proportionally across the jurisdictions. Based on the 2010 Census data, Table provides an annual estimate of potential losses for St. Helena Parish.

Table 2-33: Estimated Annual Losses for Tornadoes in St. Helena Parish

Estimated Annual Potential Losses from Tornadoes for St. Helena Parish		
Unincorporated St. Helena Parish (91.2% of Population)	Greensburg (6.4% of Population)	Montpelier (2.4% of Population)
\$17,791	\$1,250	\$463

Table presents an analysis of building exposure that are susceptible to tornadoes by general occupancy type for St. Helena Parish along with the percentage of building stock that are mobile homes.

Table 2-34: Building Exposure by General Occupancy Type for Tornadoes in St. Helena 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 (%)
700,620	68,556	21,389	2,657	22,042	13,300	4,881	35.4%

The Parish has suffered through one day in which tornadoes or waterspouts have accounted for one injury and no fatalities during this 25-year period (Table 2-78). The average injury per event for St. Helena Parish is 0.2 per tornado with an average of 0.04 per year for the 25-year period.

Table 2-35: Tornadoes in St. Helena Parish by Magnitude that Caused Injuries or Deaths

Date	Magnitude	Deaths	Injuries
November 15, 2006	F2	0	1

In accessing the overall risk to population, the most vulnerable population throughout the parish are those residing in manufacturing housing. Approximately 35.4% of all housing in St. Helena Parish consists of manufactured housing. Based on location data collected in a previous hazard mitigation project, there are no known locations where manufactured housing is concentrated.

Vulnerability

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

Tropical Cyclones

Tropical cyclones are among the worst hazards that Louisiana faces. These spinning, low-pressure air masses draw surface air into their centers and attain strength ranging from weak tropical waves to the most intense hurricanes. Usually, these storms begin as clusters of oceanic thunderstorms off the western coast of Africa, moving westward in the trade wind flow. The spinning of these thunderstorm clusters begins because of the formation of low pressure in a perturbation in the westerly motion of the storms associated with differential impacts of the Earth's rotation. The west-moving, counterclockwise-spinning collection of storms-now called a tropical disturbance-may then gather strength as it draws humid air toward its low-pressure center, forming 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 presents the Saffir-Simpson Hurricane Wind Scale, which categorizes tropical cyclones based on sustained winds.

Table 2-36: 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	
Tropical Storm	39-73 mph	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 rain, flooding, high winds, and tornadoes. A general rule of thumb in coastal Louisiana is that the number of inches of rainfall to be expected from a tropical cyclone is approximately 100 divided by the forward velocity of the storm in mph; so a fast-moving storm (20 mph) might be expected to drop five inches of rain while a slow-moving (5 mph) storm could produce totals of around twenty inches. However, no two storms are alike, and such generalizations have limited utility for planning purposes. Hurricane Beulah, which struck Texas in 1967, spawned 115 confirmed tornadoes. In recent years, extensive coastal development has increased the storm surge resulting from these storms so much that this has become the greatest natural hazard threat to property and loss of life in the state. Storm surge is a temporary rise in sea level generally caused by reduced air pressure and strong onshore winds associated with a storm system near the coast. Although storm surge can technically occur at any time of the year in Louisiana, surges caused by hurricanes can be particularly deadly and destructive. Such storm surge events are often accompanied by large, destructive waves exceeding ten meters in some places that can inflict high numbers 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 in St. Bernard Parish, near Alluvial City.

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. Many things can be moved by high winds. As winds increase, so does the pressure against stationary objects. Pressure against a wall rises with the square of the wind speed. For some structures, this force is enough to cause failure. The potential for damage to structures is increased when debris breaks the building "envelope" and allows the wind 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). Buildings needing maintenance and mobile homes are most subject to wind damage. High winds mean bigger waves. Extended pounding by waves can demolish any structure not properly designed. The waves also erode sand beaches, roads, and foundations. When foundations are undermined, the building will collapse.

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

Location

Hurricanes are the single biggest threat to all of south Louisiana. With any single hurricane having the potential to devastate multiple parishes during a single event, the risk of a tropical cyclone has the probability of impacting anywhere within the planning area for St. Helena 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 SHELATUS database reports a total of five tropical cyclone events occurring within the boundaries of St. Helena Parish between the years 2002 to 2014 (Table). The tropical cyclone events experienced in St. Helena Parish include depressions, storms, and hurricanes. As a worst case scenario, St. Helena Parish can expect to experience hurricanes at the Category 3 level in the future.

*Table 2-37: Historical Tropical Cyclone Events in St. Helena Parish from 2002- 2014
(Source: SHELATUS)*

Date	Name	Storm Type While Impacting St. Helena Parish
October 3, 2002	Lili	Hurricane –Category 1
August 28, 2005	Katrina	Hurricane – Category 3
September 1, 2008	Gustav	Hurricane – Category 1
September 3, 2011	Lee	Tropical Storm
August 28, 2012	Isaac	Hurricane – Category 1

Tropical Storm Allison (2001)

Tropical Storm Allison ravaged U.S. coastal areas with torrential rain and flooding for nearly two weeks in June of 2001. Fifty fatalities are attributed to Tropical Storm Allison and insured losses totaled \$2.5 billion, and total damages exceeded \$6 billion. The heavy rain from Tropical Storm Allison initially hit southeastern Texas and Louisiana. Tropical Storm Allison eventually moved into St. Helena Parish, resulting in widespread flooding throughout the parish.

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 into 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.

In St. Helena Parish, Hurricane Lili caused widespread flooding. Structures in low-lying areas sustained flood damage and most roadways in the parish were inundated with flood waters. Hurricane Lili downed several trees and branches due to strong wind gusts.

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 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 and Mississippi border. Hurricane Katrina caused widespread devastation along the central Gulf Coast states of the United States. The flooding of New Orleans following the passage of Katrina was catastrophic, resulting in the displacement of more than 250,000 people.

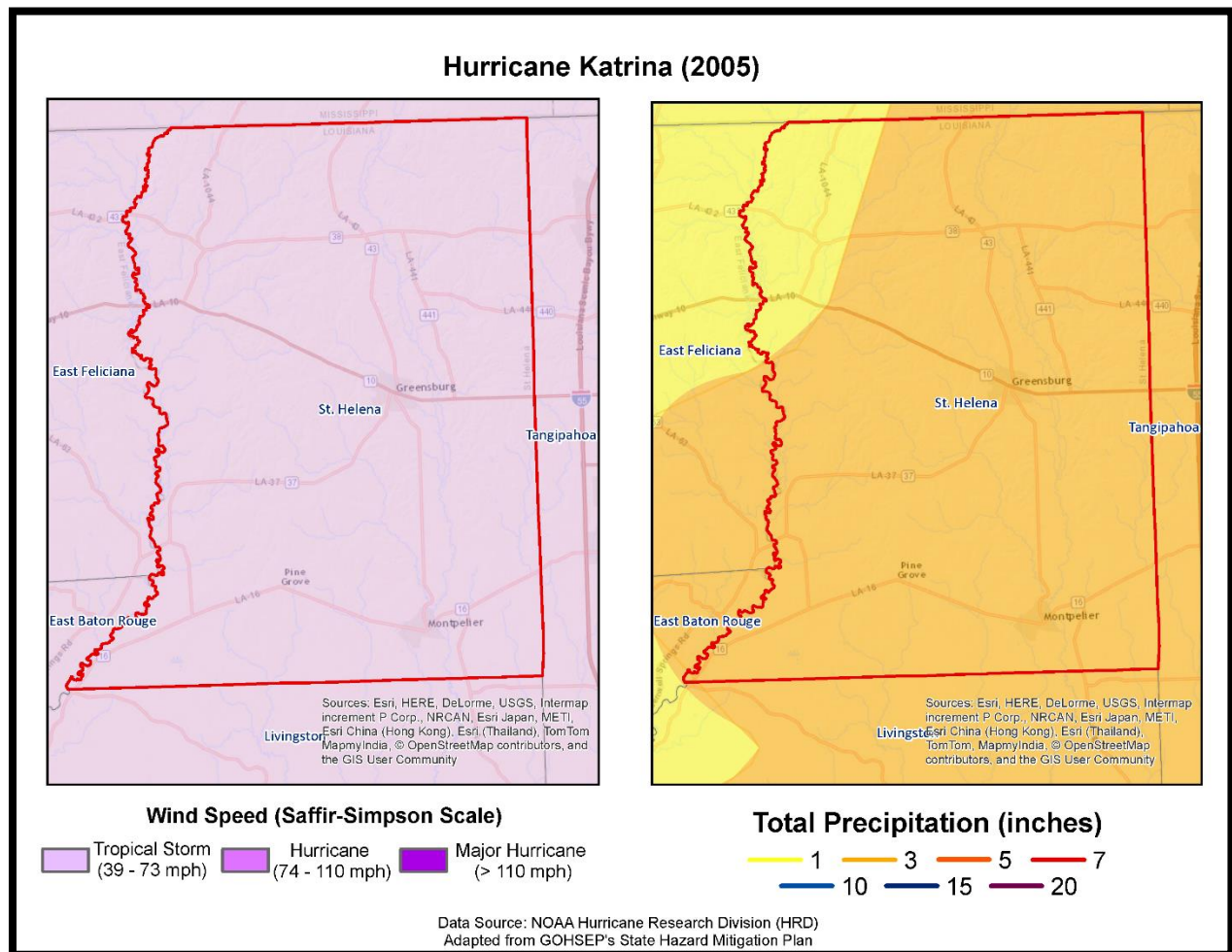


Figure 2-18: Wind Speed and Precipitation Totals for Hurricane Katrina in St. Helena Parish

In St. Helena Parish, Hurricane Katrina downed trees and power lines that prevented people from travelling roadways throughout the parish. The southern and eastern portions of the parish experienced the most damage from Hurricane Katrina. Many residents in the parish went without power for 13 to 14 days after Hurricane Katrina passed through the area.

Hurricane Gustav (2008)

Hurricane Gustav emerged into the southeast Gulf of Mexico as a major category 3 hurricane on August 31st 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 102 knots or 117 mph at a USGS site at the Houma Navigational Canal and at the Pilot Station East C-MAN at near the Southwest Pass of the Mississippi River. The highest sustained wind of 91 mph was recorded at the Pilot's Station East C-MAN site. However, due to the failure of equipment at some observation sites during the storm higher winds may have occurred. The minimum sea level pressure measured was 951.6 millibars at a USGS site at Caillou Lake southwest of Dulac and 954.5 millibars at the LUMCON facility near Dulac. Rainfall varied considerably across southeast Louisiana ranging from around four inches to just over eleven inches.

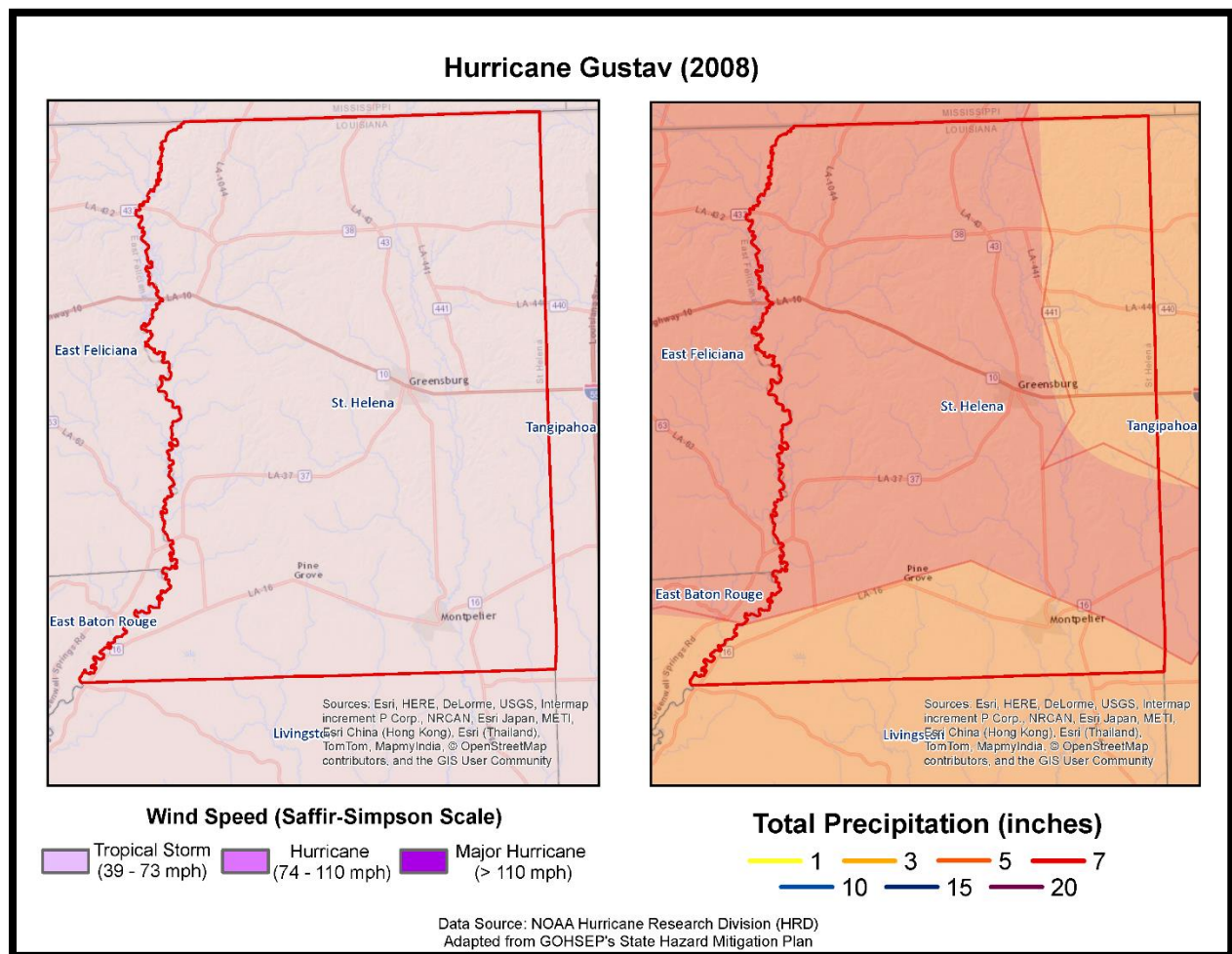


Figure 2-19: Wind Speed and Precipitation Totals for Hurricane Gustav in St. Helena Parish

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 112 PM CST. This was only one mph less than the highest wind gust recorded during Hurricane Betsy in 1965. The electric utility serving most of southeast Louisiana reported 75 to 100 percent of utility customers were without power after the storm 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.

Hurricane Gustav caused power outages that lasted for approximately two weeks throughout St. Helena Parish. Strong winds from Gustav downed several trees and power lines. Minor damage was reported throughout the parish.

[Tropical Storm Lee \(2011\)](#)

Tropical Storm Lee initially developed as Tropical Depression Thirteen in the middle of the Gulf of Mexico on Thursday evening September 1st, 2011. The depression moved slowly north and gradually strengthened, eventually reaching tropical storm strength just south of the Louisiana coast on Friday afternoon September 2nd, 2011. Tropical Storm Lee made only slow and haltingly northward progress over the next 24 hours, eventually moving onshore the Louisiana coast Saturday night, September 3rd, 2011, with a maximum sustained wind estimated around 60 mph. Lee moved slowly inland to the north of Baton Rouge late Sunday September 4th, 2011, and eventually weakened to a tropical depression Sunday evening.

Tropical Depression Lee then moved steadily northeast throughout Monday, September 5th, 2011, taking on extra-tropical characteristics over the next 24 hours as it interacted with an upper level disturbance moving through the region. The maximum wind observed in Louisiana was a southerly wind of 40 kts (46 mph) sustained, 50 kts (58 mph) gust at New Orleans Lakefront Airport on September 4th, 2012 at 0528CST. The lowest minimum central pressure was 993.2 mb at Baton Rouge Ryan Field at Sept 4, 2012 at 0959CST. As Tropical Depression Lee was moving northeast and taking on mid-latitude characteristics, strong northerly winds were experienced across the region, occasionally gusting to higher levels than experienced when Lee was characterized as a tropical storm. No fatalities or injuries were associated with any Tropical Lee hazards.

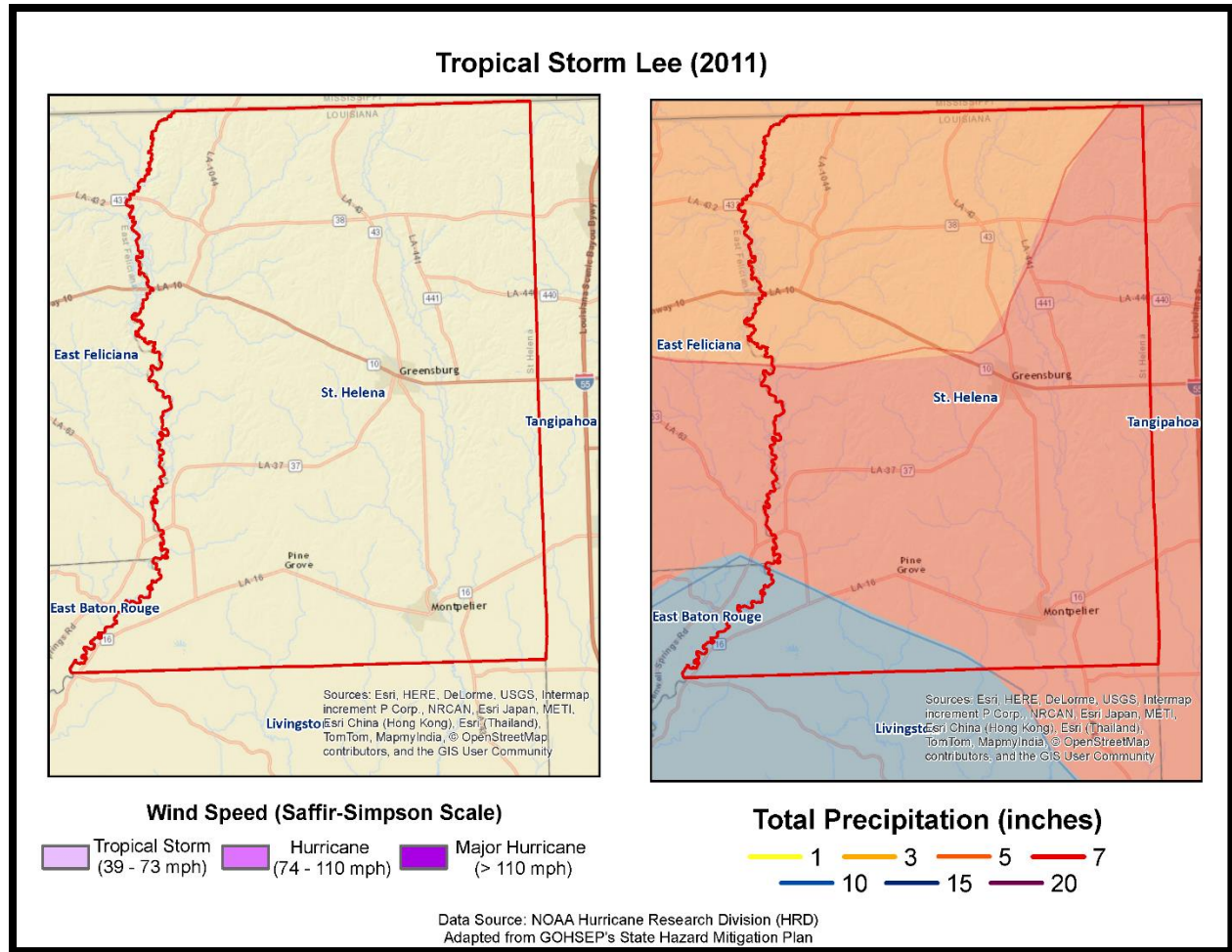


Figure 2-20: Wind Speed and Precipitation Totals for tropical Storm Lee in St. Helena Parish

The main impacts associated with Tropical Storm Lee were associated with storm surge and rainfall. Both of these impacts were related to its slow forward speed as it crossed the region, which allowed the circulation to linger over the area for several days. Storm surge associated with Lee caused storm tides three to five feet above normal, causing lowland flooding. Additional detailed information about Tropical Storm Lee's storm surge is contained in the separate storm surge report. Four day total rainfall ranged between seven and fifteen inches across the area. A maximum of 15.48 inches was recorded near Holden in Livingston Parish. Due to dry antecedent conditions, river flooding was minimal for the amount of rainfall that occurred. Wind impacts were generally minimal due to only tropical storm strength winds being recorded, resulting in tree limbs being blown down, and weak trees toppling, causing power outages.

In St. Helena Parish, overall there were minimal reports of damage to residences or infrastructure. Localized flooding was experienced in low-lying areas of the parish, but flood damage was minimal. Approximately 11.5 inches of rainfall was recorded at the Grangeville station in St. Helena. Isolated power outages were also reported due to a few trees that were downed across the parish.

Hurricane Isaac (2012)

Isaac entered the Gulf of Mexico as a tropical storm on August 26th, 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 75 knots, or 86 mph, measured by a portable weather station (Texas Tech University) near Buras on the evening at August 28th. The maximum sustained wind in Louisiana was 65 knots, or 75 mph, at the same portable weather station near Buras on the evening of August 28th. 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 August 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.

Significant impact also occurred around Lakes Pontchartrain and Maurepas with a storm tide of five to nine 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 four to seven 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.

Many areas of southeast Louisiana received eight to twelve inches of rain with a few locations having fifteen 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.

Overall impacts of Isaac resulted in at least \$600 million in damages in southeast Louisiana, three direct fatalities, and two 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 St. Helena Parish, several roads were closed due to debris from high winds and flash flooding. Approximately 7.2 inches of rain fell in the Liverpool area of the parish. Low-lying areas of the parish experienced minor flooding.

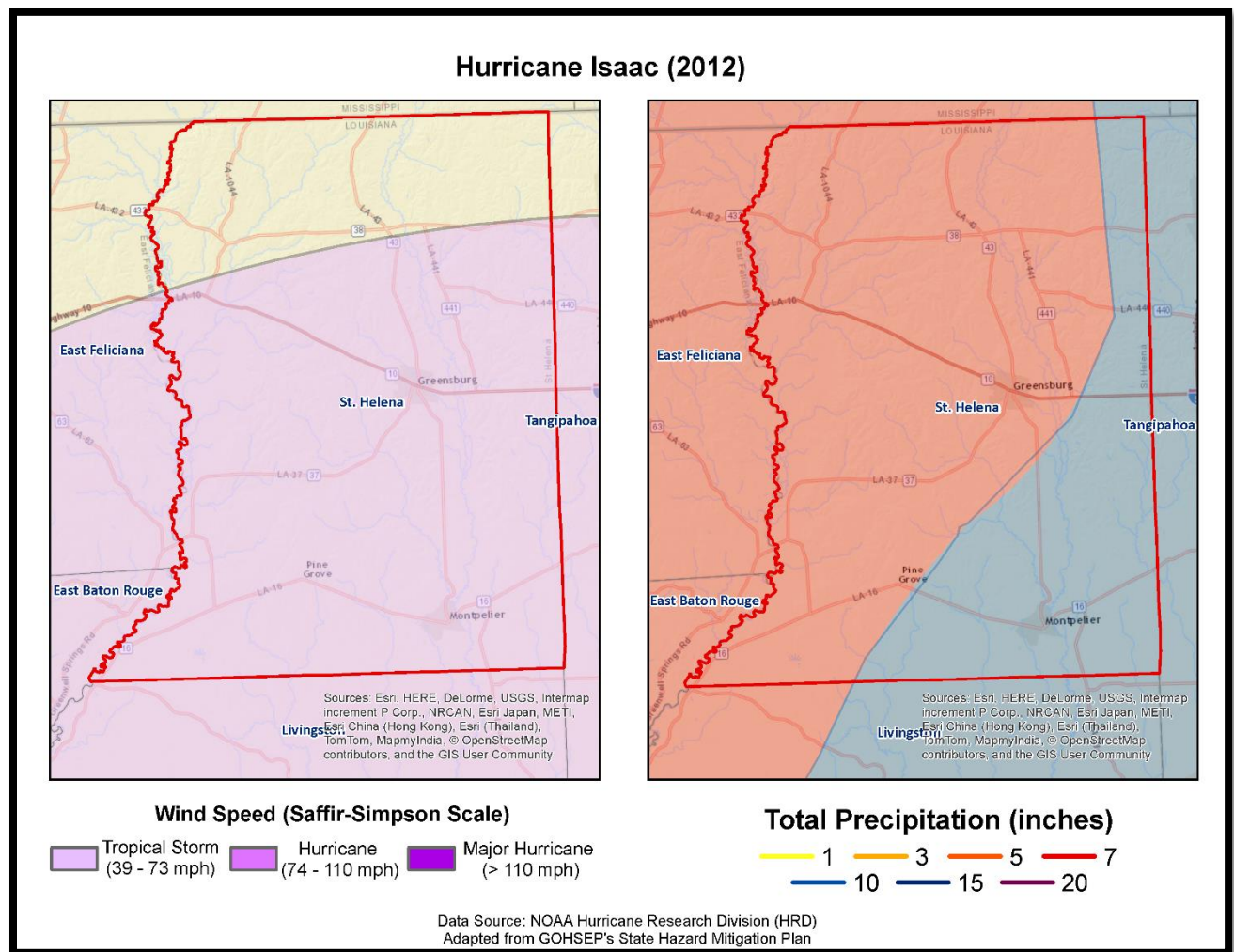


Figure 2-21: Wind Speed and Precipitation Totals for Hurricane Isaac

Figure displays the wind zones that affect St. Helena Parish in relation to critical facilities throughout the Parish.

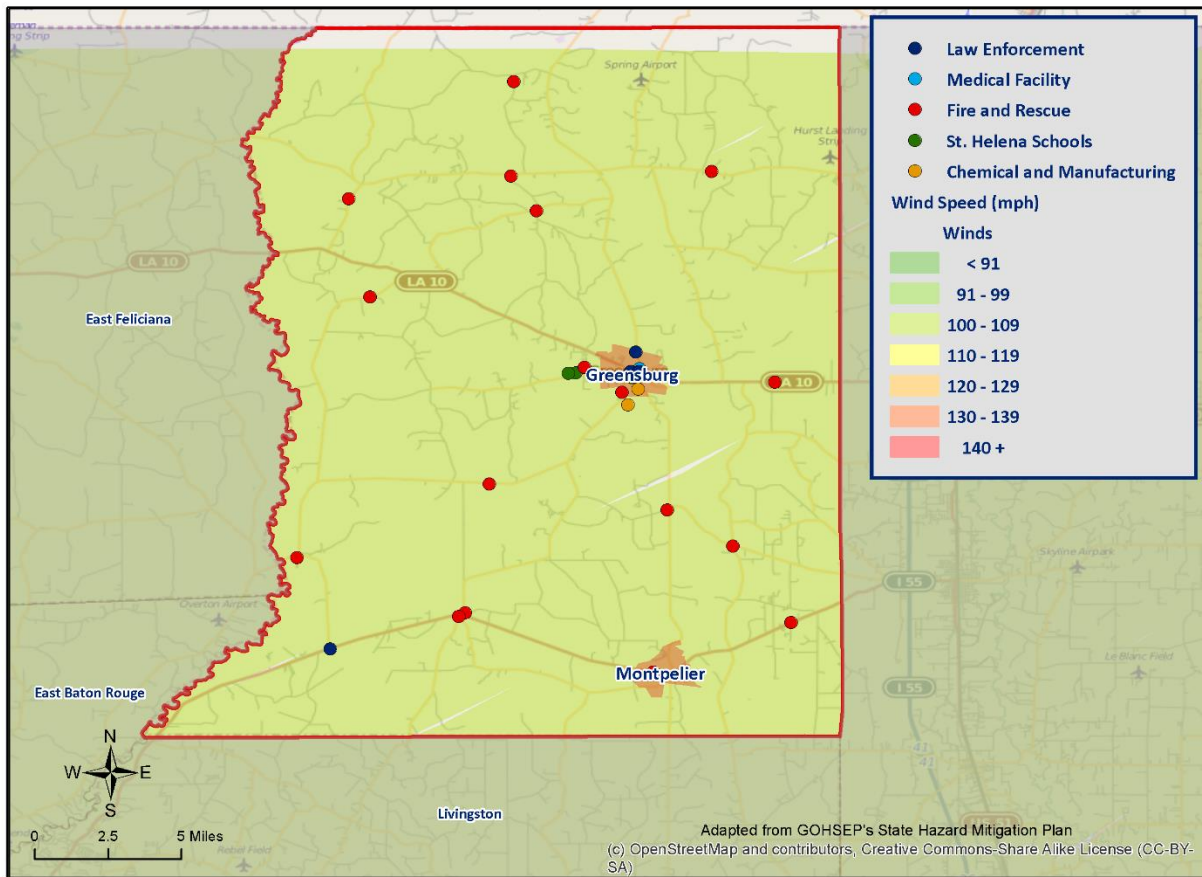


Figure 2-22: Winds Zones for St. Helena Parish in Relation to Critical Facilities

Frequency / Probability

Tropical cyclones are large natural hazard events that occur regularly within St. Helena Parish. The annual chance of occurrence for a tropical cyclone occurrence is estimated at 28% for St. Helena Parish and its municipalities with seven 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, St. Helena 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 Hazus 2.2 100-year hurricane model, the 100-year hurricane scenario was analyzed to determine losses from this worst-case scenario. Table shows the total economic losses that would result from this occurrence.

*Table 2-38: Total Estimated Losses for a 100-Year Hurricane Event
(Source: Hazus 2.2)*

Jurisdiction	Estimated total Losses from 100-Year Hurricane Event
St. Helena Parish (Unincorporated)	\$7,182,546
Greensburg	\$504,655
Montpelier	\$186,961
Total	\$7,874,162

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 2-39: Ratio of Total Losses to Total Estimated Value of Assets for each Jurisdiction in Washington Parish

Jurisdiction	Estimated Total Losses from 100-Year Hurricane Event	Total Estimated Value of Assets	Ratio of Estimated Losses to Total Value
Unincorporated	\$7,182,546	\$740,711,000	1.0%
Greensburg	\$504,655	\$66,861,000	0.8%
Montpelier	\$186,961	\$25,873,000	0.7%

Based on the Hazus 2.2 hurricane model, estimated total losses are approximately 1% of the total estimated value of all assets for the unincorporated area of St. Helena Parish and the incorporated areas of Greensburg and Montpelier.

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 2-40: Estimated Losses in St. Helena Parish for a 100-year hurricane event
(Source: Hazus 2.2)*

St. Helena Parish (Unincorporated)	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$12,599
Commercial	\$179,918
Government	\$117,703
Industrial	\$21,321
Religious / Non-Profit	\$44,528
Residential	\$6,803,056
Schools	\$3,422
Totals	\$7,182,546

Table 2-41: Estimated Losses in Greensburg for a 100-year hurricane event
(Source: Hazus 2.2)

Greensburg	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$885
Commercial	\$12,641
Government	\$8,270
Industrial	\$1,498
Religious / Non-Profit	\$3,129
Residential	\$477,991
Schools	\$240
Totals	\$504,655

Table 2-42: Estimated Losses in Montpelier for a 100-year hurricane event
(Source: Hazus 2.2)

Montpelier	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	\$328
Commercial	\$4,683
Government	\$3,064
Industrial	\$555
Religious / Non-Profit	\$1,159
Residential	\$177,083
Schools	\$89
Totals	\$186,961

Threat to People

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

Table 2-43: Number of People Susceptible to a 100-Year Hurricane Event in St. Helena Parish
(Source: Hazus 2.2)

Number of People Exposed to Hurricane Hazards			
Location	# in Community	# in Hazard Area	% in Hazard Area
Parish (Unincorporated)	10,219	10,219	100.0%
Greensburg	718	718	100.0%
Montpelier	266	266	100.0%
Total	11,203	11,203	100.0%

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

Table 2-44: Vulnerable Populations in Unincorporated St. Helena Parish for a 100-year Hurricane
(Source: Hazus 2.2)

St. Helena Parish (Unincorporated)		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	10,219	100.0%
Persons Under 5 years	613	6.0%
Persons Under 18 years	2,330	22.8%
Persons 65 Years and Over	1,696	16.6%
White	4,629	45.3%
Minority	5,590	54.7%

Table 2-45: Vulnerable Populations in Greensburg for a 100-year Hurricane
(Source: Hazus 2.2)

Greensburg		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	718	100.0%
Persons Under 5 years	49	6.8%
Persons Under 18 years	113	15.7%
Persons 65 Years and Over	149	20.8%
White	356	49.6%
Minority	362	50.4%

Table 2-46: Vulnerable Populations in Montpelier for a 100-year Hurricane
(Source: Hazus 2.2)

Montpelier		
Category	Total Numbers	Percentage of People in Hazard Area
Number in Hazard Area	266	100.0%
Persons Under 5 years	15	5.6%
Persons Under 18 years	49	18.4%
Persons 65 Years and Over	47	17.7%
White	120	45.1%
Minority	146	54.9%

Vulnerability

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

Section 3: Capability Assessment

This section summarizes all efforts to develop policies, programs, and activities that directly or indirectly support hazard mitigation. It also provides information on resources and gaps in the participating jurisdictions' infrastructure, as well as relevant changes in its law since the last Plan Update, in order to suggest a mitigation strategy.

Through this assessment strengths that could be used to reduce losses and reduce risk throughout the community are identified. In addition, areas where mitigation actions might be used to supplement current capabilities and create a more resilient community before, during and after a hazard event are outlined.

Policies, Plans, and Programs

St. Helena Parish and its jurisdictions' capabilities are unique to the parish as a whole, 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, and take an integrated and strategic look holistically at hazard mitigation in all jurisdictions to continually propose ways to 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.

Some jurisdictions have extensive zoning regulations, which address use and height of buildings, density of populations, open space limitation, and lot and occupancy requirements. The zoning ordinances are consistent with the parish comprehensive plan. Before the Parish Council enacts or amends development regulations or takes any land use action, and before the Zoning Board may make any recommendation to the Parish Council regarding a proposed development regulation or land use action, the Planning Department, or other department responsible for providing findings, recommendations, papers, correspondence, and records related to the regulation, amendment, or action shall provide a written recommendation to the Council and Zoning Board regarding the consistency with the plan. The following tables demonstrate land use, zoning, and ordinance requirements that address many different types of districts in the parish and its incorporated jurisdictions, ranging from suburban, conservation, and mixed-use to industrial.

Table 3-1: Planning and Regulatory Capabilities

Planning and Regulatory				
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.				
	St. Helena Parish	Greensburg	Montpelier	Comments
Plans	Yes / No			
Comprehensive / Master Plan	Yes	No	No	N/A
Capital Improvements Plan	No	No	No	N/A
EcoNomic Development Plan	No	No	No	N/A
Local Emergency Operations Plan	Yes	No	Yes	Unincorporated - Homeland Security; Montpelier - 911
Continuity of Operations Plan	No	No	No	N/A
Transportation Plan	No	No	No	N/A
Stormwater Management Plan	No	No	No	N/A
Community Wildfire Protection Plan	Yes	No	Yes	Easleyville, Darlington, Chipola, Pine Grove Communities with a plan
Other plans (redevelopment, recovery, coastal zone management)	No	No	N/A	N/A
Building Code, Permitting and Inspections	Yes / No			
Building Code	Yes	No	Yes	Montpelier - St. Helena Building Insp.
Building Code Effectiveness Grading Schedule (BCEGS) Score	No	No	No	N/A
Fire Department ISO/PIAL rating	Yes	7	No	Montpelier - currently working on one
Site plan review requirements	Yes	No	Yes	Montpelier - St. Helena Building Insp.
Land Use Planning and Ordinances	Yes / No			
Zoning Ordinance	No	No	No	N/A
Subdivision Ordinance	No	No	No	N/A
Floodplain Ordinance	Yes	No	Yes	Montpelier - St. Helena Building Insp.
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	No	No	No	N/A
Flood Insurance Rate Maps	Yes	No	Yes	Montpelier - St. Helena Building Insp.
Acquisition of land for open space and public recreation uses	No	No	No	N/A
Other	No	No	No	N/A

Some programs and policies, such as the ones just 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. St. Helena Parish and its jurisdictions will work to expand their capabilities by adding to these plans, as well as work to create new plans that will address a long-term recovery and resiliency framework. In instances where jurisdictions do not have any plans, there will be a commitment to explore opportunities to create new plans that will address long-term recovery and resiliency framework as parish and local resources allow.

Administration, Technical, and Financial

As a community, St. Helena Parish and its jurisdictions have 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 following are resources in place in St. Helena Parish and its incorporated jurisdictions:

Table 3-2: 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.				
	St. Helena parish	Greensburg	Montpelier	Comments
Administration	Yes / No			
Planning Commission	No	No	No	N/A
Mitigation Planning Committee	No	No	Yes	N/A
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	No	Yes	Montpelier - Police Jury
Mutual Aid Agreements	Yes	No	No	The Fire Departments have these agreements
Staff	Yes / No; FT/PT; % Hazard			
Chief Building Official	Yes	Yes	Yes	N/A
Floodplain Administrator	No	Yes	Yes	N/A
Emergency Manager	Yes	Yes	Yes	N/A
Community Planner	No	No	Yes	N/A
Civil Engineer	No	No	Yes	N/A
GIS Coordinator	No	No	yes	N/A
Grant Writer	No	No	Yes	N/A
Other	No	No	No	N/A
Technical	Yes / No			
Warning Systems / Service (Reverse 911, outdoor warning signals)	No	No	No	N/A
Hazard Data & Information	No	No	Yes	Montpelier - Pipeline Safety
Grant Writing	No	No	No	N/A
Hazus Analysis	No	No	No	N/A
Other	No	No	N/A	N/A

Financial capabilities are the resources that St. Helena Parish and its incorporated jurisdictions have access to or are eligible to use in order to fund mitigation actions. The follow resources are available to fund mitigation actions in St. Helena Parish and its incorporated jurisdictions:

Table 3-3: Financial Capabilities

Financial				
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.				
	St. Helena Parish	Greensburg	Montpelier	Comments
Funding Resource	Yes / No			
Capital Improvements project funding	Yes	No	Yes	Montpelier - New fire station
Authority to levy taxes for specific purposes	Yes	yes	No	Residents and State have to approve
Fees for water, sewer, gas, or electric services	No	No	No	N/A
Impact fees for new development	No	No	No	N/A
Stormwater Utility Fee	No	No	No	N/A
Community Development Block Grant (CDBG)	Yes	yes	No	N/A
Other Funding Programs	No	yes	No	Greensburg - LGAP grant

St. Helena Parish and its incorporated jurisdictions have existing programs to implement mitigation activities as well as communicate risk. The existing programs are as follows:

Table 3-4: 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.				
	St. Helena Parish	Greensburg	Montpelier	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	No	Yes	N/A
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	No	No	No	N/A
Natural Disaster or safety related school program	No	No	No	N/A
Storm Ready certification	No	No	Yes	N/A
Firewise Communities certification	No	No		N/A
Public/Private partnership initiatives addressing disaster-related issues	No	No	No	N/A
Other	No	No	No	N/A

The following municipalities and entities are recognized by the Parish of St. Helena 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:

Municipalities:

- Parish of St. Helena
- Town of Greensburg
- Village of Montpelier

Section 4: Mitigation Strategy

Introduction

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

The mitigation actions and projects in this 2015 HMP update are a product of analysis and review of the each participating jurisdiction under the coordination of the St. Helena Parish Office of Homeland Security and Emergency Preparedness.

A crucial component of successful mitigation is analysis of previous actions. The success or failure of mitigation actions implemented before an event should be evaluated. Self-analysis should take place during the recovery and mitigation phases of emergency management when the community can take stock of how well it prepared for an event and to what degree it needed to responded.

An online public opinion survey was conducted of St. Helena Parish residents between August and September 2015. The survey was designed to capture public perceptions and opinions regarding natural hazards in St. Helena 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.

During the public meeting in April, the committee provided a status of the projects from 2009 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.

Conducting the public opinion survey activity qualifies that the goals and action items developed by the participating jurisdictions are representative of the outlook of the community at large.

Goals

The goals represent the guidelines 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 St. Helena Parish from natural and manmade hazards. By articulating goals and objectives based on 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, each jurisdiction 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 St. Helena Parish Hazard Mitigation Plan Update steering committee represent long-term commitments by the participating jurisdictions. After assessing these goals, the committee has decided that the current five goals are valid.

The goals are as follows:

Goal 1: Identify and pursue preventative measures that will reduce future damages from hazards.

Goal 2: Enhance public awareness and understanding of disaster preparedness.

Goal 3: Reduce repetitive flood losses in the parish.

Goal 4: Facilitate sound development in the parish to reduce or eliminate the potential impact of hazards.

The Mitigation Action Plan focuses on actions to be taken by St. Helena Parish. 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 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.

Mitigation Actions

The St. Helena Parish Hazard Mitigation Plan Steering Committee identified actions that would reduce and/or prevent future damage within St. Helena Parish and their respective communities. In that effort, the parish focused on a comprehensive range of specific mitigation actions. These actions were identified in thorough fashion by the consultant team and the committee 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:

1. **Local Plans and Regulations** – These actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.
2. **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.
3. **Natural System Protection** – These actions minimize the damage and losses and also preserve or restore the functions of natural systems.
4. **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 actions relative to the established goals are as follows:

St. Helena Parish Mitigation Actions

Table 4-1: St. Helena Parish Unincorporated

St. Helena Parish - Unincorporated							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
SH1: Hardening of Critical Facilities Building	Consider mitigation measures that will enhance the performance of new buildings, expansions, or infrastructure during high wind and flood events, as these projects are proposed. This may include hardening structures, installing hurricane clips, or elevating utilities for communications facilities, critical infrastructure, and medical facilities.	Parish/Grant Funding	As funds are made available	St. Helena Parish OHSEP	Tornadoes, Tropical Cyclones, Thunderstorms - High Wind, Hail, Lightning	1, 4	Ongoing
SH2: Drainage Projects	Develop a master drainage plan which will evaluate drainage projects at major drainage laterals to determine best method of increasing drainage capacity. Implement recommended projects resulting from drainage plan; Improve drainage by adding new drainage pumps, enlarging culverts, replacing/improving any substandard bridges, and other drainage projects where necessary.	Parish/Grant Funding	January, 2017	St. Helena Parish Engineer/Public Works	Tropical Cyclones, Flooding	1, 3, 4	In Progress
SH3: Construction of emergency shelters	Provide shelter to local residents by constructing new emergency shelters in the parish	Parish/Grant Funding	As funds are made available	St. Helena Planning and Zoning	Tornadoes, Tropical Cyclones, Thunderstorms - High Wind	1, 4	In Progress
SH4: Road and infrastructure improvements	Implement mitigation measures that will alleviate	Parish/Grant Funding	As funds are made available	St. Helena Parish Emergency Manager	Flooding, Tropical Cyclones	1, 4	In Progress

St. Helena Parish - Unincorporated							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
	road erosion within the parish.						
SH5: Mitigation Outreach and Education	Provide brochures and other publications through media, mail, libraries, Post Offices, and/or the Internet; Sponsor a "Multi-Hazard Awareness Week"; Distribute public awareness information and potential mitigation measures using the local newspaper, utility bill inserts, inserts in the phone book, and parish hazards awareness website, and an educational program for school age children or "how to" classes in retrofitting by local merchants; create public education programs for self-protection mitigation procedures for homes and businesses;	Parish/Grant Funding	12.31.2017	St. Helena Parish Emergency Manager	Drought, Flooding, Tornadoes, Tropical Cyclones, Thunderstorms - High Wind, Hail, Lightning, Wildfire, Winter Weather	2	New
SH6: Elevation Projects	Pursue elevation projects for severe repetitive loss properties	Parish/Grant Funding	As funds are made available	St. Helena Parish Emergency Manager/Floodplain Manager	Flooding, Tropical Cyclones	1, 3, 4	New
SH7: Acquisition Projects	Pursue acquisition projects for severe repetitive loss properties	Parish/Grant Funding	As funds are made available	St. Helena Parish Emergency Manager/Floodplain Manager	Flooding, Tropical Cyclones	1, 3, 4	New
SH8: Floodproofing Projects	Floodproofing/pilot reconstruction projects and structural solutions to flooding using available grant funding for the repetitive loss structures. Annually review and correct	Parish/Grant Funding	As funds are made available	St. Helena Parish Emergency Manager/Floodplain Manager	Flooding, Tropical Cyclones	1, 3, 4	New

St. Helena Parish - Unincorporated							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
	the Repetitive Loss List by submitting correction worksheets to FEMA						
SH9: Communication System Implementation	Implement a public notification system, such as sirens or a call down system with a backup communication system.	Parish/Grant Funding	As funds are made available	St. Helena Parish Emergency Manager	Flooding, Tornadoes, Tropical Cyclones, Wildfire	2, 4	New
SH10: Upgrade of current communication infrastructure and equipment	Improve both technological and administrative communication capabilities among fire, police, 911, and other state and local emergency operations through improved planning and the upgrading of communication infrastructure and equipment.	Parish/Grant Funding	Ongoing as funds are made available	St. Helena Parish Emergency Manager	Flooding, Tornadoes, Tropical Cyclones, Wildfire	2, 4	In Progress
SH11: CRS Participation	Participate in the "Community Rating system (CRS)" of the NFIP. Inform the public about the CRS program and the fact that it could result in a discount in Flood Insurance Premiums. Review the existing floodplain ordinance and see how it could be augmented to increase CRS potential and further reduce the flood insurance premiums.	Parish/Grant Funding	As funds are made available	St. Helena Floodplain Manager	Flooding, Tropical Cyclones	1, 3	New

St. Helena Parish - Unincorporated							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
SH12: Flood regulation of future development	Develop and pass ordinances to help regulate new development in the Parish, such as requiring proper drainage with adequate sloping; stormwater retention ponds; dikes; levees and floodwalls if appropriate, and requiring freeboard above the Base Flood Elevation (BFE) in flood prone areas. Encourage new subdivision developments to install underground utilities, which would help reduce the chances of power outages; Develop and pass building regulations that will require adequately sized water distribution lines and fire hydrants.	Police Jury	As funds are made available	St. Helena Planning Director	Flooding, Tropical Cyclones	1, 3	In Progress
SH13: Construction of safe rooms	Construct safe rooms for governmental buildings and critical facilities	Parish/Grant Funding	As funds are made available	St. Helena Parish OHSEP	Tornadoes, Thunderstorms - High Wind, Tropical Cyclones	1, 4	New
SH14: Lightning protection projects	Installation of lightning rods and surge protectors for governmental buildings and critical facilities	Parish funding	As funds are made available	St. Helena Parish OHSEP	Thunderstorms - Lightning	1, 4	New
SH15: Water saving measures	Adopt ordinance requiring water-saving measures in time of drought.	Parish funding	As funds are made available	St. Helena Parish OHSEP	Drought	1, 4	New
SH16: Generator Installation	Install Generators in all critical facilities.	Parish funding	As funds are made available	St. Helena Parish OHSEP	Tornadoes, Tropical Cyclones, Thunderstorms - High Wind,	1, 4	New

St. Helena Parish - Unincorporated							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
					Winter Weather		

Table 4-2: Town of Greensburg

Town of Greensburg							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
G1: Hardening of Critical Facilities Building	Consider mitigation measures that will enhance the performance of new buildings, expansions, or infrastructure during high wind and flood events, as these projects are proposed. This may include hardening structures, installing hurricane clips, or elevating utilities for communications facilities, critical infrastructure, and medical facilities.	Parish/Grant Funding	As funds are made available	Town of Greensburg, Parish OHSEP	Tornadoes, Tropical Cyclones, Thunderstorms - High Wind, Hail, Lightning	1, 4	Ongoing
G2: Mitigation Outreach and Education	Provide brochures and other publications through media, mail, libraries, Post Offices, and/or the Internet; Sponsor a "Multi-Hazard Awareness Week"; Distribute public awareness information and potential mitigation measures using the local newspaper, utility bill inserts, inserts in the phone book, and parish hazards awareness website, and an educational program for school age children or "how to" classes in retrofitting by local merchants; create public education programs for self-protection mitigation procedures for homes and businesses;	Parish/Grant Funding	As funds are made available	Town of Greensburg, Mayors and Parish Emergency Manager	Drought, Flooding, Tornadoes, Tropical Cyclones, Thunderstorms - High Wind, Hail, Lightning, Wildfire, Winter Weather	2	New
G3: CRS Participation	Participate in the "Community Rating system (CRS)" of the NFIP. Inform the public about the CRS program and the fact that it could result in a discount in Flood Insurance Premiums. Review the existing floodplain ordinance and see how it could be augmented to increase CRS	Parish/Grant Funding	As funds are made available	Town of Greensburg, Floodplain Manager	Flooding, Tropical Cyclones	1, 3	New

Town of Greensburg							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
	potential and further reduce the flood insurance premiums.						
G4: Flood regulation of future development	Develop and pass ordinances to help regulate new development in the Parish, such as requiring proper drainage with adequate sloping; stormwater retention ponds; dikes; levees and floodwalls if appropriate, and requiring freeboard above the Base Flood Elevation (BFE) in flood prone areas. Encourage new subdivision developments to install underground utilities, which would help reduce the chances of power outages; Develop and pass building regulations that will require adequately sized water distribution lines and fire hydrants.	Police Jury	As funds are made available	Town of Greensburg, Planning Director	Flooding, Tropical Cyclones	1, 3	In Progress
G5: Drainage Projects	Develop a master drainage plan which will evaluate drainage projects at major drainage laterals to determine best method of increasing drainage capacity. Implement recommended projects resulting from drainage plan; Improve drainage by adding new drainage pumps, enlarging culverts, replacing/improving any substandard bridges, and other drainage projects where necessary.	Parish/Grant Funding	January, 2017	Town of Greensburg, St. Helena Parish Engineer/Public Works	Flooding, Tropical Cyclones	1, 3, 4	In Progress
G6: Elevation Projects	Pursue elevation projects for severe repetitive loss properties	Parish/Grant Funding	As funds are made available	Town of Greensburg, St. Helena Parish Emergency Manager/Floodplain Manager	Flooding, Tropical Cyclones	1, 3	New
G7: Acquisition Projects	Pursue acquisition projects for severe repetitive loss properties	Parish/Grant Funding	As funds are made available	Town of Greensburg, St. Helena Parish Emergency Manager/Floodplain Manager	Flooding, Tropical Cyclones	1, 3	New

Town of Greensburg							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
G8: Construction of safe rooms	Construct safe rooms for governmental buildings and critical facilities	Parish/Grant Funding	As funds are made available	Town of Greensburg, St. Helena Parish OHSEP	Tornadoes, Thunderstorms - High Wind, Tropical Cyclones	1, 4	New
G9: Lightning protection projects	Installation of lightning rods and surge protectors for governmental buildings and critical facilities	Parish funding	As funds are made available	Town of Greensburg, St. Helena Parish OHSEP	Thunderstorms - Lightning	1, 4	New
G10: Construction of emergency shelters	Provide shelter to local residents by constructing new emergency shelters in the parish	Parish/Grant Funding	As funds are made available	Town of Greensburg, St. Helena Planning and Zoning	Tornadoes, Tropical Cyclones, Thunderstorms - High Wind	1, 4	In Progress
G11: Water saving measures	Adopt ordinance requiring water-saving measures in time of drought.	Parish funding	As funds are made available	Town of Greensburg, St. Helena Parish OHSEP	Drought	1, 4	New
G12: Generator Installation	Install Generators in all critical facilities.	Parish funding	As funds are made available	Town of Greensburg, St. Helena Parish OHSEP	Tornadoes, Tropical Cyclones, Thunderstorms - High Wind, Winter Weather	1, 4	New
G13: Wildfire protection measures	Identify and implement wildfire vegetation management strategies	Parish funding	As funds are made available	Town of Greensburg, St. Helena Parish OHSEP	Wildfire	1, 4	New

Table 4-3: Village of Montpelier

Village of Montpelier							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
M1: Hardening of Critical Facilities Building	Consider mitigation measures that will enhance the performance of new buildings, expansions, or infrastructure during high wind and flood events, as these projects are proposed. This may include hardening structures, installing hurricane clips, or elevating utilities for communications facilities, critical infrastructure, and medical facilities.	Parish/Grant Funding	As funds are made available	Village of Montpelier, Parish OHSEP	Tornadoes, Tropical Cyclones, Thunderstorms - High Wind, Hail, Lightning	1, 4	Ongoing

Village of Montpelier							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
M2: Mitigation Outreach and Education	Provide brochures and other publications through media, mail, libraries, Post Offices, and/or the Internet; Sponsor a "Multi-Hazard Awareness Week"; Distribute public awareness information and potential mitigation measures using the local newspaper, utility bill inserts, inserts in the phone book, and parish hazards awareness website, and an educational program for school age children or "how to" classes in retrofitting by local merchants; create public education programs for self-protection mitigation procedures for homes and businesses;	Parish/Grant Funding	As funds are made available	Village of Montpelier, Mayors and Parish Emergency Manager	Drought, Flooding, Tornadoes, Tropical Cyclones, Thunderstorms - High Wind, Hail, Lightning, Wildfire, Winter Weather	2	New
M3: CRS Participation	Participate in the "Community Rating system (CRS)" of the NFIP. Inform the public about the CRS program and the fact that it could result in a discount in Flood Insurance Premiums. Review the existing floodplain ordinance and see how it could be augmented to increase CRS potential and further reduce the flood insurance premiums.	Parish/Grant Funding	As funds are made available	Village of Montpelier, Floodplain Manager	Flooding, Tropical Cyclones	1, 3	New
M4: Flood regulation of future development	Develop and pass ordinances to help regulate new development in the Parish, such as requiring proper drainage with adequate sloping; stormwater retention ponds; dikes; levees and floodwalls if appropriate, and requiring freeboard above the Base Flood Elevation (BFE) in flood prone areas. Encourage new subdivision developments to install underground utilities, which would help reduce the chances of power outages; Develop and pass building regulations that will require adequately sized water distribution lines and fire hydrants.	Police Jury	As funds are made available	Village of Montpelier, Planning Director	Flooding, Tropical Cyclones	1, 3	In Progress

Village of Montpelier							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
M5: Drainage Projects	Develop a master drainage plan which will evaluate drainage projects at major drainage laterals to determine best method of increasing drainage capacity. Implement recommended projects resulting from drainage plan; Improve drainage by adding new drainage pumps, enlarging culverts, replacing/improving any substandard bridges, and other drainage projects where necessary.	Parish/Grant Funding	January, 2017	Village of Montpelier, St. Helena Parish Engineer/Public Works	Flooding, Tropical Cyclones	1, 3, 4	In Progress
M6: Elevation Projects	Pursue elevation projects for severe repetitive loss properties	Parish/Grant Funding	As funds are made available	Village of Montpelier, St. Helena Parish Emergency Manager/Floodplain Manager	Flooding, Tropical Cyclones	1, 3	New
M7: Acquisition Projects	Pursue acquisition projects for severe repetitive loss properties	Parish/Grant Funding	As funds are made available	Village of Montpelier, St. Helena Parish Emergency Manager/Floodplain Manager	Flooding, Tropical Cyclones	1, 3	New
M8: Construction of safe rooms	Construct safe rooms for governmental buildings and critical facilities	Parish/Grant Funding	As funds are made available	Village of Montpelier, St. Helena Parish OHSEP	Tornadoes, Thunderstorms - High Wind, Tropical Cyclones	1, 4	New
M9: Lightning protection projects	Installation of lightning rods and surge protectors for governmental buildings and critical facilities	Parish funding	As funds are made available	Village of Montpelier, St. Helena Parish OHSEP	Thunderstorms - Lightning	1, 4	New
M10: Construction of emergency shelters	Provide shelter to local residents by constructing new emergency shelters in the parish	Parish/Grant Funding	As funds are made available	Village of Montpelier, St. Helena Planning and Zoning	Tornadoes, Tropical Cyclones, Thunderstorms - High Wind	1, 4	In Progress
M11: Water saving measures	Adopt ordinance requiring water-saving measures in time of drought.	Parish funding	As funds are made available	Village of Montpelier, St. Helena Parish OHSEP	Drought	1, 4	New
M12: Generator Installation	Install Generators in all critical facilities.	Parish funding	As funds are made available	Village of Montpelier, St. Helena Parish OHSEP	Tornadoes, Tropical Cyclones, Thunderstorms - High Wind, Winter Weather	1, 4	New

Village of Montpelier							
Jurisdiction-Specific Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
M13: Wildfire protection measures	Identify and implement wildfire vegetation management strategies	Parish funding	As funds are made available	Village of Montpelier, St. Helena Parish OHSEP	Wildfire	1, 4	New

Mitigation Action Update

Previous Mitigation Actions - Complete and/or Removed		
Jurisdiction-Specific Action	Jurisdiction	Status
Construction of emergency shelters	St. Helena Unincorporated	Completed (one shelter)
Future development building standards improvements; Improve building standards by adopting the current International Building Codes by ordinance, which would result in additional techniques to harden structures.	St. Helena Unincorporated	Completed

Action Prioritization

During the prioritization process, each Jurisdiction and the Steering Committee as a whole 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 Committee 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 Committee and individual jurisdictions prioritized the possible activities that could be pursued. The result were items that address the major hazards, are appropriate for those hazards, are cost-effective, and are affordable. St. Helena Parish and the jurisdictions will implement and administer the identified actions based off of the proposed timeframes for each reflected in the portions of this section where actions are summarized. Actions from the previous plan were validated as having no changes in prioritization as they carry over into the current plan update process.

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 St. Helena Parish Hazard Mitigation Plan Update

The St. Helena Parish Hazard Mitigation Plan Update process began in June 2014 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.

Date	Meeting or Outreach	Location	Public Invited	Purpose
6/22/2015	Kick-Off Meeting	OHSEP Office, Greensburg	No	Discuss with the plan steering committee expectations and requirements of the project. Assign plan worksheets to jurisdictions.
9/3/2015	Risk Assessment Meeting	OHSEP Office, Greensburg	No	The Risk Assessment meeting included a presentation of the Risk Assessment portion of the HMP. The Steering Committee had the opportunity to provide feedback.
8/2015 - 9/2015	Public Survey Tool	Online	Yes	This survey asked participants about public perceptions and opinions regarding natural hazards in St. Helena Parish. In addition, we asked about the methods and techniques preferred for reducing the risks and losses associated with these hazards.
9/3/15	Public Meeting	OHSEP Office, Greensburg	Yes	The public meeting allowed the public and community stakeholders to participate

				and provide input into the hazard mitigation planning process. Maps of the St. Helena Parish communities were provide for the meeting attendees to identify specific areas where localized hazards occur.
TBD	Public Plan Review (Digital)	Online	Yes	Provide a draft copy of the plan on the St. Helena Parish OHSEP website, for public review.
TBD	Public Plan Review (Hardcopy)	OHSEP Office, Greensburg	Yes	Provide a draft copy of the plan at the St. Helena Parish OHSEP Office, for public review.

Planning

The 7-month plan update process consisted of several phases, as displayed in the table below.

Planning Phase	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7
Plan review and revision							
Data collection							
Risk Assessment							
Public outreach and input			Public meetings and survey			Draft Review	
Mitigation strategy and actions							
GOHSEP plan updates review							
Plan updates review by FEMA							
Plan adoption							
Plan approval							Final

Coordination

The St. Helena Parish Office of Homeland Security and Emergency Preparedness (OHSEP) oversaw the coordination of the 2015 Hazard Mitigation Plan Update Steering Committee during the update process. The OHSEP Director was responsible for identifying members for the committee.

The OHSEP Director and SDMI were jointly responsible for inviting the steering committees and key stakeholders to planned meetings and activities. SDMI assisted the OHSEP Director with press releases

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 city, state, and regional agencies provided diverse prospective and mitigation ideas.

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

- Parish of St. Helena
- Town of Greensburg
- Village of Montpelier
- St. Helena Parish School System
- Department of Health and Hospitals – Office of Public Health
- St. Helena Parish Fire Department
- Louisiana Technical College
- St. Helena Parish Police Department
- GOHSEP
- St. Helena Parish Police Jury
- St. Helena Parish Waterworks

Adjacent communities were invited by email to participate in each step of the planning process including Tangipahoa and East Feliciana Parishes. SDMI assisted St. Helena with encouraging the collaboration with these neighboring communities via email by extending an invitation to the St. Helena Hazard Mitigation Plan Update Meetings. The participation of the GOHSEP Region 9 Coordinator during the process also contributed to neighboring community representation.

As part of the coordination and planning process, the parish was provided the State Required Hazard Mitigation Plan Update Worksheet. The completed worksheets can be found in Appendix E – State Required Plan Update Worksheets.

Below is a detailed list of the 2015 HMPU Steering Committee:

Name	Title	Agency	Address	Email	Phone
Albert Franklin	Superintendent; Road Maintenance	St. Helena Police Jury			
Bradley Graves	Fire Chief FD#4	St. Helena Parish			
Burke Jones	Mayor	Town of Greensburg			
Charles Graves	Asst. Fire Chief FD#4	St. Helena Parish			
Charlie New	Fire Chief	Hillsdale Fire Department			
Collins Simoneaux	Region 9 Coordinator	GOHSEP			

Donald Langston	Superintendent	Town of Greensburg			
Dr. Kelli Joseph	Superintendent	St. Helena Parish School System			
Jack Anderson	Asst. Fire Chief FPD #3	St. Helena Parish			
Kenneth Giardina	Mayor	Village of Montpelier			
LeeAnn Lindsey	Parish Sanitarian	DHH-OPH			
Lester Easley	Director Economic Development	St. Helena Parish Office of Economic Development			
Pevey Lee	Manager	St. Helena Waterworks			
Rita Allen	OHSEP Director	St. Helena Parish			
Sharon Hornsby	Campus Dean	Louisiana Technical College			
Sharonda Brown	Sec-Treasurer/Grant Administrator	St. Helena Police Jury			
Theodore McCray, Jr.	Police Jury President	St. Helena Police Jury			
Tim Brown	Chief of Police	Greensburg PD			
Tommy Strickland	Fire Chief	Dist. 6			
Tresa Byrd	Building Official	St. Helena Police Jury/Building Dept.			
Virginia Bell	Grants Administrator/Writer	St. Helena Parish			

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 St. Helena Parish programs and planning.

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

St. Helena Parish as well as its incorporated jurisdictions will continue to integrate the requirements of this Hazard Mitigation Plan into other local planning mechanisms that are to be identified through future meetings of the Parish and Jurisdictions, and through the five-year review process described in the Plan Maintenance Section. 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 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 any 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 St. Helena 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 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 2010 Hazard Mitigation Plan was also used in the planning process. Other existing data and plans used in the planning process include those listed below.

- State of Louisiana Hazard Mitigation Plan
- St. Helena Parish All Hazards Emergency Operations Plan

Further information on the plans can be found in the Capabilities Assessment, Section 3.

Documentation (Meetings and Public Outreach)

The following pages contain documentation of the meetings and public outreach activities conducted during this hazard mitigation plan update for St. Helena Parish.

Meeting #1: Hazard Mitigation Plan Update Kick-Off

Date: June 22, 2015

Location: St. Helena Parish OHSEP, Greensburg, 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:

Name	Title	Agency
Albert Franklin	Superintendent; Road Maintenance	St. Helena Police Jury
Bradley Graves	Fire Chief FD#4	St. Helena Parish
Burke Jones	Mayor	Town of Greensburg
Charles Graves	Asst. Fire Chief FD#4	St. Helena Parish
Charlie New	Fire Chief	Hillsdale Fire Department
Collins Simoneaux	Region 9 Coordinator	GOHSEP
Dawson Primes	Director	Tangipahoa OHSEP
Donald Langston	Superintendent	Town of Greensburg
Dr. Kelli Joseph	Superintendent	St. Helena Parish School System
Jack Anderson	Asst. Fire Chief FPD #3	St. Helena Parish
Kenneth Giardina	Mayor	Village of Montpelier

LeeAnn Lindsey	Parish Sanitarian	DHH-OPH
Lester Easley	Director Economic Development	St. Helena Parish Office of Economic Development
Pevey Lee	Manager	St. Helena Waterworks
Glenn Kent	OHSEP	East Feliciana
Rita Allen	OHSEP Director	St. Helena Parish
Sharon Hornsby	Campus Dean	Louisiana Technical College
Sharonda Brown	Sec-Treasurer/Grant Administrator	St. Helena Police Jury
Theodore McCray, Jr.	Police Jury President	St. Helena Police Jury
Tim Brown	Chief of Police	Greensburg PD
Tommy Strickland	Fire Chief	Dist. 6
Tresa Byrd	Building Official	St. Helena Police Jury/Building Dept.
Vicki Travis	Deputy Director	Tangipahoa Parish OHSEP
Virginia Bell	Grants Administrator/Writer	St. Helena Parish

Meeting #3: Risk Assessment Meeting

Date: September 3, 2015

Location: Greensburg, Louisiana

Purpose: The Risk Assessment meeting included a presentation on the results of the most recent risk assessment and an overview of the public meeting presentation during. The assessment was conducted based on hazards identified during previous plans.

Public Initiation: No

Invitees:

Name	Title	Agency
Albert Franklin	Superintendent; Road Maintenance	St. Helena Police Jury
Bradley Graves	Fire Chief FD#4	St. Helena Parish
Burke Jones	Mayor	Town of Greensburg
Charles Graves	Asst. Fire Chief FD#4	St. Helena Parish
Charlie New	Fire Chief	Hillsdale Fire Department
Collins Simoneaux	Region 9 Coordinator	GOHSEP
Dawson Primes	Director	Tangipahoa OHSEP
Donald Langston	Superintendent	Town of Greensburg
Dr. Kelli Joseph	Superintendent	St. Helena Parish School System
Jack Anderson	Asst. Fire Chief FPD #3	St. Helena Parish
Kenneth Giardina	Mayor	Village of Montpelier
LeeAnn Lindsey	Parish Sanitarian	DHH-OPH
Lester Easley	Director Economic Development	St. Helena Parish Office of Economic Development
Pevey Lee	Manager	St. Helena Waterworks
Glenn Kent	OHSEP	East Feliciana
Rita Allen	OHSEP Director	St. Helena Parish

Sharon Hornsby	Campus Dean	Louisiana Technical College
Sharonda Brown	Sec-Treasurer/Grant Administrator	St. Helena Police Jury
Theodore McCray, Jr.	Police Jury President	St. Helena Police Jury
Tim Brown	Chief of Police	Greensburg PD
Tommy Strickland	Fire Chief	Dist. 6
Tresa Byrd	Building Official	St. Helena Police Jury/Building Dept.
Vicki Travis	Deputy Director	Tangipahoa Parish OHSEP
Virginia Bell	Grants Administrator/Writer	St. Helena Parish

Meeting #4: Public Meeting

Date: September 3, 2015

Location: Greensburg, Louisiana

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

Public Initiation: Yes

Invitees:

Name	Title	Agency
Albert Franklin	Superintendent; Road Maintenance	St. Helena Police Jury
Bradley Graves	Fire Chief FD#4	St. Helena Parish
Burke Jones	Mayor	Town of Greensburg
Charles Graves	Asst. Fire Chief FD#4	St. Helena Parish
Charlie New	Fire Chief	Hillsdale Fire Department
Collins Simoneaux	Region 9 Coordinator	GOHSEP
Dawson Primes	Director	Tangipahoa OHSEP
Donald Langston	Superintendent	Town of Greensburg
Dr. Kelli Joseph	Superintendent	St. Helena Parish School System
Jack Anderson	Asst. Fire Chief FPD #3	St. Helena Parish
Kenneth Giardina	Mayor	Village of Montpelier
LeeAnn Lindsey	Parish Sanitarian	DHH-OPH
Lester Easley	Director Economic Development	St. Helena Parish Office of Economic Development
Pevey Lee	Manager	St. Helena Waterworks
Representative	OHSEP	East Feliciana
Rita Allen	OHSEP Director	St. Helena Parish
Sharon Hornsby	Campus Dean	Louisiana Technical College
Sharonda Brown	Sec-Treasurer/Grant Administrator	St. Helena Police Jury
Theodore McCray, Jr.	Police Jury President	St. Helena Police Jury
Tim Brown	Chief of Police	Greensburg PD
Tommy Strickland	Fire Chief	Dist. 6

Tresa Byrd	Building Official	St. Helena Police Jury/Building Dept.
Vicki Travis	Deputy Director	Tangipahoa Parish OHSEP
Virginia Bell	Grants Administrator/Writer	St. Helena Parish

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 parish and community specific 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 division 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 Notices

The Advocate

Home	Find an ad	Place an ad	Baton Rouge Lagniappe	New Orleans Lagniappe	Deadlines	LOG IN	SIGN UP
------	------------	-------------	-----------------------	-----------------------	-----------	--------	---------

[Home](#)[Place Ad](#)[Find Ads](#)[Help](#)[sign in](#)[clip list](#)

What:

Within any of Baton Rouge, Louisiana ([change](#))

[Main Categories](#) > [Events & Notices](#) > [Legal & Public Notices](#) > [St. Helena Parish to hold Public Meetings for Hazard Mitigation Plan Update Greensburg, LA St. Helena...](#)

St. Helena Parish to hold Public Meetings for Hazard Mitigation Plan Update Greensburg, LA St. Helena...

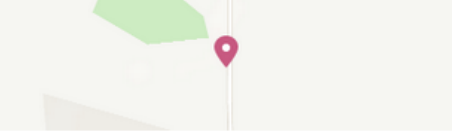
St. Helena Parish to hold Public Meetings for Hazard Mitigation Plan Update Greensburg, LA St. Helena Parish Office of Homeland Security & Emergency Preparedness is in the process of updating the St. Helena Parish Hazard Mitigation Plan and are required to hold public meetings on the plan update. The Public meeting will be held on September 3, 2015 in the St. Helena Parish Police Jury Meeting Room located at 17911 Hwy 43 Greensburg, La., from 10AM to 11AM. Natural hazards have the potential to cause property loss, loss of life, economic hardship, and threats to public health and safety. While an important aspect of emergency management deals with disaster recovery (the actions that a community takes to repair damages), an equally important aspect of emergency management involves hazard mitigation - sustained actions taken to reduce long-term risk to life and property. They are things we do today to be more protected in the future. For example, elevating buildings in flood hazard areas, installing hurricane clips and storm shutters, relocating critical facilities out of hazard areas, using fire-resistant construction materials in wildfire hazard areas, etc. Hazard mitigation actions are essential to breaking the typical disaster cycle of damage, reconstruction, and repeated damage. With careful selection, they can be long-term, cost-effective means of reducing risk and helping to create a more sustainable and disaster-resilient community. A hazard mitigation plan describes an areas vulnerability to the various natural hazards that are typically present, along with an array of actions and projects for reducing key risks. While natural disasters cannot be prevented from occurring, the continued implementation of mitigation strategies identified in the plan will gradually, but steadily, make our communities more sustainable and disaster-resilient. The Disaster Mitigation Act of 2000 (DMA 2000) requires all states and local governments to have a hazard mitigation plan in order to be eligible to apply for certain types of federal hazard mitigation project grants. Hazard mitigation plans must be: (a) implemented on an ongoing basis, and (b) updated every five years to ensure that they remain applicable representations of local risk and locally-preferred risk reduction strategies. St. Helena Parish is in the beginning stages of updating its hazard mitigation plan. Public meeting will be held on September 3, 2015 for all citizens interested in learning about and participating in discussions concerning the St. Helena Parish Hazard Mitigation Plan. Residents of St. Helena Parish are asked to participate in a survey about public perceptions and opinions regarding natural hazards in the parish. The survey results will be used in the development of the plan. This short web-based survey can be found at <https://www.surveymonkey.com/r/StHelenaParish>. For more information, please contact: Rita Allen, Director OHSEP 225-222-3544. 5167999-aug 27-1t - St. Helena Public Notices

Share This Ad:



Facebook

ABOUT






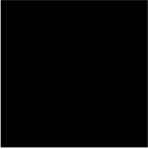





17911 Hwy 43
Greensburg, Louisiana


(225) 222-3544

<http://www.sthelenaparish.la.gov/>

PHOTOS



VISITOR POSTS

USF Global Disaster Management & Humanitarian Relief
July 10 at 3:58pm

August 28 at 3:00pm · 🌐


Are you prepared for storm season? Check your supplies this weekend.

Like

Comment


Share


Preppers SHTF kits, emergency food, more you focus safe, more safe you are likes this.

Preppers SHTF kits, emergency food, more you focus safe, more safe you are Who else thinks this is cool

Like · Reply · 11 hrs

Write a comment...



St. Helena Parish Office of Homeland Security and Emergency Preparedness

August 13 at 8:47am · 🌐

St. Helena Parish to hold Public Meeting for Hazard Mitigation Plan Update

A St. Helena Parish Hazard Mitigation Plan Update public meeting will be held on Thursday, September 3rd from 10:00 am until 11:00 am at the St. Helena Parish Police Jury Meeting Room, 17911 Highway 43, Greensburg, La.

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

Residents of St. Helena Parish and its incorporated jurisdictions are asked to participate in a survey about public perceptions and opinions regarding natural hazards in the parish. The survey results will be used in the development of the plan. This short web-based survey can be found at <https://www.surveymonkey.com/r/StHelenaParish> . For more information, please contact: Rita Allen, OHSEP Director 225-222-3544

Like

Comment

Share

Appendix B – Plan Maintenance

Purpose

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

Monitoring, Evaluating, and Updating the Plan

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

St. Helena 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.

Review and revision of the HMP will be directed by the St. Helena Parish Office of Homeland Security and Emergency Preparedness (OHSEP) director. Although the people filling the positions may change from year to year, each community 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 St. Helena Parish OHSEP director.

Progress on the mitigation action items will be monitored and evaluated by the St. Helena Parish OHSEP Director. The Lead Manager for each action item will complete an annual Progress Report and submit them to the St. Helena Parish OHSEP Director for review. This Progress Report is designed to monitor the state of the projects and evaluate the success of each mitigation item. The report lists each action item and answers several very important questions, such as has the project begun? If not, why not? The status of project; is it complete? If so, did it eliminate the problem? Are there changes needed to better implement the mitigation actions, and so on. These questions serve to address the progress being made on each of the mitigation actions items.

If during this process of monitoring and reviewing the Annual Progress Report, the St. Helena Parish OHSEP Director determines that the Steering Committee should be reconvened for discussion, the

Director has the option of doing so. The Director will use the following criteria to determine if a meeting needs to be held:

- Are there any changes in mitigation plan requirements for funding programs?
- Are any changes or revision required to the Mitigation Action Items? (i.e. Have any action items been completed? Are there any new specific mitigation action items? Are there any changes to the mitigation plan requirements? Have any new specific mitigation action items been identified?)
- Does a review of the Progress Reports indicate any changes are necessary?
- Are there any changes within the Steering Committee membership?

Although not required, FEMA recommends an annual meeting of the Steering Committee. If the St. Helena Parish OHSEP Director determines that this annual meeting needs to be conducted, he or she is responsible for contacting committee members, organizing the meeting and providing a public notice for the meeting to solicit public input.

In addition to monitoring the progress of plan projects, the plan is required to be evaluated, then revised or updated at least once every five years from the date of FEMA approval. If a disaster occurs or as action items are completed, the plan will be reviewed, revised, and updated sooner than the required five years, using the process outlined in this section.

The Steering Committee will be reconvened approximately one year before the five-year deadline and begin evaluating the Hazard Mitigation Plan. The above criteria and the following key topics and questions below will be addressed at the meeting.

- ID Hazard – Are there new hazards that affect your community? Has a disaster occurred?
- Profile Hazard Events – Are additional maps or new hazard studies available? Have chances of future events changed? Have recent and future development in the community been checked for their effect on hazard areas?
- Inventory Assets – Have inventories of existing structures in hazard areas been updated? Are there any new special high risk populations? Is future land development accounted for in the inventories?
- Estimate Losses – Have losses been updated to account for recent changes?

If the answer to any of the above questions is a “Yes”, then the HMP will be updated accordingly.

The HMP review and update will be accomplished by reviewing each goal and action item to determine their relevance to changing situations in the Parish, as well as changes to state or federal policy, and to ensure that they are addressing current and expected conditions. The Steering Committee will also review the risk assessment portion and determine if this information should be updated or modified. If no changes are necessary, the State Hazard Mitigation Officer will be given a justification for this determination.

The St. Helena Parish OHSEP Director is responsible for incorporating all changes into the HMP after the Steering Committee has met and decided on the changes. All necessary revisions will be completed at least three months prior to the end of the five-year period to allow the Steering Committee time to review

the updated plan. During the revision process, the St. Helena Parish OHSEP Director will send a status report (meeting minutes) to the Police Jury after each Steering Committee meeting. Any required revisions will be implemented into existing plans, as applicable, within six months following the review process. This process will be repeated for each five year review of the plan.

The St. Helena OHSEP Director will also be responsible for maintaining plan review comments and will monitor the plan's action items on an ongoing basis using phone calls and emails to contact those responsible to implementing action items and bring the project status reports to the yearly evaluation meetings. Ideas to be discussed will include, but are not limited to, the following:

- Does the committee membership need to be updated?
- Have any new hazard events occurred?
- Has new funding been allotted?
- Have any projects been implemented?
- Have the project priorities changed?
- Are there any new projects to discuss?

In addition to the yearly evaluations, the questions listed above and additional considerations will be made during the formal update process to be completed and approved by FEMA within a five-year cycle. Updates to the Hazard Mitigation Plan will be made fully utilizing the representation of the HMP committee formed for this purpose. (See §201.6 (c)(4)(i))

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

The project requirements from the Hazard Mitigation Plan shall be incorporated into other planning mechanisms, as applicable, during the routine re-evaluation and update of the parish and jurisdictional plans. Any changes or updates to the floodplain ordinances, Emergency Operations Plan, FIRMS, Comprehensive Plan, or any other applicable plans will be reflected in this HMP during its updates.

Opportunities to integrate the requirements of this plan into other local planning mechanisms will continue to be identified through future meetings of the St. Helena 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 St. Helena 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 Town of Greensburg and the Village of Montpelier, St. Helena Parish has the authority to incorporate contents of the Hazard Mitigation Plan into the parish's existing regulatory mechanisms. Agreements are currently in place with each jurisdiction to allow for the parish incorporation mechanisms to take place.

The following parish and local plans incorporate requirements of this Hazard Mitigation Plan Update as follows:

St. Helena Unincorporated

- Comprehensive Master Plan – Updated as needed, St. Helena Parish OHSEP is the responsible agency
- Local Emergency Operations Plan – Updated annually, St. Helena Parish OHSEP is the responsible agency
- Community Wildfire Protection Plan – Updated as needed, St. Helena Parish OHSEP is the responsible agency

Town of Greensburg

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

Village of Montpelier

- 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.

This Page Intentionally Left Blank

Appendix C – St. Helena Parish Essential Facilities

St Helena Unincorporated Essential Facilities

Type	Name	Flood	Hail	Lightning	Wind	Tornado	Tropical Cyclone
Fire and Rescue	Fire Department 6th Ward				x	x	x
	Fire Station and Headquarters District 4				x	x	x
	Fire Station South 2nd Ward	x			x	x	x
	Fire Station South 2nd Ward	x			x	x	x
	Grangeville Station District 4	x			x	x	x
	Greensburg Vol Fire Station				x	x	x
	Hardy Reeves Crossing Station District 4				x	x	x
	Hillsdale Fire Substation				x	x	x
	Hillsdale Vol Fire Dept Substation 10				x	x	x
	Hillsdale Volunteer Fire Dept No. 1	x			x	x	x
	Liverpool Fire Tower				x	x	x
	North Helena Vol Dept Fire Protection District 3				x	x	x
	North Helena Vol Fire Dept Substation 1				x	x	x
	North Helena Vol Fire Dept, District 3 Substation 3				x	x	x
	Pine Grove Station District 2				x	x	x
Government	LA Department of Agriculture				x	x	x
	Police Jury Public Works				x	x	x

St Helena Unincorporated Essential Facilities

Type	Name	Flood	Hail	Lightning	Wind	Tornado	Tropical Cyclone
	US DHS United States Coast Guard - Loran-C Station				x	x	x
	Voting Precinct				x	x	x
Law Enforcement	St. Helena Parish Sheriff Station				x	x	x
Corrections	St. Helena Parish Prison				x	x	x
Schools	St. Helena Arts and Technology Academy (PREK-6)				x	x	x

Greensburg Essential Facilities

Type	Name	Flood	Hail	Lightning	Wind	Tornado	Tropical Cyclone
Government	Assessor's Office				x	x	x
	Greensburg Civic Center				x	x	x
	Judge Burrell Carter - 1st Circuit Court of Appeal				x	x	x
	Office of Motor Vehicles				x	x	x
	St. Helena Court House				x	x	x
	St. Helena Parish Police Jury				x	x	x
	St. Helena Parish School Board				x	x	x
	Town Hall				x	x	x
	Veterans Affairs				x	x	x
Law Enforcement	E-911 Office & OEP	x			x	x	x
	Greensburg Police Station				x	x	x
	St. Helena Parish Sheriff's Office				x	x	x

Greensburg Essential Facilities

Type	Name	Flood	Hail	Lightning	Wind	Tornado	Tropical Cyclone
	St. Helena Sheriff's Department Administration				x	x	x
Corrections	St. Helena Jail				x	x	x
Public Health	Southeast Community Health Systems				x	x	x
	St. Helena Parish Health Unit	x			x	x	x
	St. Helena Parish Hospital	x			x	x	x
Schools	St. Helena College and Career Academy (7-12)				x	x	x
Nursing Homes	St. Helena Parish Nursing Home				x	x	x

Montpelier Essential Facilities

Type	Name	Flood	Hail	Lightning	Wind	Tornado	Tropical Cyclone
Fire and Rescue	Montpelier Fire Department				x	x	x
Government	DOTD Maintenance Yard				x	x	x
	Montpelier Town Hall				x	x	x
	Montpelier Town Hall				x	x	x

Appendix D – Plan Adoption

St. Helena Parish Police Jury

17911 Hwy 43 N • Greensburg, LA 70441

Phone: (225) 222-4549 • Fax: (225) 222-6405 • sbrown@sthenaparissh.la.gov

Jule C. Wascom, District 1 Thomas J. Wicker, District 2 Theodore McCray, Jr., District 3
Warren McCray, Jr., District 4 Major Coleman, District 5 Doug Watson, District 6
This institution is an equal opportunity employer

**A RESOLUTION OF THE
ST. HELENA PARISH POLICE JURY
ST. HELENA PARISH HAZARD MITIGATION PLAN 2015**

WHEREAS, the ST. HELENA PARISH POLICE JURY recognizes the threat that natural hazards pose to people and property within ST. HELENA PARISH; and

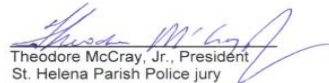
WHEREAS, the ST. HELENA PARISH POLICE JURY has prepared a multi-hazard mitigation plan, hereby known as ST. HELENA PARISH HAZARD MITIGATION PLAN 2015 In accordance with the Disaster Mitigation Act of 2000; and


WHEREAS, ST. HELENA PARISH HAZARD MITIGATION PLAN 2015 identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in ST. HELENA PARISH from the impacts of future hazards and disasters; and

WHEREAS, adoption by the St. Helena Parish Police Jury demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the ST. HELENA PARISH HAZARD MITIGATION PLAN 2015.

NOW THEREFORE, BE IT RESOLVED by St. Helena Parish Police Jury the governing authority of St. Helena Parish, Louisiana, adopts the ST. HELENA PARISH HAZARD MITIGATION PLAN 2015.

The above RESOLUTION was unanimously adopted on this 15th day of December, 2015


Theodore McCray, Jr., President
St. Helena Parish Police Jury

Attest:

Sharonda Brown, Secretary-Treasurer
St. Helena Parish Police Jury



Town of Greensburg

LOUISIANA

RESOLUTION NO. _____

A RESOLUTION OF THE Town of Greensburg

Town of Greensburg HAZARD MITIGATION PLAN 2015

WHEREAS the Town of Greensburg recognizes the threat that natural hazards pose to people and property within Town of Greensburg; and

WHEREAS the Town of Greensburg has prepared a multi-hazard mitigation plan, hereby known as Town of Greensburg MITIGATION PLAN 2015

in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, Town of Greensburg HAZARD MITIGATION PLAN 2015 identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Town of Greensburg from the impacts of future hazards and disasters; and

WHEREAS adoption by the Town of Greensburg demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the Town of Greensburg HAZARD MITIGATION PLAN 2015.

NOW THEREFORE, BE IT RESOLVED BY THE Town of Greensburg, LOUISIANA, THAT:

ADOPTED by a vote of 3 in favor and 0 against, and 0 abstaining, this 15th day of December 2015.

By: W. Burke Jones

(print name)

ATTEST:

By: Kimberly McNabb

(print name)

APPROVED AS TO FORM:

By: _____

(print name)

Village of Montpelier

LOUISIANA

RESOLUTION NO. _____

A RESOLUTION OF THE Village of Montpelier

ST. HELENA PARISH HAZARD MITIGATION PLAN 2015

WHEREAS the *Village of Montpelier* recognizes the threat that natural hazards pose to people and property within ST. HELENA PARISH; and

WHEREAS the *Village of Montpelier* has prepared a multi-hazard mitigation plan, hereby known as ST. HELENA PARISH HAZARD MITIGATION PLAN 2015

In accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, ST. HELENA PARISH HAZARD MITIGATION PLAN 2015 identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in ST. HELENA PARISH from the impacts of future hazards and disasters; and

WHEREAS adoption by the *Village of Montpelier* demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the ST. HELENA PARISH HAZARD MITIGATION PLAN 2015.

NOW THEREFORE, BE IT RESOLVED BY THE *Village of Montpelier*, St. Helena Parish, LOUISIANA, adopts the ST. HELENA PARISH HAZARD MITIGATION PLAN 2015.

ADOPTED by a vote of 2 in favor and 0 against, and _____ abstaining, this 14 day of December, 2015.

By: Kenneth G. Giardina

Kenneth G. Giardina, Mayor

Village of Montpelier

ATTEST:

By: Kelly Hoover

Kelly Hoover, Secretary

Village of Montpelier

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, hazard profiling, and project identification. The following pages contain documentation of the worksheets.

St. Helena Parish - Building Inventory (Greensburg, Montpelier)

Critical Facility (If Yes, Mark X)	Name of Building	Purpose of Building	Address	City	Lat	Long	Assesse d Value	Date Built	Constr. Type
St. Helena Unincorporated									
	St. Helena Police Jury Office	Government Office. EOC	17911 Hwy 43	Greensburg	30.849 681	- 90.668 107	n/a	2001	n/a
	St. Helena Park Bldg	Shelter/	227 Park Loop	Greensburg	30.812 7	- 90.727 5	n/a	Late 90's	n/a
	Fifth Ward Recreation /Shelter	Shelter/	31676 Hwy 16	Amite	30.708 7	- 90.594 3	n/a	2014	n/a
	St Helena School System Elem Bldg	Shelter/ Public School	1798 Hwy 1042	Greensburg	30.654 4	- 90.898 3	n/a	1963	n/a

	St. Helena School System Middle Bldg	Shelter/ Public School	1590 Hwy 1042	Greensburg	30.8293	- 90.6972	n/a	n/a	n/a
	Northshore Tech College	Community College	948 Hwy 1042	Greensburg	30.8331	- 90.6885	n/a	n/a	n/a
	Water Works Office	Water Works Headquarters	3362 Hwy 1045	Amite	30.7446	- 90.6203	n/a	n/a	n/a
	Fire Station Hillsdale	Hillsdale Fire Headquarters	3313 Highway 1045	Amite	30.7437	- 90.6199	n/a	1970	n/a
	Fire Station	Hillsdale Fire Sub Station	2095 Hwy 10	Greensburg	30.8245	- 90.5993	n/a	n/a	n/a
	Fire Station	Hillsdale Fire Sub Station	3924 Hwy 16	Amite	30.7061	- 90.5915	n/a	n/a	n/a
	Fire Station Pine Grove	Pine Grove Headquarters	72 Matthews St.	Pine Grove	30.7092	- 90.7557	n/a	n/a	n/a
	Fire Station	Pine Grove Headquarters	99 Dennis Lee Rd	Denham Springs	30.6844	- 90.83925	n/a	n/a	n/a
	Fire Station	South Second Ward Fire Headquarters	1021 Hwy 1042	Greensburg	30.8319	- 90.6935	n/a	n/a	n/a
	Fire Station	South Second Ward Fire Substation	7267 Hwy 449	Greensburg	30.8668	- 90.7994	n/a	n/a	n/a
	Fire Station Dist 4	District # 4 Headquarters	8352 Highway 37	Greensburg	30.7747	- 90.7404	n/a	2001	n/a

	Fire Station	Dist 4 Sub Station	95 Rohner Rd	Amite	30.761 5	- 90.652 7	n/a	n/a	n/a
	Fire Station	Dist 4 Sub Station	72 Powers Ln	Pine Grove	30.738 8	- 90.835 6	n/a	n/a	n/a
	Fire Station North Helena FPD #3	North Helena FPD 3 Headquarters	5138 Highway 1043	Greensburg	30.909 1	- 90.717 2	n/a	n/a	n/a
	Fire Station	North Helena FPD 3 Sub Station	3369 David Allen Rd	Greensburg	30.973 051	- 90.728 4	n/a	n/a	n/a
	Fire Station	North Helena FPD 3 Sub Station	14848 Hwy 38	Greensburg	30.915 1	- 90.810 009	n/a	n/a	n/a
	Fire Station 6 Ward Fire	6th Ward Fire Headquarters	3924/3986 Highway 38	Kentwood	30.819 7	-90.675	n/a	early 70's	n/a
	Fire Station	6th Ward Fire Sub Station	4650 Hwy 440	Kentwood	30.814 93	- 90.641 827	n/a	2015	n/a
	Sheriff's Office	Sub Station	24324 Hwy 38	Greensburg	30.928 6	-90.687	n/a	1950	n/a
	Sheriff's Office	Sub Station	4644_ Hwy 16	Pine Grove	30.693 1	- 90.819 2	n/a	n/a	n/a
	St. Helena Parish Maintenance	Road Maint Headquarters	17933 Hwy 43	Greensburg	30.840 465	- 90.667 893	n/a	n/a	n/a
	St. Helena Parish Maintenance	Equipment Shop	17955 Hwy 43	Greensburg	30.840 79	- 90.667 888	n/a	n/a	n/a
	Water Work Site	Water Distribution Site	8733 Hwy 38	Greensburg	30.927 6	- 90.711 7	n/a	n/a	n/a

	Water Works Site	Water Distribution Site	Hwy 38	Greensburg	30.927 3	- 90.719 2	n/a	n/a	n/a
	Water Works Site	Water Distribution Site	1012 Turner Chapel	Greensburg	30.882 124	- 90.692 969	n/a	n/a	n/a
	Water Works Site	Water Distribution Site	1939 Hwy 10	Greensburg	30.824 449	- 90.599 086	n/a	n/a	n/a
	Water Works Site	Water Distribution Headquarters	3362 Hwy 1045	Amite	30.744 671	- 90.620 307	n/a	n/a	n/a
	Water Works Site	Water Distribution Site	2088 Hwy 1045	Amite	30.738 737	- 90.600 0331	n/a	n/a	n/a
	Water Works Site	Water Distribution Site	9751 Hwy 449	Greensburg	30.757 666	- 90.705 061	n/a	n/a	n/a
	Water Works Site	Water Distribution Site	107 Merlin	Denham Spring	30.691 098	- 90.830 933	n/a	n/a	n/a

Greensburg

	Town Hall	Carry out Town operations	14516 Hwy 37	Greensburg	30.829 8	- 90.670 9	n/a	n/a	n/a
	Greensburg Police Department	Law Enforcement Headquarters	14516 Hwy 37	Greensburg	30.829 8	- 90.670 8	n/a	n/a	n/a
	Greensburg Fire Department	Volunteer Fire Department Headquarters	13775 Hwy 37	Greensburg	30.819 7	-90.675	n/a	n/a	n/a

	St. Helena High School	Public School	14340 Hwy 37	Greensburg	30.827 06	- 90.671 8	n/a	n/a	n/a
	St. Helena Hospital	Parish Hospital	16874 Hwy 43	Greensburg	30.831 2	- 90.666 2	n/a	n/a	n/a
	St. Helena Nursing	Parish Home for the elderly	32 N 2nd Street	Greensburg	30.831 1	- 90.665 5	n/a	n/a	n/a
	St. Helena Sheriff Office	Parish sheriff's Office Headquarters	53N 2nd Street	Greensburg	30.830 9	- 90.665 1	n/a	n/a	n/a
	St. Helena Sheriff Jail	Parish Prison /Inmate Housing	387 Sitman Street	Greensburg	30.829 1	- 90.667 1	n/a	n/a	n/a
	St. Helena Court House	Parish Records/Court	369 Sitman Street	Greensburg	30.828 9	- 90.667 2	n/a	n/a	n/a
	Greensburg Well yard	Town Water	119 S 3rd Street	Greensburg	30.823 7	- 90.669 2	n/a	n/a	n/a
	Greensburg Oxidation	Town Sewage	16955 Hwy 43	Greensburg	30.833 9	- 90.668 09	n/a	n/a	n/a
	Greensburg Post Office	US Postal Service	6638 Hwy 10	Greensburg	30.833 4	- 90.675 7	n/a	n/a	n/a
	Demco	Electrical Headquarters for the Parish	6823 Hwy 10	Greensburg	30.834 06	- 90.678 8	n/a	n/a	n/a
	DMV	Parish Office for State Driver's License	38 S Main Street	Greensburg	30.828 7	- 90.667 5	n/a	n/a	n/a

ST. HELENA PARISH

HAZARD MITIGATION PLAN

E-6

	St. Helena Parish Assessor's Office	Parish Office for Tax records	351 Sitman Street	Greensburg	30.8286	-90.6671	n/a	n/a	n/a
	School Board Office	Parish School systems Headquarters	354 Sitman Street	Greensburg	30.8284	-90.6666	n/a	n/a	n/a
	Town Hall Water Tower	Towns Water storage /Distribution system	14516 Hwy 37	Greensburg	30.8297	-90.6707	n/a	n/a	n/a
	Century link	Telephone service Office	131 S Main Street	Greensburg	30.8287	-90.6691	n/a	n/a	n/a
	council on aging Family service building	Headquarters for Support of elderly services in the parish	48 Kendrick Street	Greensburg	30.8293	-90.6673	n/a	n/a	n/a
	St. Helena Head Start	Early learning school	77 Greensburg Street	Greensburg	30.8217	-90.666	n/a	n/a	n/a

Montpelier

	Town Hall, Police station, Gas and Water System and Volunteer Fire Station	36310 Highway 16	Montpelier	30° 40' 54" N	90° 39' 33" W	283,000	Apr-15	Metal	n/a
--	--	------------------	------------	---------------	---------------	---------	--------	-------	-----

Vulnerable Populations

Vulnerable Populations Worksheet

St. Helena Parish

Name	Street	City	Zip Code	Latitude	Longitude
All Hospitals (Private or Public)					
St. Helena Parish Hospital (Greensburg Town Limits)	16874 Highway 43	Greensburg	70441	30.8313	-90.6663
* There are no Hospitals located in the Town of Montpelier					
Nursing Homes (Private or Public)					
St. Helena Parish Nursing Home (Greensburg Town Limits)	32 N. Second Street	Greensburg	70441	30.8309	-90.6656
* There are no Nursing Homes located in the Town of Montpelier					
Mobile Home Parks					
Hyde Park	Hwy 38	Greensburg	70441	n/a	n/a
Inspiration Park	Inspiration Park Drive	Kentwood	70444	n/a	n/a
2M Mobile Home Park	Muse Rd	Greensburg	70441	n/a	n/a
(Name Unknown McClendon)	Willie Redden Rd	Greensburg	70441	n/a	n/a
(Name Unknown)	Hwy 16	Denham Springs	70706	n/a	n/a
Natalbany Park Camp Grounds	30218 Hwy 16	Amite	70422	n/a	n/a
* There are no Mobile Home Parks located in the Town of Montpelier					

St. Helena Parish – National Flood Insurance Program (NFIP) (St. Helena Unincorporated, Greensburg, Montpelier)

ELEMENT F: STATE REQUIREMENT National Flood Insurance Program (NFIP)				
Jurisdiction: St. Helena Unincorporated				
	St. Helena Parish	Greensburg	Montpelier	
Insurance Summary				Comments
How many NFIP policies are in the community? What is the total premium and coverage?	53- \$50,121./\$16,246,000 Insurance in force	2 policies, \$3,218 total premiums, \$276,200 insurance in force	2 policies, \$755/year, \$385,500 coverage	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?	8 Total \$73,310 Paid claims No Sub Damage closed paid losses	1 closed paid loss, \$45,255, 1 substantial damage closed paid loss.	0	N/A
How many structures are exposed to flood risk with in the community?	27 Policies	There are 2 policies, both in an AE Flood Zone. There may be other structures at risk, but only 2 have policies.	All	N/A
Describe any areas of flood risk with limited NFIP policy coverage.	N/A	N/A	N/A	N/A
Staff Resources				
Is the Community FPA or NFIP Coordinator certified?	N/A	N/A	No	Unincorporated - No Staff
Is flood plain management an auxiliary function?	N/A	N/A	Yes	N/A
Provide an explanation of NFIP administration services (e.g., permit review, GIS, education or outreach, inspections, engineering capability)	N/A	N/A	In cooperation with the parish	N/A
What are the barriers to running an effective NFIP program in the community, if any?	N/A	N/A	None	Montepelier - funding

Compliance History				
Is the community in good standing with the NFIP?	Yes	Yes	Yes	N/A
Are there any outstanding compliance issues(i.e., current violations)?	No	No	No	N/A
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact(CAC)?	CAV 03/01/2000 CAC 02/04/2014	Cav: 12/11/2009, CAC: 10/22/2012	2013	N/A
Is a CAV or CAC scheduled or needed? If so when?	No	No CAV/CAC scheduled at this time	No	N/A
Regulation				
When did the community enter the NFIP?	9/27/1991	Regular entry:04/01/1980, status effective: 09/19/1983	3/8/1976	N/A
Are the FIRMs digital or paper?	Paper	paper	Both	N/A
Do floodplain development regulations meet or exceed FEMA or State minimum requirements? If so, in what ways?	N/A	N/A	Yes	Montpelier - adopted the FEMA model ordinance
Community Rating System (CRS)				
Does the community participate in CRS?	No	No	No	N/A
What is the community's CRS Class Ranking?	N/A	N/A	N/A	N/A
Does the plan include CRS planning requirements?	N/A	N/A	N/A	N/A

Capability Assessment

St. Helena Unincorporated

Worksheet 4.1: Capability Assessment Worksheet		
Local mitigation capabilities are existing authorities, policies and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.		
Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
<div>St. Helena parish</div> <div>Comments</div>		
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	EOP Homeland Security
Continuity of Operations Plan	No	n/a
Transportation Plan	No	n/a
Stormwater Management Plan	No	n/a
Community Wildfire Protection Plan	Yes	Easleyville, Darlington, Chipola, Pine Grove Communities with a plan
Other plans (redevelopment, recovery, coastal zone management)		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	Yes	n/a
Land Use Planning and Ordinances	Yes / No	
Zoning Ordinance	No	n/a
Subdivision Ordinance	No	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		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.		
	St. Helena Parish	Comments
Administration	Yes / No	
Planning Commission	No	n/a
Mitigation Planning Committee	No	n/a
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	n/a
Mutual Aid Agreements	Yes	The Fire Departments have these agreements
Staff	Yes / No;	
Chief Building Official	Yes	n/a
Floodplain Administrator	No	n/a
Emergency Manager	Yes	n/a
Community Planner	No	n/a
Civil Engineer	No	n/a
GIS Coordinator	No	n/a
Grant Writer	No	n/a
Other		n/a
Technical	Yes / No	
Warning Systems / Service (Reverse 911, outdoor warning signals)	No	n/a
Hazard Data & Information	No	n/a
Grant Writing	No	n/a
Hazus Analysis	No	n/a
Other		n/a

Financial		
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.		
	St. Helena Parish	Comments
Funding Resource	Yes / No	
Capital Improvements project funding	Yes	n/a
Authority to levy taxes for specific purposes	Yes	Residents and State has to approve
Fees for water, sewer, gas, or electric services	No	n/a
Impact fees for new development	No	n/a
Stormwater Utility Fee	No	n/a
Community Development Block Grant (CDBG)	Yes	n/a
Other Funding Programs		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.		
	St. Helena Parish	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	n/a
Natural Disaster or safety related school program	No	n/a
Storm Ready certification	No	n/a
Firewise Communities certification	No	n/a
Public/Private partnership initiatives addressing disaster-related issues	No	n/a
Other		n/a

Town of Greensburg

Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Town of Greensburg		
Plans	Yes/No	Comments
Comprehensive / Master Plan	no	n/a
Capital Improvements Plan	no	n/a
Economic Development Plan	no	n/a
Local Emergency Operations Plan	no	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		
Building Code	no	Police Jury handles the building codes
Building Code Effectiveness Grading Schedule (BCEGS) Score	no	n/a
Fire Department ISO/PIAL rating	7	n/a
Site plan review requirements	no	Police Jury handles the building codes
Land Use Planning and Ordinances		
Zoning Ordinance	n/a	n/a
Subdivision Ordinance	n/a	n/a
Floodplain Ordinance	n/a	n/a
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	n/a	n/a
Flood Insurance Rate Maps	n/a	n/a
Acquisition of land for open space and public recreation uses	n/a	n/a
Other	n/a	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.		
Administration	Yes/No	Comments
Planning Commission	no	n/a
Mitigation Planning Committee	no	n/a
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	no	n/a
Staff		
Chief Building Official	yes	with the parish
Floodplain Administrator	yes	with the parish
Emergency Manager	yes	with the parish
Community Planner	no	n/a
Civil Engineer	no	n/a
GIS Coordinator	no	n/a
Grant Writer	no	n/a
Other	no	n/a
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	no	n/a
Hazard Data & Information	no	n/a
Grant Writing	no	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	Yes/No	Comments
Capital Improvements project funding	no	n/a
Authority to levy taxes for specific purposes	yes	election/state
Fees for water, sewer, gas, or electric services	no	n/a
Impact fees for new development	no	n/a
Stormwater Utility Fee	no	n/a
Community Development Block Grant (CDBG)	yes	n/a
Other Funding Programs	yes	LGAP grant
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	n/a
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)		n/a
Natural Disaster or safety related school program	no	n/a
Storm Ready certification	no	n/a
Firewise Communities certification	no	n/a
Public/Private partnership initiatives addressing disaster-related issues	no	n/a
Other	no	n/a

Town of Montpelier

Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Village of Montpelier		
Plans	Yes/No	Comments
Comprehensive / Master Plan	No	n/a
Capital Improvements Plan	No	n/a
Economic Development Plan	No	n/a
Local Emergency Operations Plan	Yes	911
Continuity of Operations Plan	No	n/a
Transportation Plan	No	n/a
Stormwater Management Plan	No	n/a
Community Wildfire Protection Plan	Yes	225-777-4343
Other plans (redevelopment, recovery, coastal zone management)	N/A	n/a
Building Code, Permitting and Inspections		
Building Code	Yes	St. Helena Building Insp.
Building Code Effectiveness Grading Schedule (BCEGS) Score	no	n/a
Fire Department ISO/PIAL rating	No	currently working on one
Site plan review requirements	Yes	St. Helena Building Insp.
Land Use Planning and Ordinances		
Zoning Ordinance	No	n/a
Subdivision Ordinance	No	n/a
Floodplain Ordinance	Yes	St. Helena Building Insp.
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	No	n/a
Flood Insurance Rate Maps	Yes	St. Helena Building Insp.
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.		
Administration	Yes/No	Comments
Planning Commission	No	n/a
Mitigation Planning Committee	Yes	n/a
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	Police Jury
Staff		
Chief Building Official	Yes	n/a
Floodplain Administrator	Yes	n/a
Emergency Manager	Yes	n/a
Community Planner	Yes	n/a
Civil Engineer	Yes	n/a
GIS Coordinator	yes	n/a
Grant Writer	Yes	n/a
Other	No	n/a
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	No	n/a
Hazard Data & Information	Yes	Pipeline Safety
Grant Writing	No	n/a
Hazus Analysis	NO	n/a
Other		n/a

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	New Fire Station
Authority to levy taxes for specific purposes	No	n/a
Fees for water, sewer, gas, or electric services	No	n/a
Impact fees for new development	No	n/a
Stormwater Utility Fee	No	n/a
Community Development Block Grant (CDBG)	No	n/a
Other Funding Programs	No	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	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	Yes	n/a
Firewise Communities certification		n/a
Public/Private partnership initiatives addressing disaster-related issues	No	n/a
Other	No	n/a