Tangipahoa Parish Hazard Mitigation Plan Update Public Meeting

November 19, 2014

Hammond, LA

TANGIPAHOA PARISH GOVERNMENT

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Agenda

- Hazard Mitigation Planning Process – SDMI Staff
- Risk Assessment – SDMI Staff
- Update on Previous/Current Mitigation Projects - Tangipahoa
- Public Activities– SDMI Staff/Tangipahoa

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Hazard Mitigation – A Summary

- Protect public safety and prevent loss of life and injury;
- Help accomplish community objectives, such as leveraging capital improvements, infrastructure protection, open space preservation, and economic resiliency;
- Prevent damage to a community's economic, cultural and environmental assets;
- Minimize operational downtime and accelerate recovery of government and the private sector after an event;

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Why are we required to have a Hazard Mitigation Plan?

- Disaster Mitigation Act of 2000 (DMA 2000)

Section 322 of the Act specifically addresses mitigation planning and requires state and local governments to prepare multi-hazard migration plans as a precondition for receiving FEMA mitigation project grants.

- Meet federal requirements of Title 44 Code of Regulations (CFR) §201.6 for approval and eligibility to apply for FEMA Hazard Mitigation Assistance grant programs.

- The approved Tangipahoa Parish Hazard Mitigation Plan will allow for distribution of HM funding following future disasters.

The Planning Team: A Multi-jurisdictional approach

Each jurisdiction has at least one representative on the planning team:

- Town of Amite
- City of Hammond
- Town of Independence
- Town of Kentwood
- City of Ponchatoula
- Town of Roseland
- Village of Tangipahoa
- Village of Tickfaw

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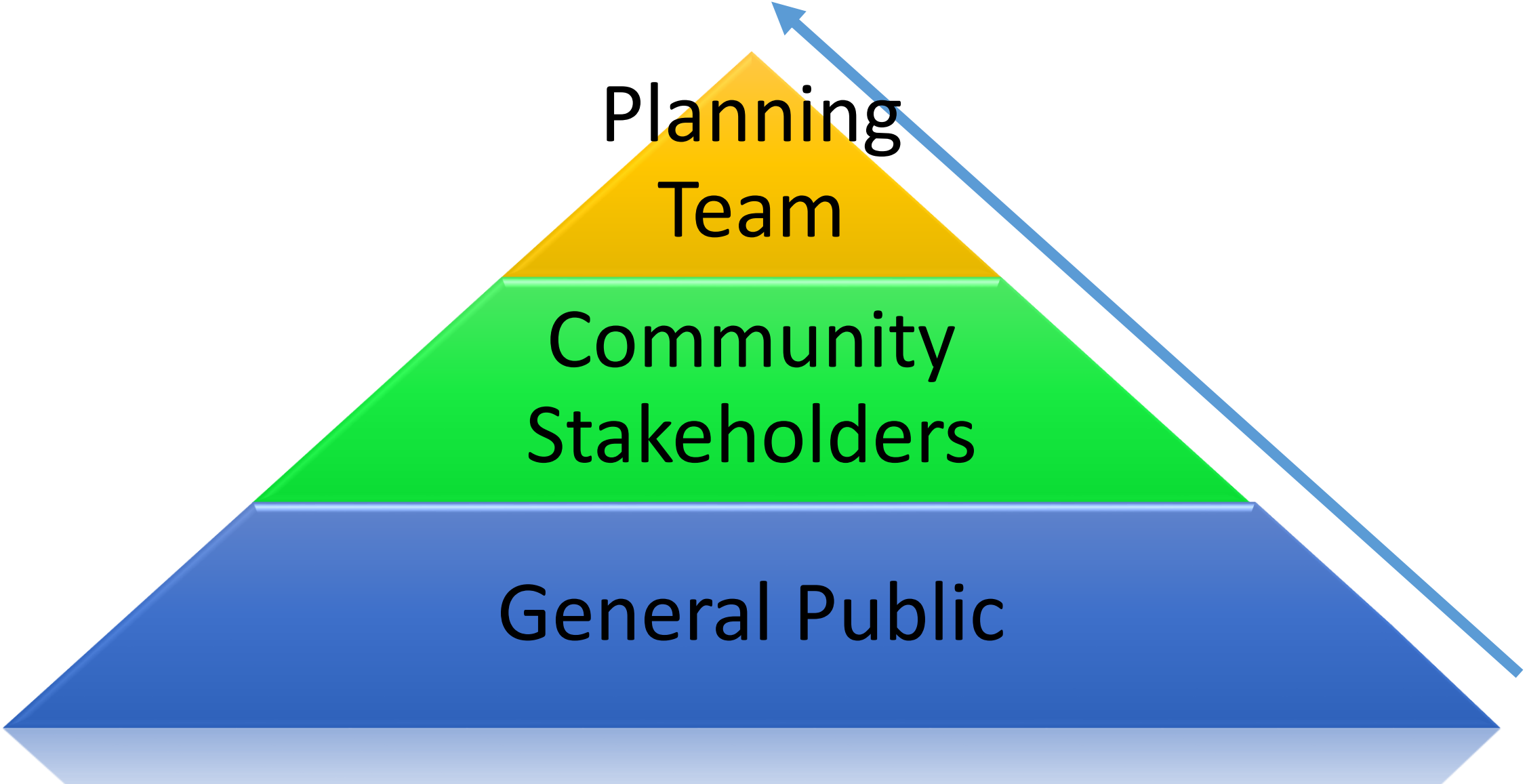
Collaborative Planning Approach



Plan Update Timeline

Activity	Detail	When
Kick-off Meeting	Steering committee	September 2014
Risk Assessment Meeting	Steering committee	October 2014
Jurisdictional Meetings	Steering committee and jurisdictions	September - December
Public Meeting	Steering committee and Public	Today
Mitigation Strategies Meeting	Steering committee	December 2014
Plan development	Contractor (SDMI)	October – December 2014
Public plan review	Public	December 2014
Plan review-GOHSEP	GOHSEP	January 2015
Plan review-FEMA	FEMA	January- February 2015
Jurisdiction adoption of plan	Jurisdictions	February- March 2015
FEMA plan approval	FEMA	By 25 March 2015

*Timeline subject to change.

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Risk Assessment: Hazard Identification

- The plan includes descriptions of the natural hazards that affect the jurisdictions in the planning area.
- A hazards identification should include the
  - locations affected
  - the extent or strength
  - previous occurrences
  - probability of future events

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Risk Assessment: Analyze Risk and Summarize Vulnerability

- Risk analysis involves evaluating vulnerable assets, describing potential impacts, and estimating losses for each hazard.
- This helps the community understand the greatest risks facing the area.
- Methods can include exposure risk analysis, historical analysis and scenario analysis.
- Through the risk analysis the community should be able to verbalize or create problem statements about the identified risks.

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Risk Assessment: Hazards Identified

- Twelve hazards identified, only five hazards will be profiled,
- These natural hazards were selected based on an assessment of the overall impact (geographic extent, magnitude, probability, and exacerbating or mitigating conditions) affecting Tangipahoa Parish.
- The hazards that pose the greatest potential for a negative impact are:

    - **Floods, hurricanes, thunderstorms with lighting and high winds, tornadoes, and wildfires.**

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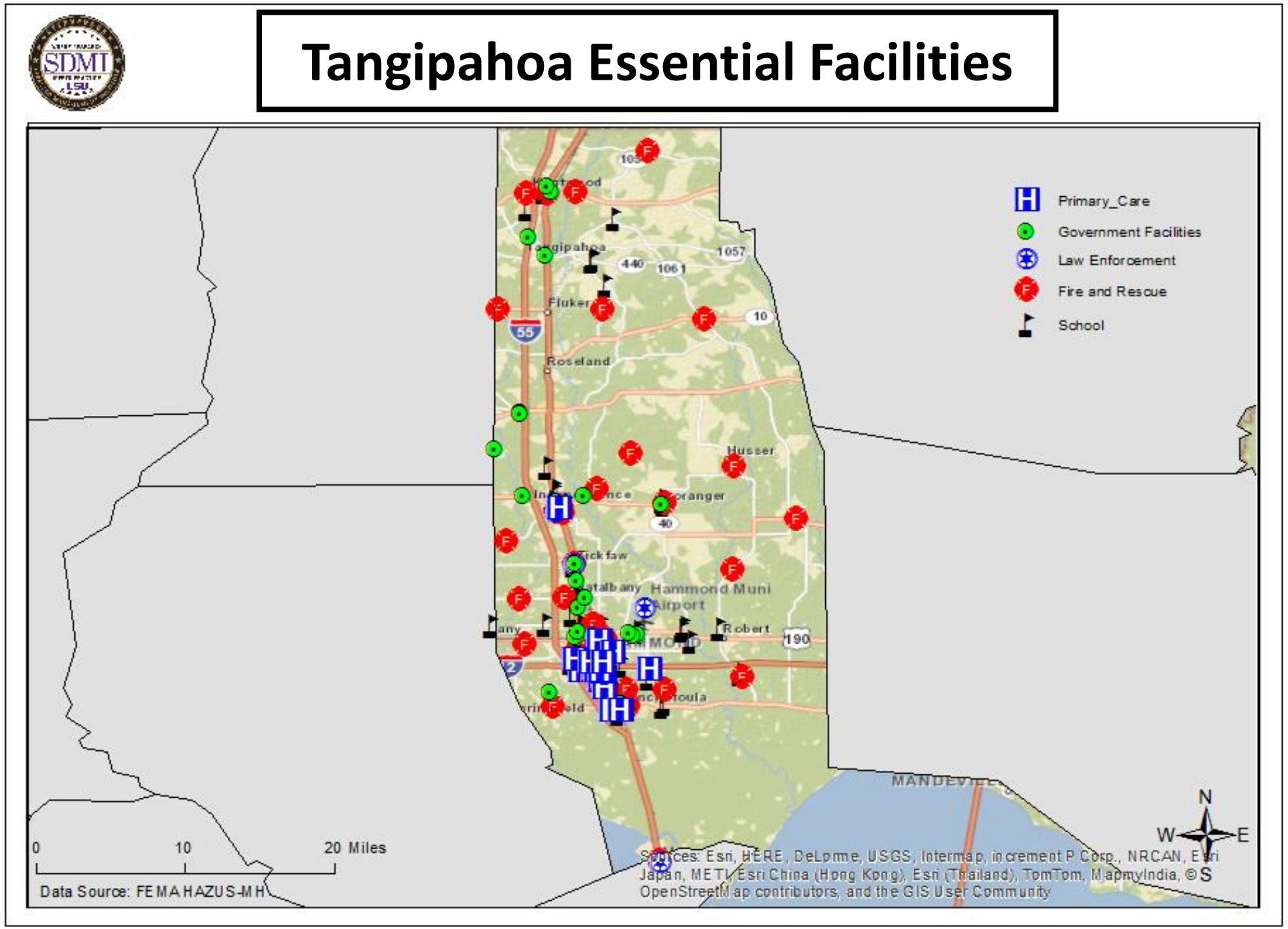
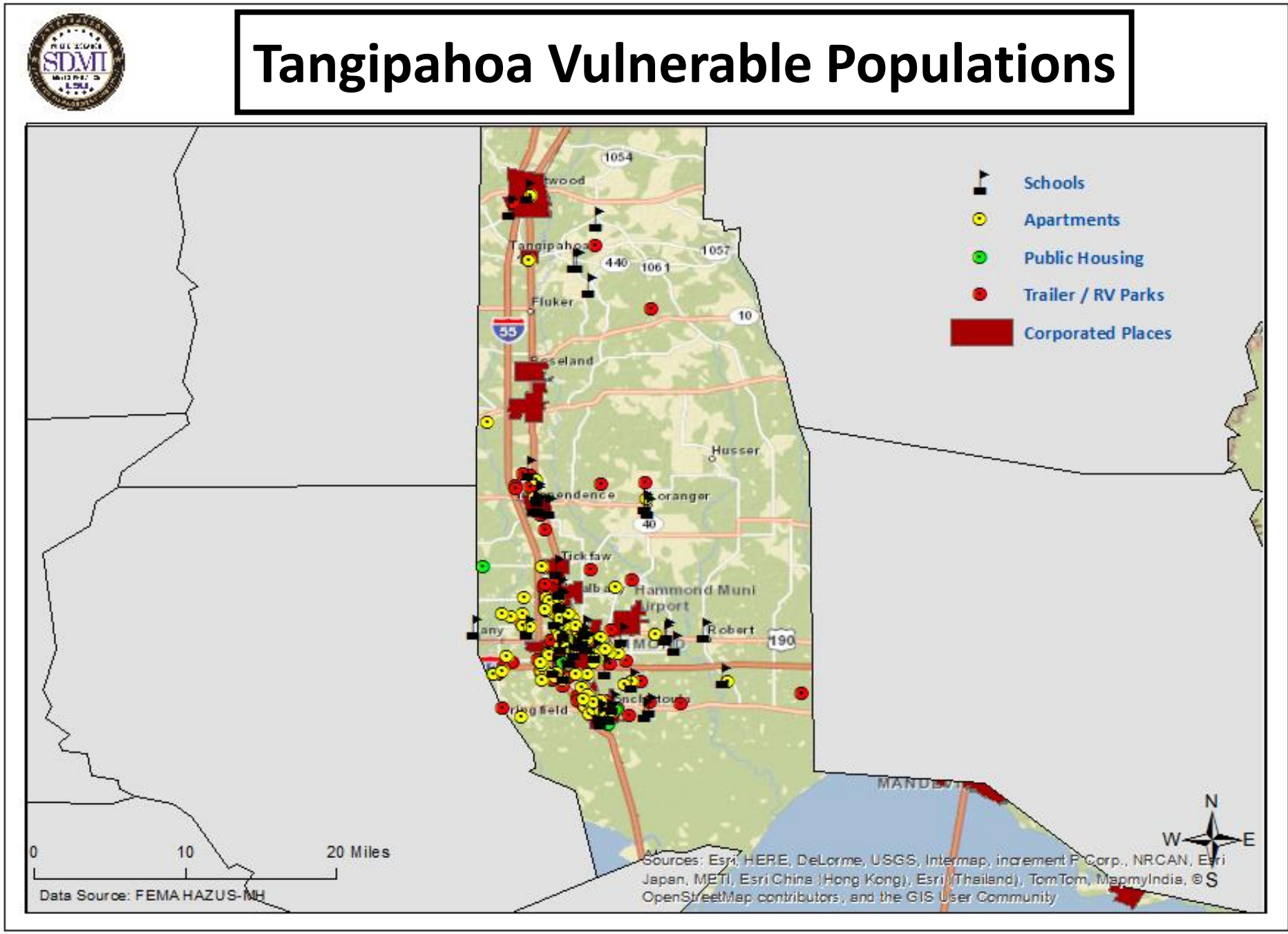
Essential Facilities



Vulnerable Populations



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.

Flooding

Types of flooding may include the following:

- Riverine
- Flash
- Ponding
- Backwater
- Urban
- Coastal

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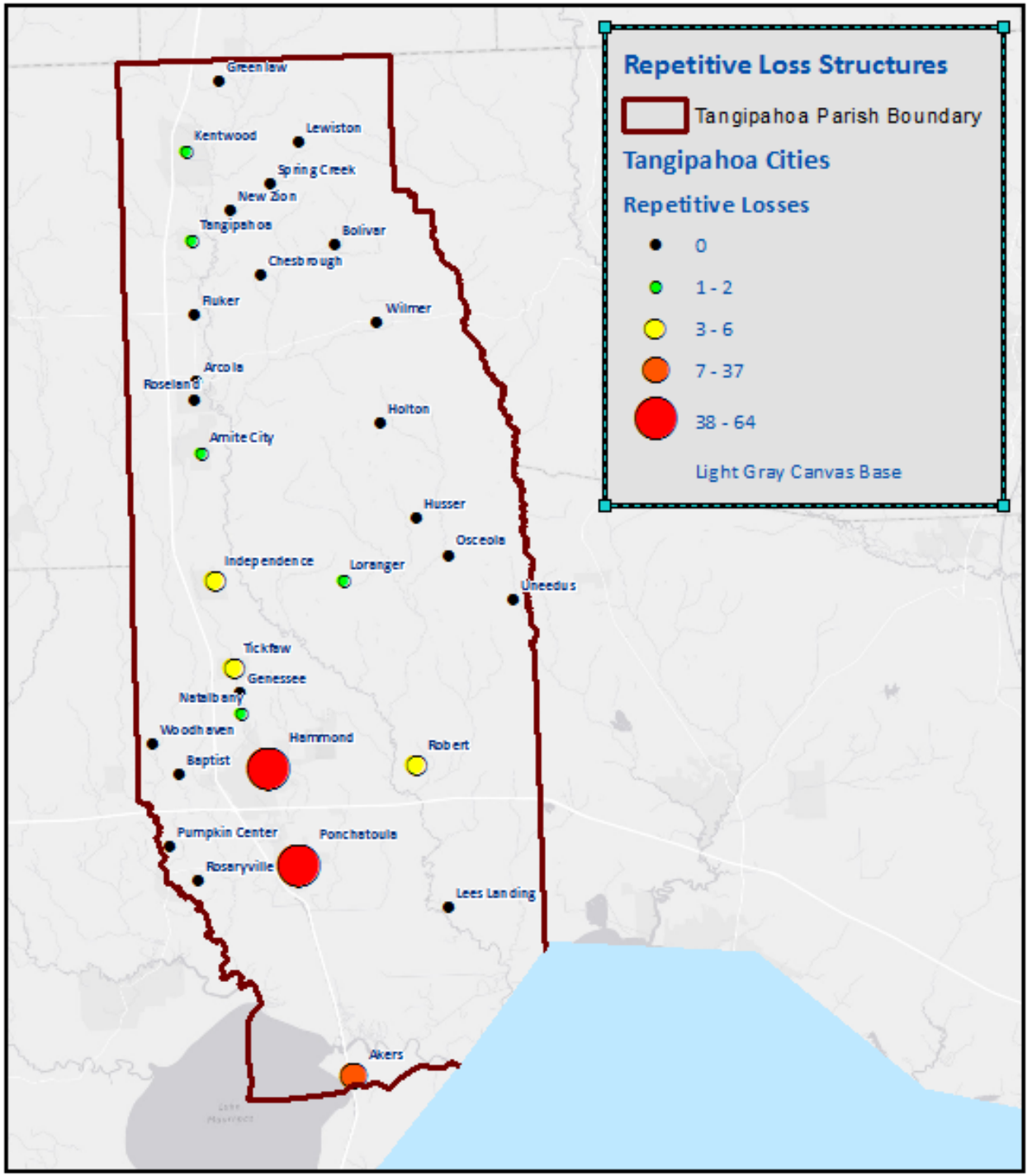
Repetitive Flooding

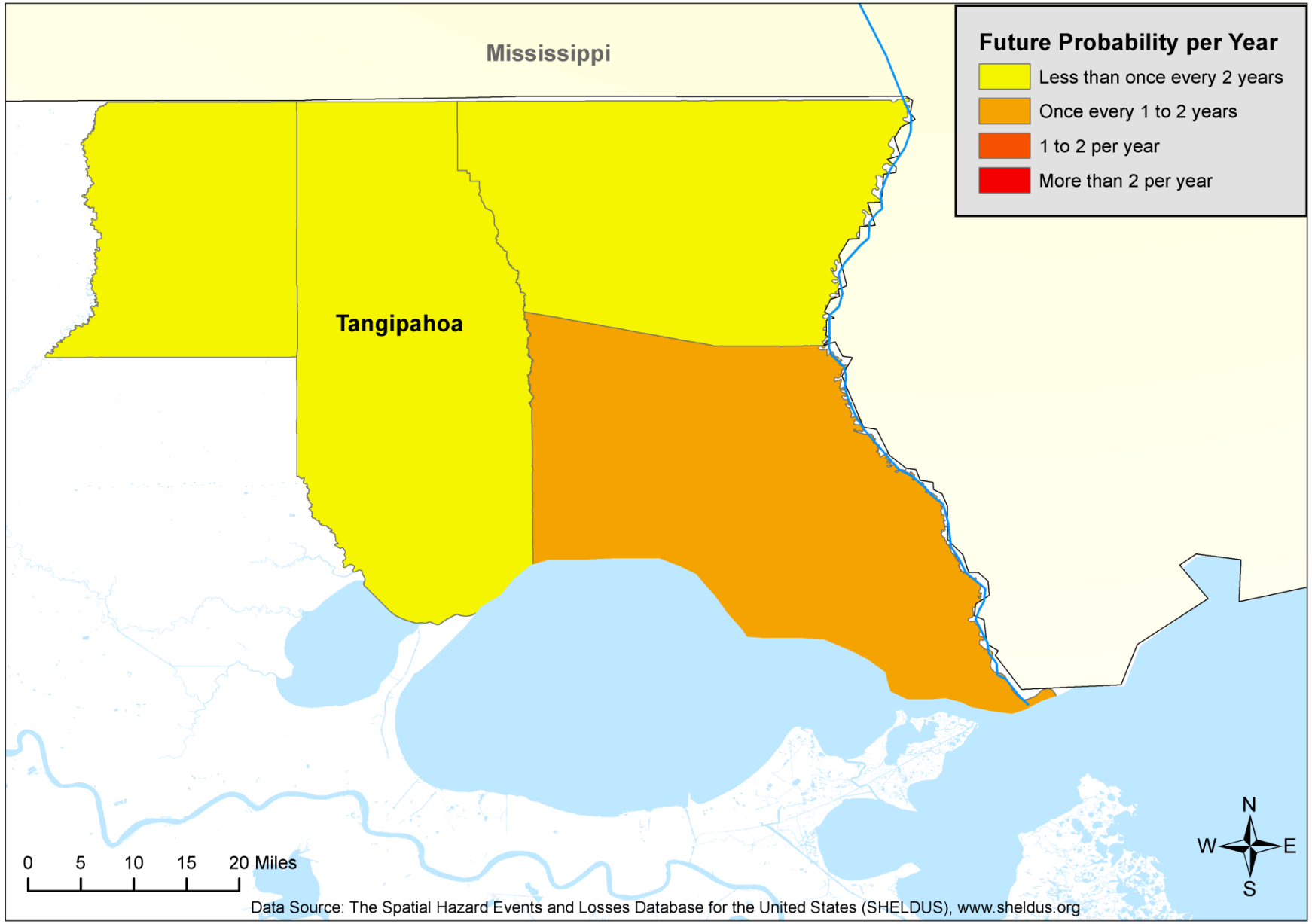
- Some areas flood more often than other properties, even more than those in the mapped 100-year floodplain.
- FEMA defines a “repetitive loss” property as one which has received two flood insurance claim payments for at least $1,000 over any 10-year period since 1978.
- These properties are important to the National Flood Insurance Program and the Community Rating System because even though they comprise 1% of the policy base, they account for 30% of the country’s flood insurance claim payments.

Repetitive Flooding

- Tangipahoa Repetitive Loss Facts
  - 155 Repetitive Loss Structures
  - 447 Payouts
  - Total Payments: $11,259,074
  - Average Payment: $25,379



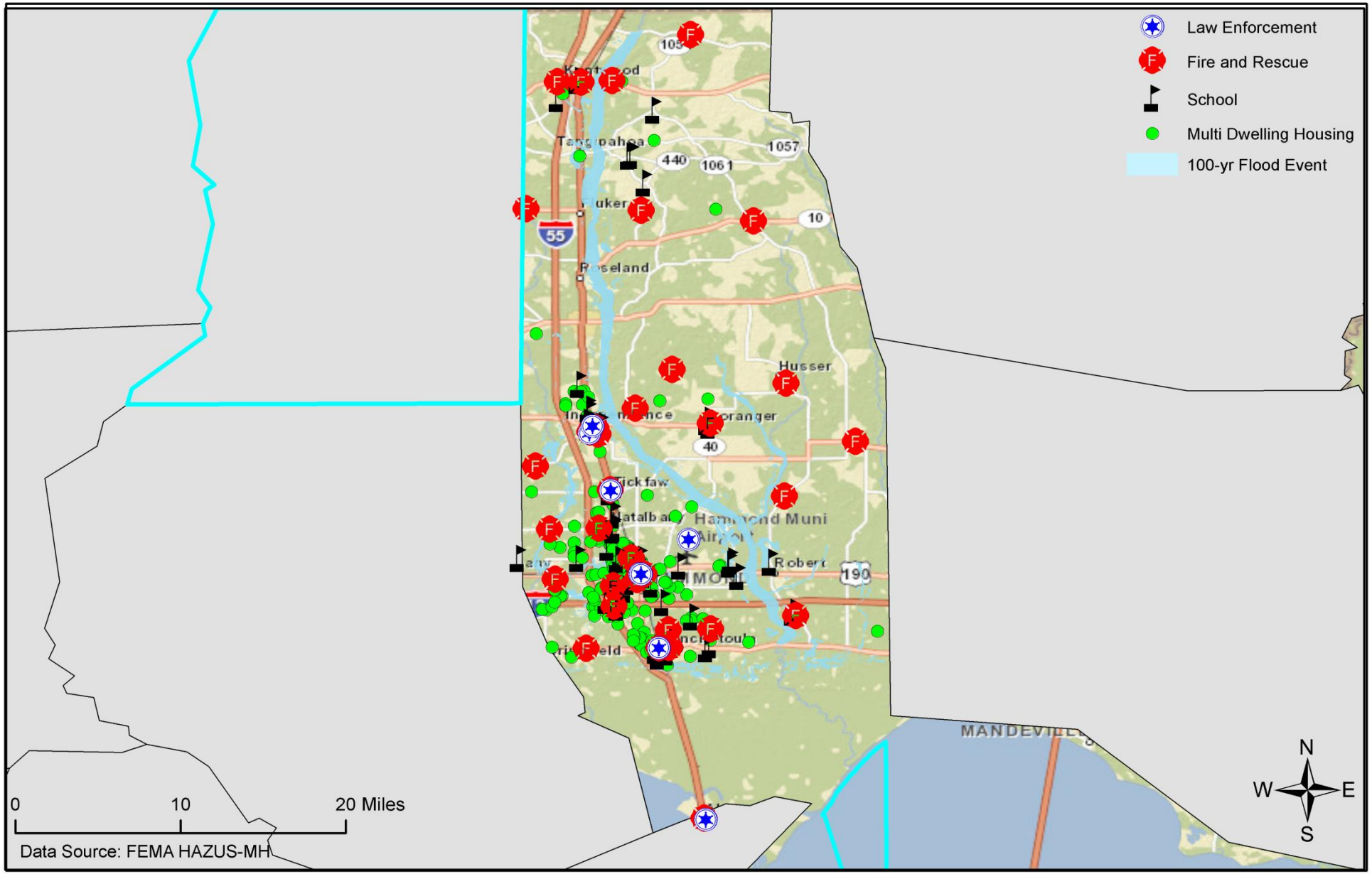
GOHSEP Region 9 Vulnerability: Flooding Probability



Region 9 Modeled Flood Depth for 100-year Flood Event

Data Source: FEMA HAZUS-MH

Tangipahoa Parish Critical Facilities: 100-Year Flood Event



100 Year Flood Consequences

Total Building Exposure	$5,311,687,000
Total Economic Loss	$193,966,000
Total Damaged Buildings	1,172
Building Loss	$103,431,000
Short Term Shelter Needs	5,115
Essential Facilities Damaged (Fire & Police Stations; Schools)	1

Tropical Cyclones (Hurricanes)

- Tropical cyclones are defined spinning, low-pressure air masses that draw surface air into their centers and attain strength ranging from weak tropical waves to the most intense hurricanes

Saffir-Simpson Hurricane Wind Scale		
	Sustained Wind Speed	**Effects**
Category 1	74-95 mph (119-153 km/hr)	Very dangerous winds will produce some damage. Low-lying coastal roads flooded, minor pier damage
Category 2	96-110 mph (154-177 km/hr)	Extremely dangerous winds will cause extensive damage. Major damage to exposed mobile homes, evacuation of some shoreline residents
Category 3	111-130 mph (178-209 km/hr)	Devastating damage will occur. Some structural damage to small buildings; serious flooding at coast and many smaller structures near coast destroyed
Category 4	131-155 mph (210-249 km/hr)	Catastrophic damage will occur. High risk of injury or death to people, livestock, and pets due to flying and falling debris. Long-term water shortages will increase human suffering. Most of the area will be uninhabitable for weeks or months.
Category 5	> 155 mph (249 km/hr)	Catastrophic damage will occur. People, livestock, and pets are at very high risk of injury or death from flying or falling debris. A high percentage of frame homes will be destroyed. Long-term power outages and water shortages will render area uninhabitable for weeks or months.

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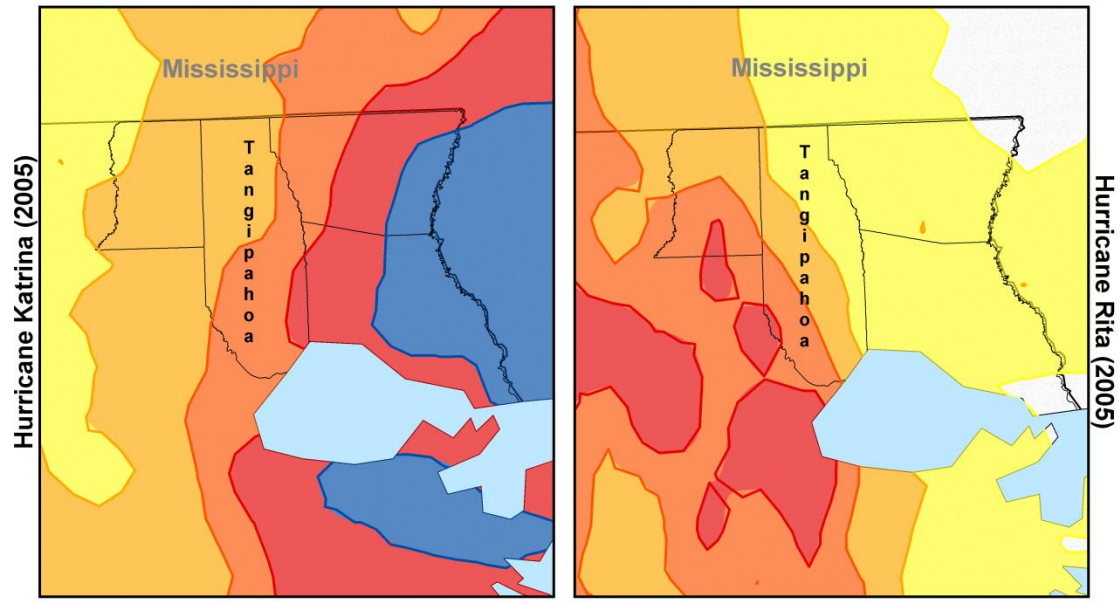
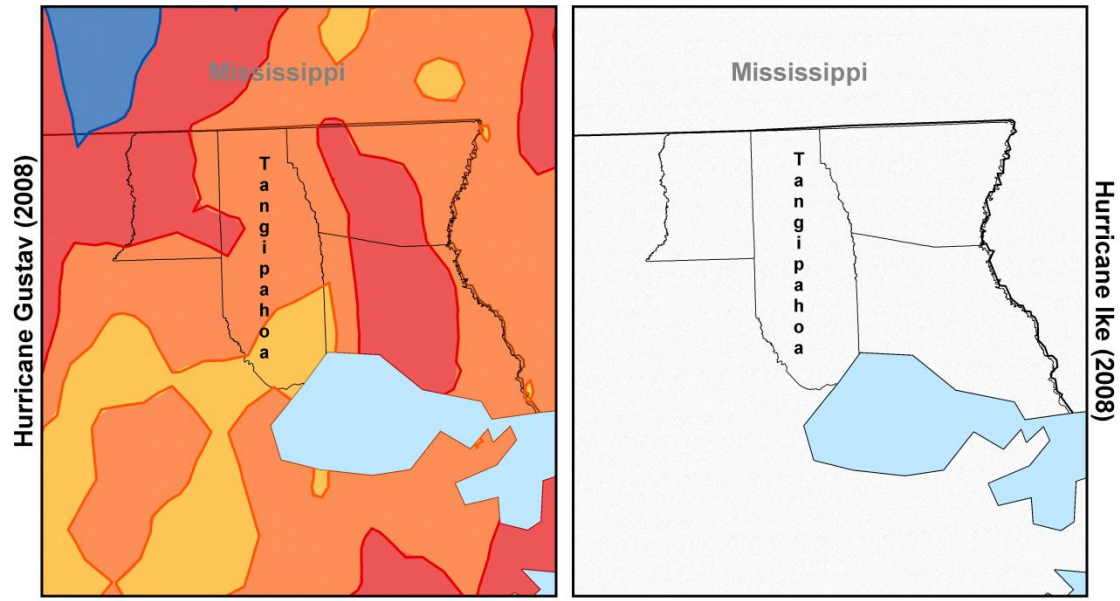
Tropical Cyclone Precipitation Affecting GOHSEP Region 9





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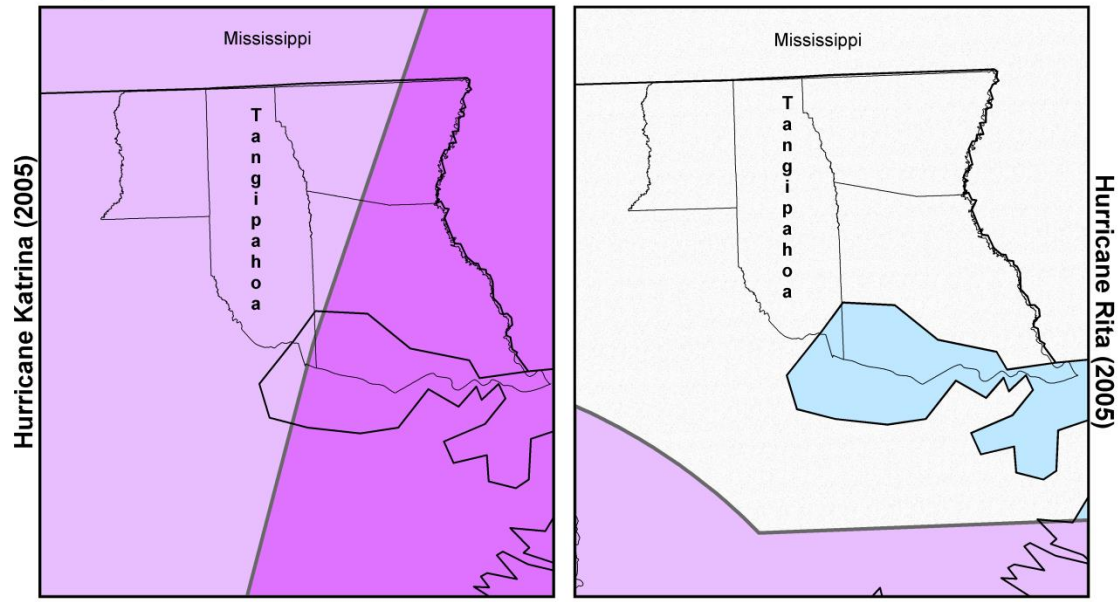
0 10 20 30 40 Miles

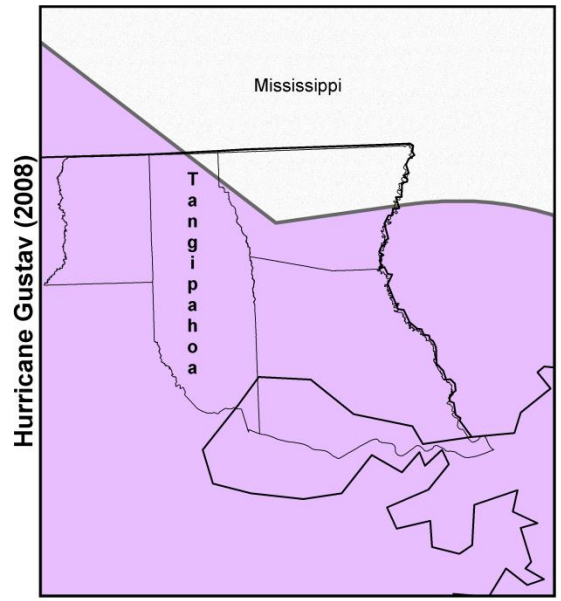
Data Source: Advanced Hydrologic Prediction Service (AHPS)

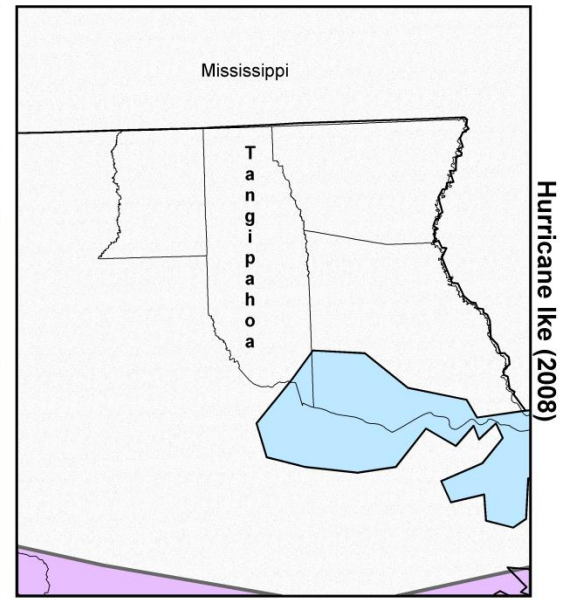
Total Precipitation (inches)

1 3 5 7 10 15 20

Tropical Cyclone Wind Fields Affecting GOHSEP Region 9







N W E S 0 10 20 30 40 Miles

Data Source: NOAA Hurricane Research Division (HRD)

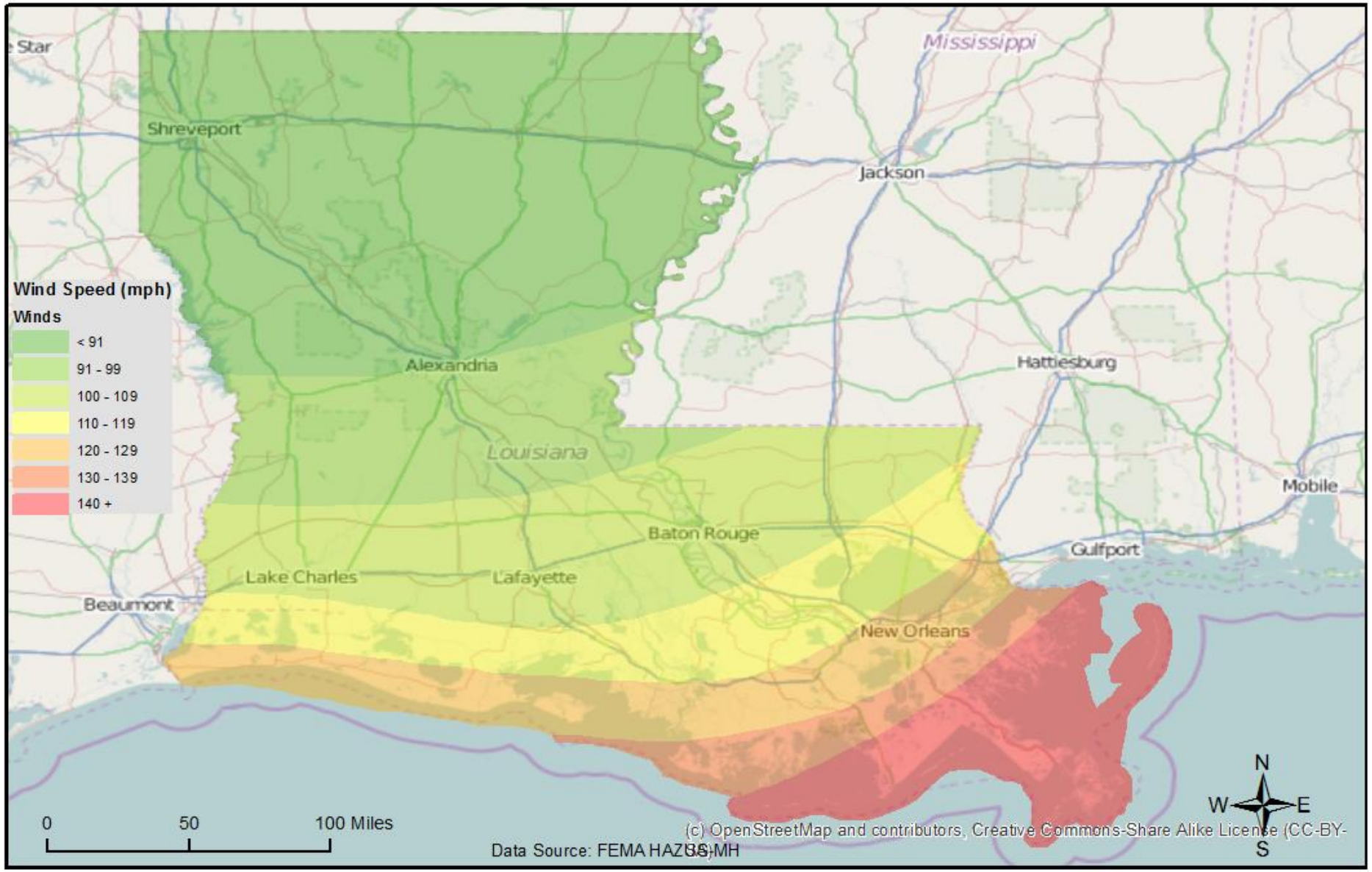
Wind Speed (Saffir-Simpson Scale)

Tropical Storm (39 - 73 mph)

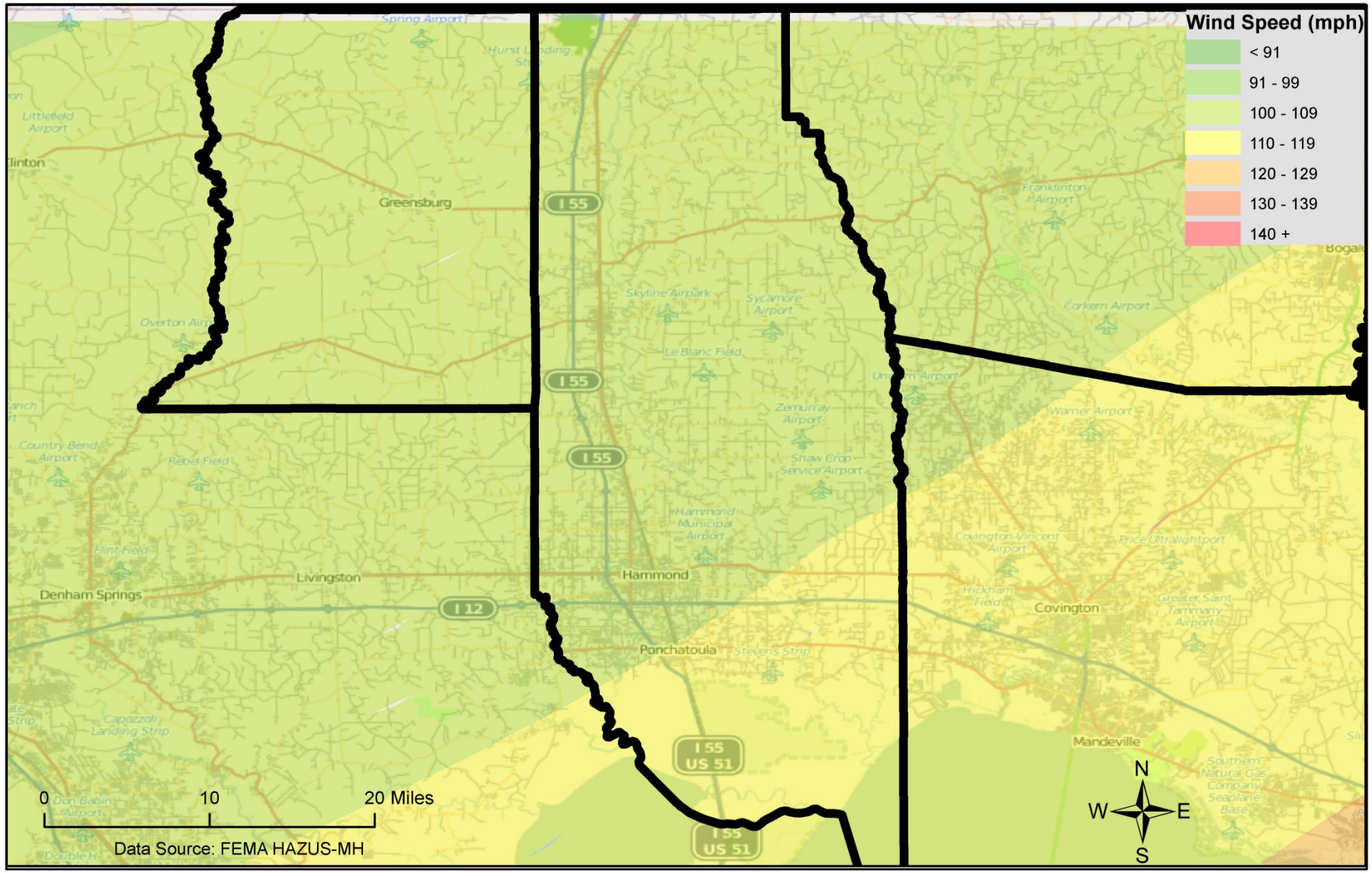
Hurricane (74 - 110 mph)

Major Hurricane (> 110 mph)

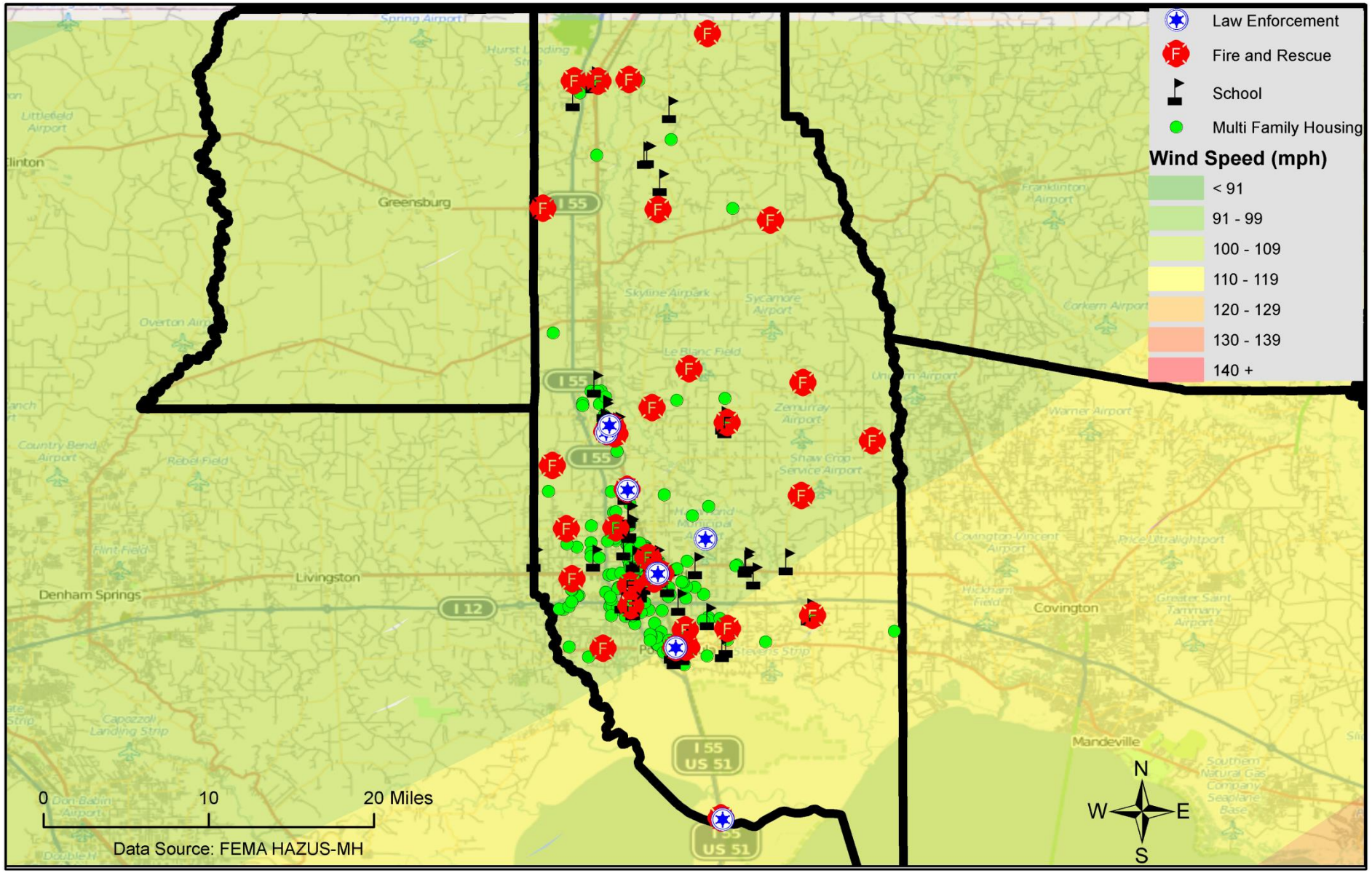
Louisiana Hurricane Wind Zones



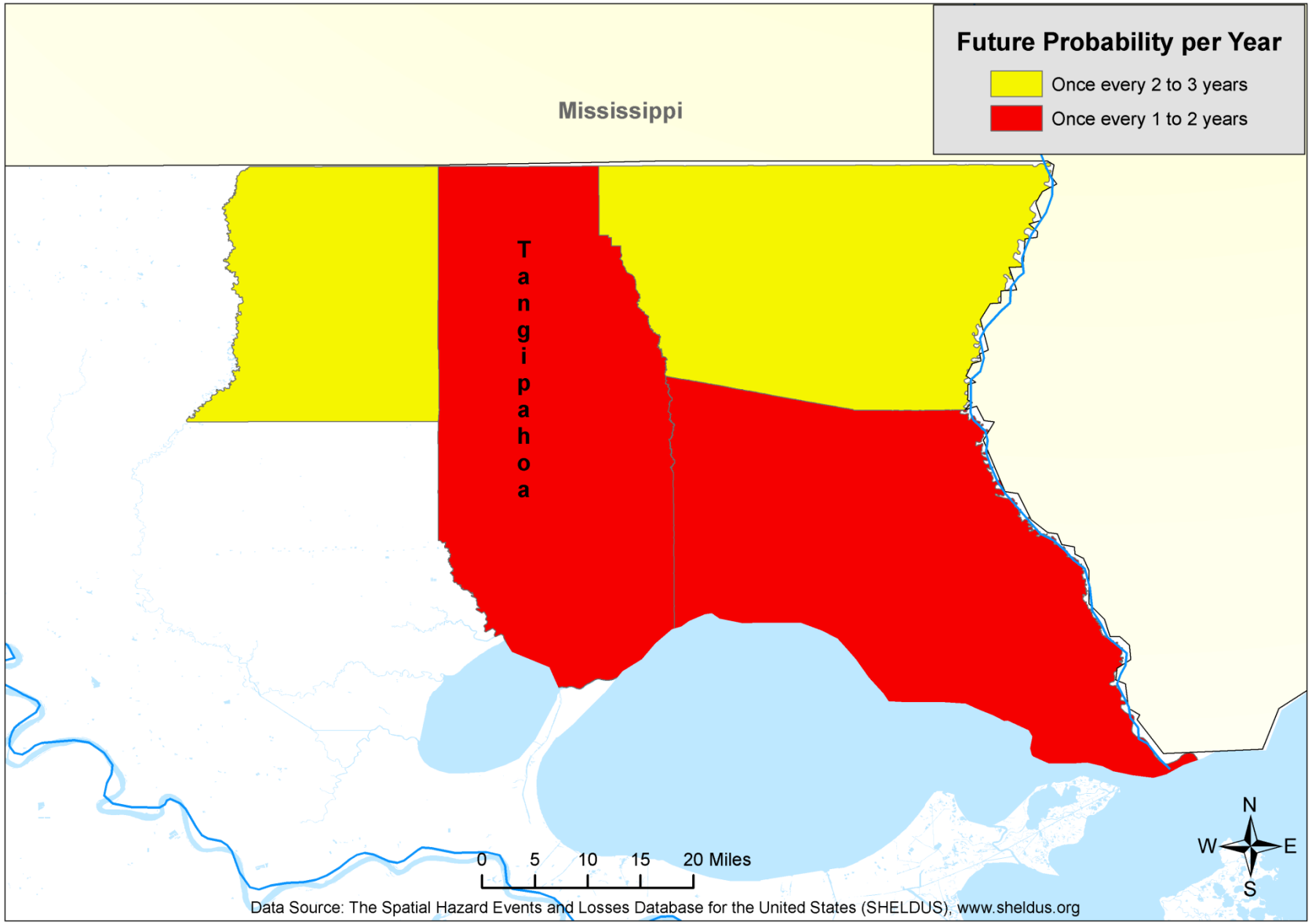
Wind Zone Map for Tangipahoa Parish



Tangipahoa Parish Critical Facilities: Tropical Cyclones



GOHSEP Region 9 Vulnerability: Hurricane Probability



Tornadoes

- Tornadoes (also called twisters and cyclones) are rapidly rotating funnels of wind extending between storm clouds and the ground.
- Tornadoes are the most severe storms for their size, and 70% of the world's reported tornadoes occur within the continental United States.

ORIGINAL FUJITA SCALE		ENHANCED FUJITA SCALE	
F5	261-318 mph	EF5	+200 mph
F4	207-260 mph	EF4	166-200 mph
F3	158-206 mph	EF3	136-165 mph
F2	113-157 mph	EF2	111-135 mph
F1	73-112 mph	EF1	86-110 mph
F0	<73 mph	EF0	65-85 mph

High Risk Areas for Tornadoes in Louisiana

0 20 40 60 80 Miles

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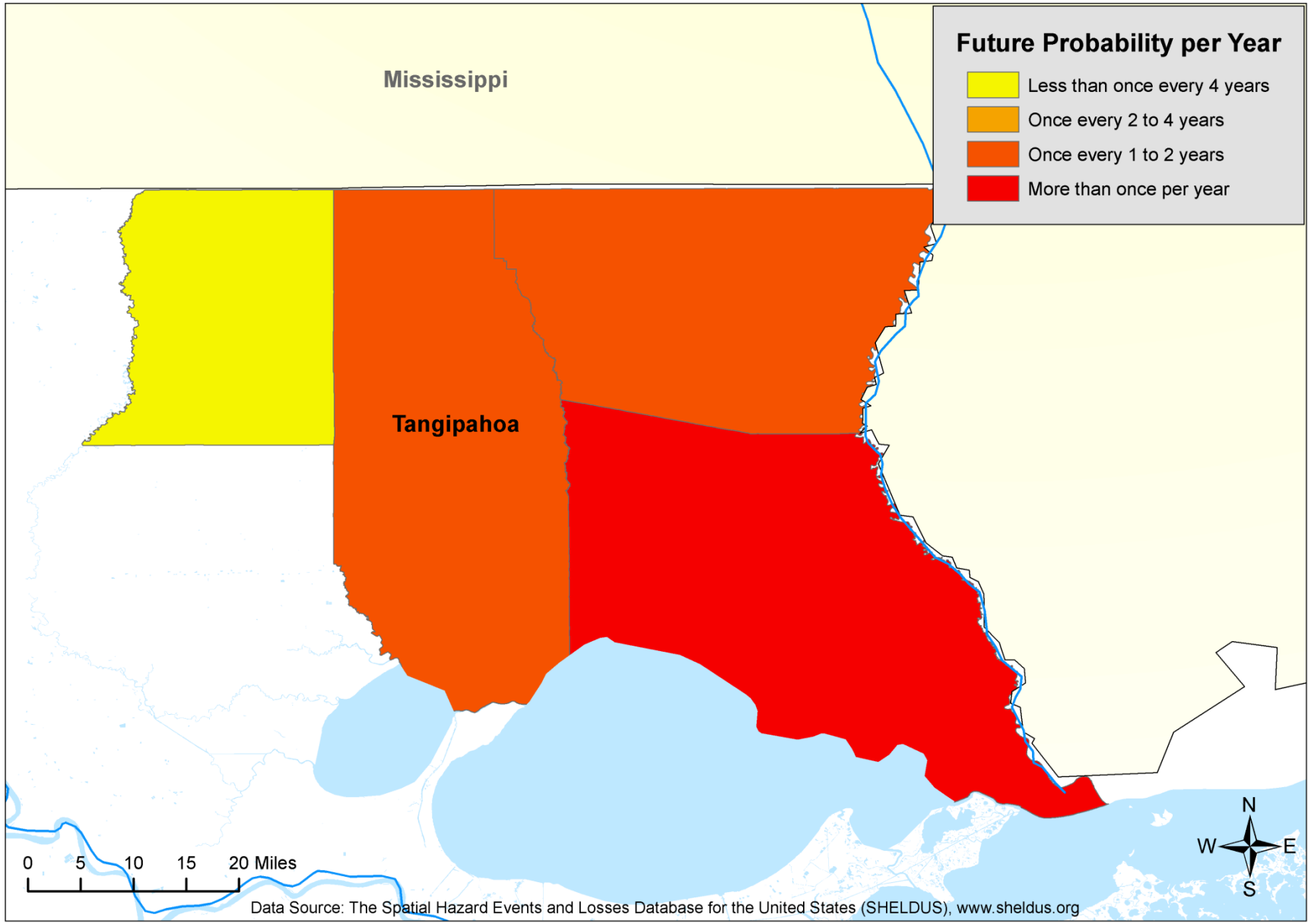
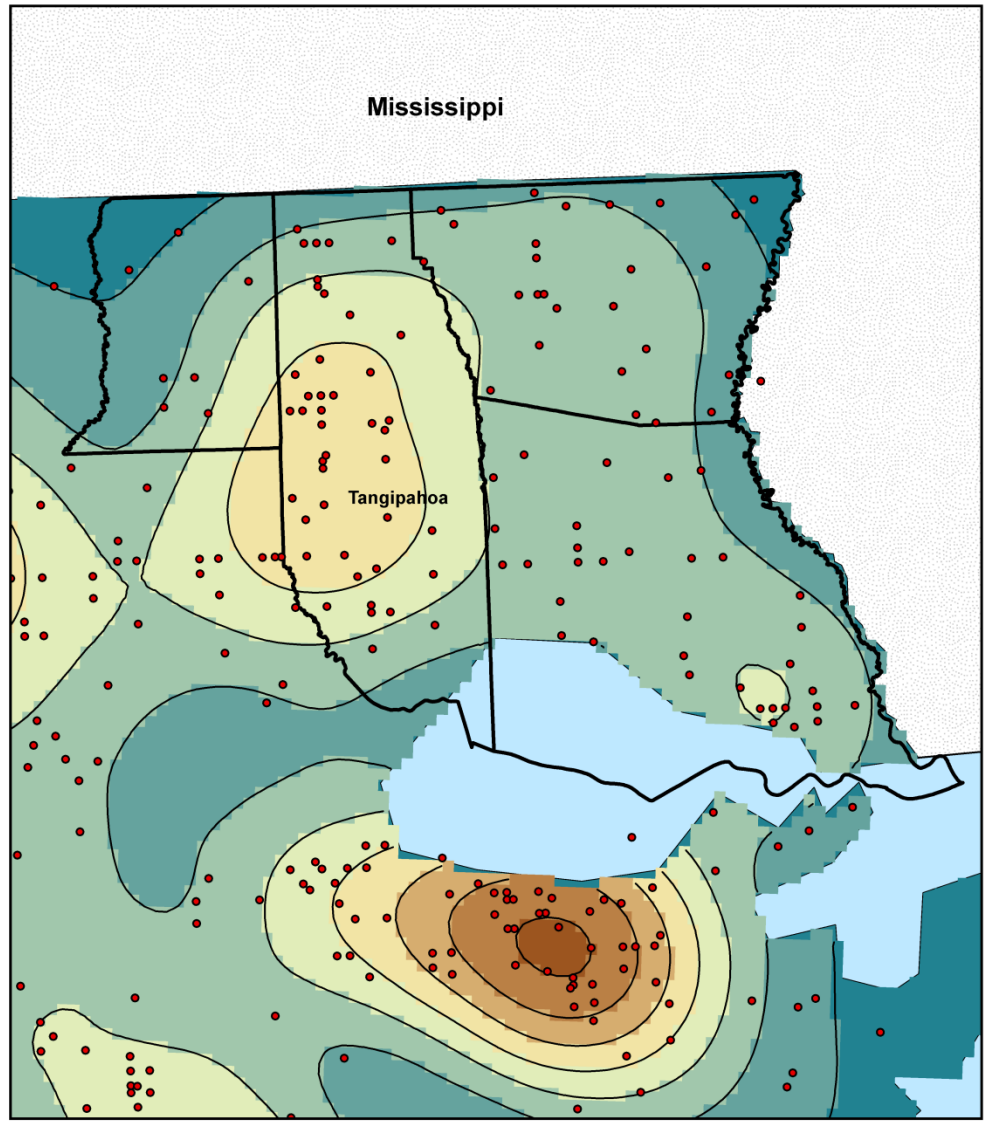
Data Sources: SHELDUS, NCDC, NOAA

GOHSEP Region 9 Vulnerability: Tornado Probability



GOHSEP Region 9: Tornado Density



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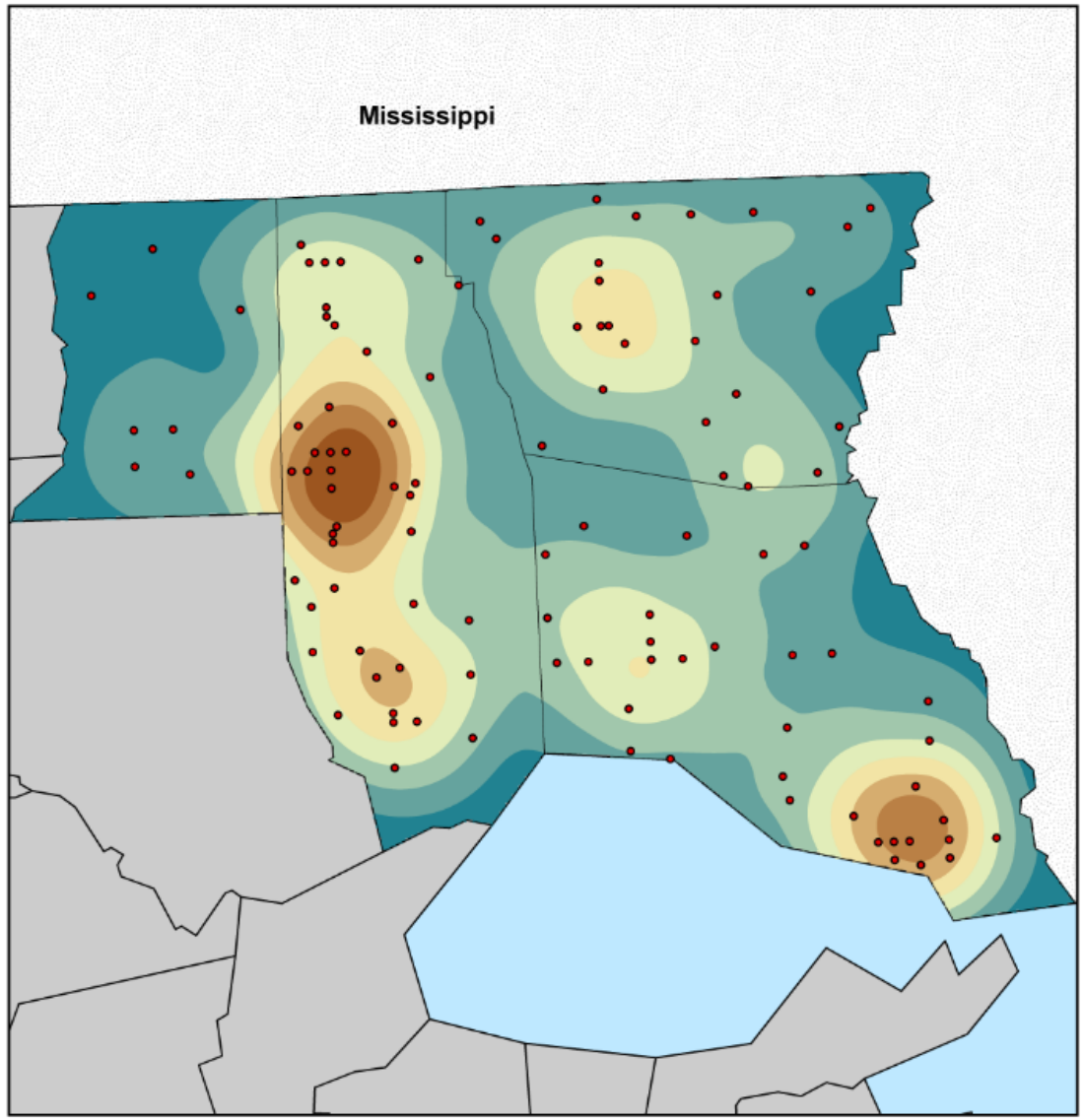
Data Source: NOAA Storm Prediction Center (SPC) Severe Weather Database

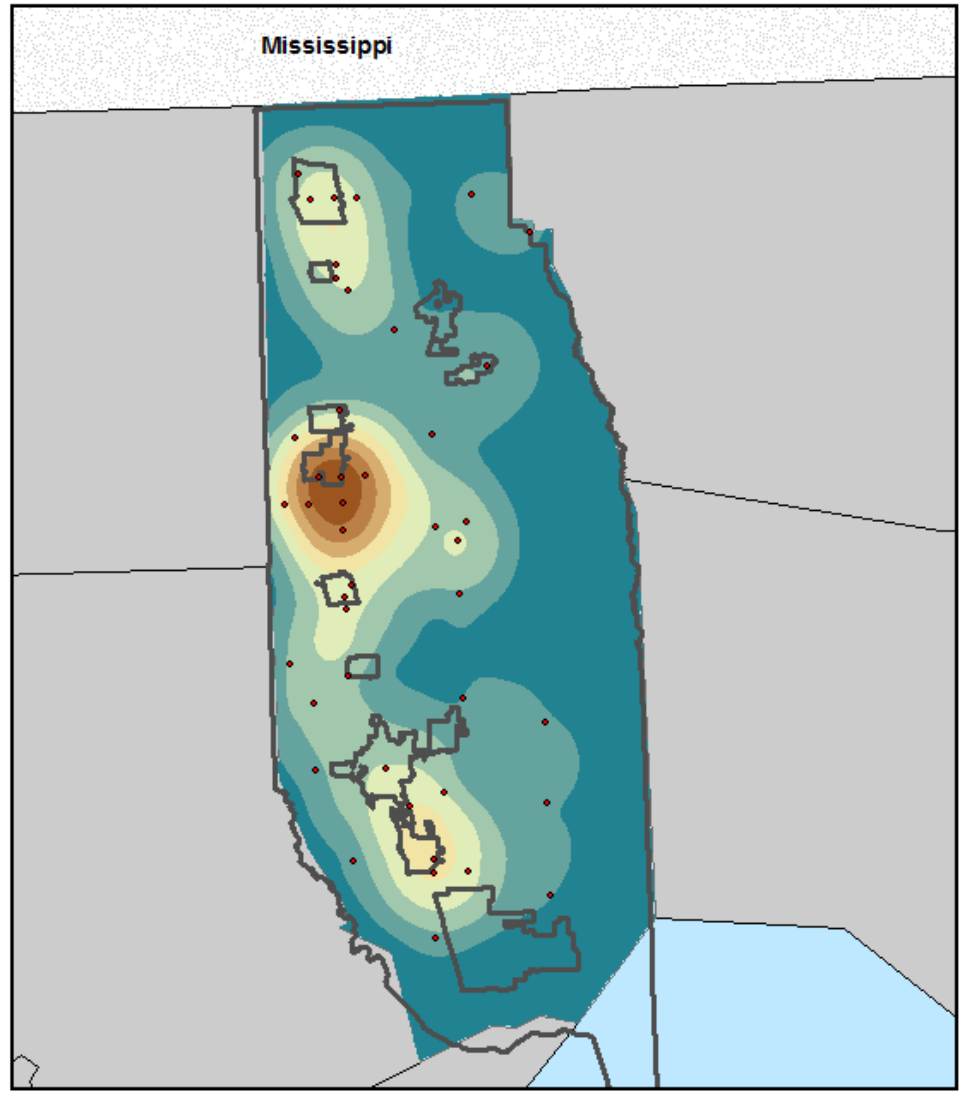
Tornado Density
(Touchdowns / 20 sq mi)

Low High

GOHSEP Region 9: Tornado Density



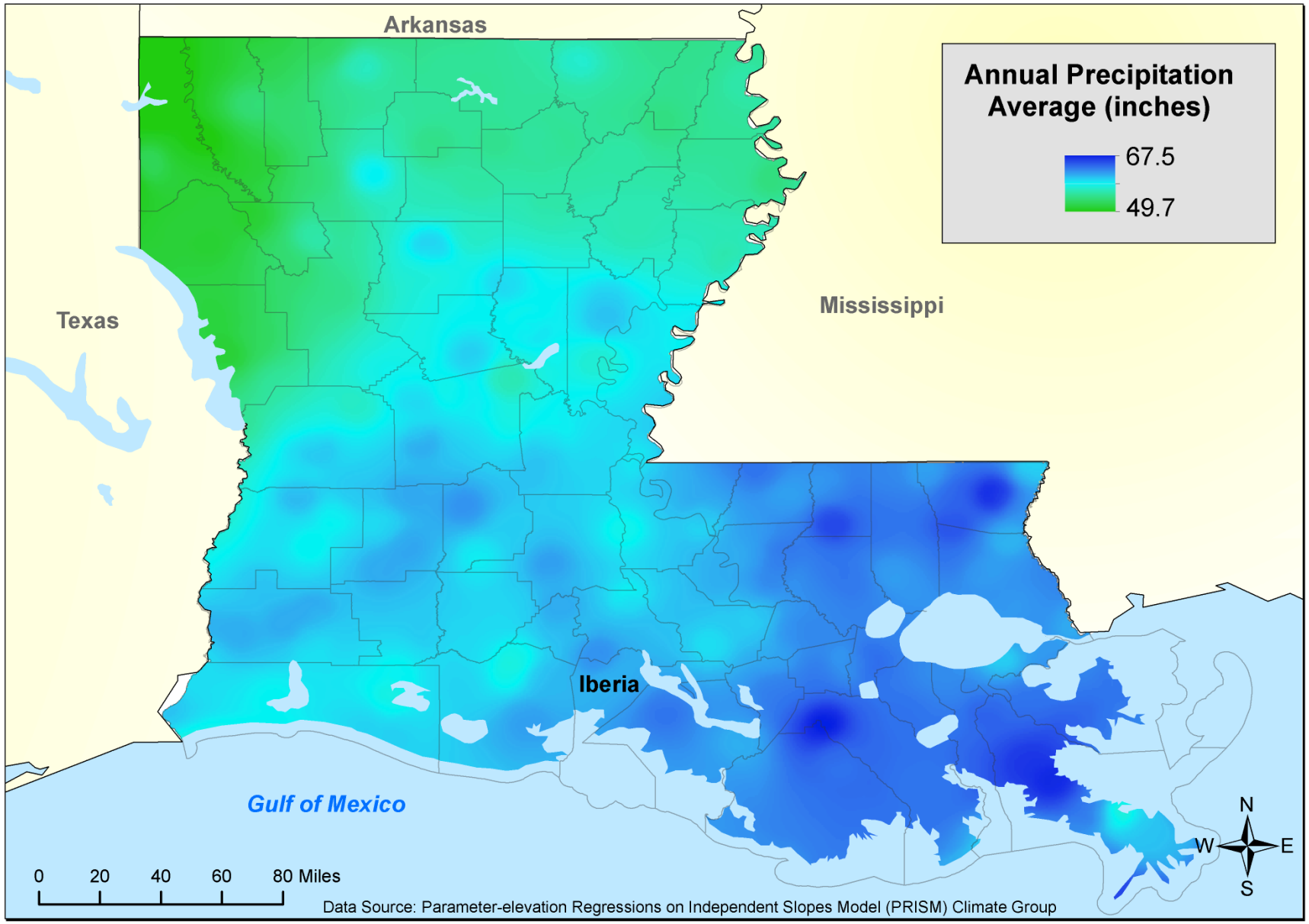
Tangipahoa Parish: Tornado Density



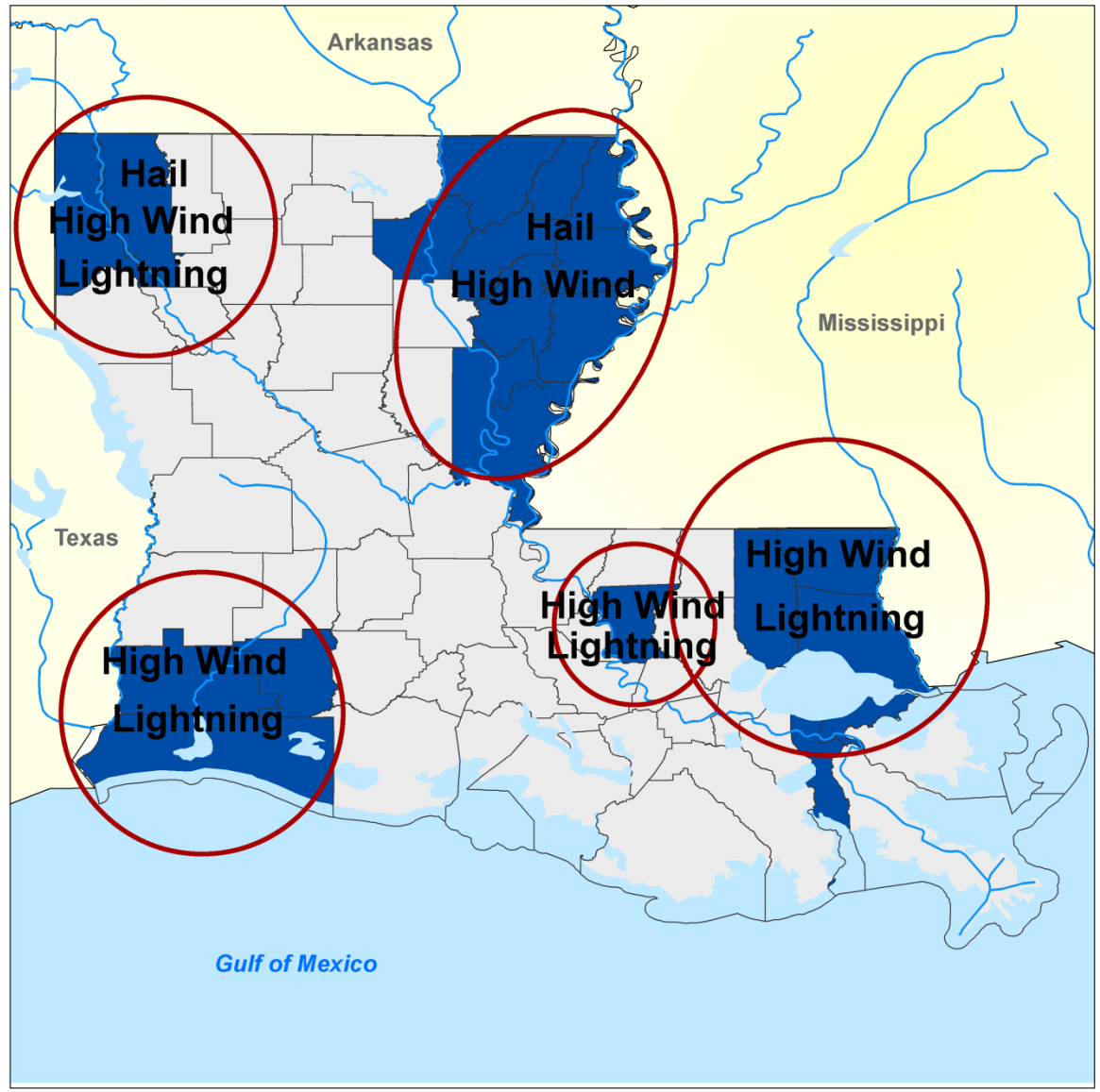
Thunderstorms (lightning, high wind)

- Thunderstorms can produce deadly and damaging tornadoes, hailstorms, intense downburst and microburst winds, lightning, and flash floods
- NWS estimates that over 100,000 thunderstorms occur each year on the U.S. mainland
- Thunderstorm and lightning events are generated by atmospheric imbalance and turbulence due to a combination of conditions:
  - Unstable warm air rising rapidly into the atmosphere;
  - Sufficient moisture to form clouds and rain; and
  - Upward lift of air currents caused by colliding weather fronts (cold and warm), sea breezes, or mountains.

Louisiana Average Annual Precipitation (1981-2010)

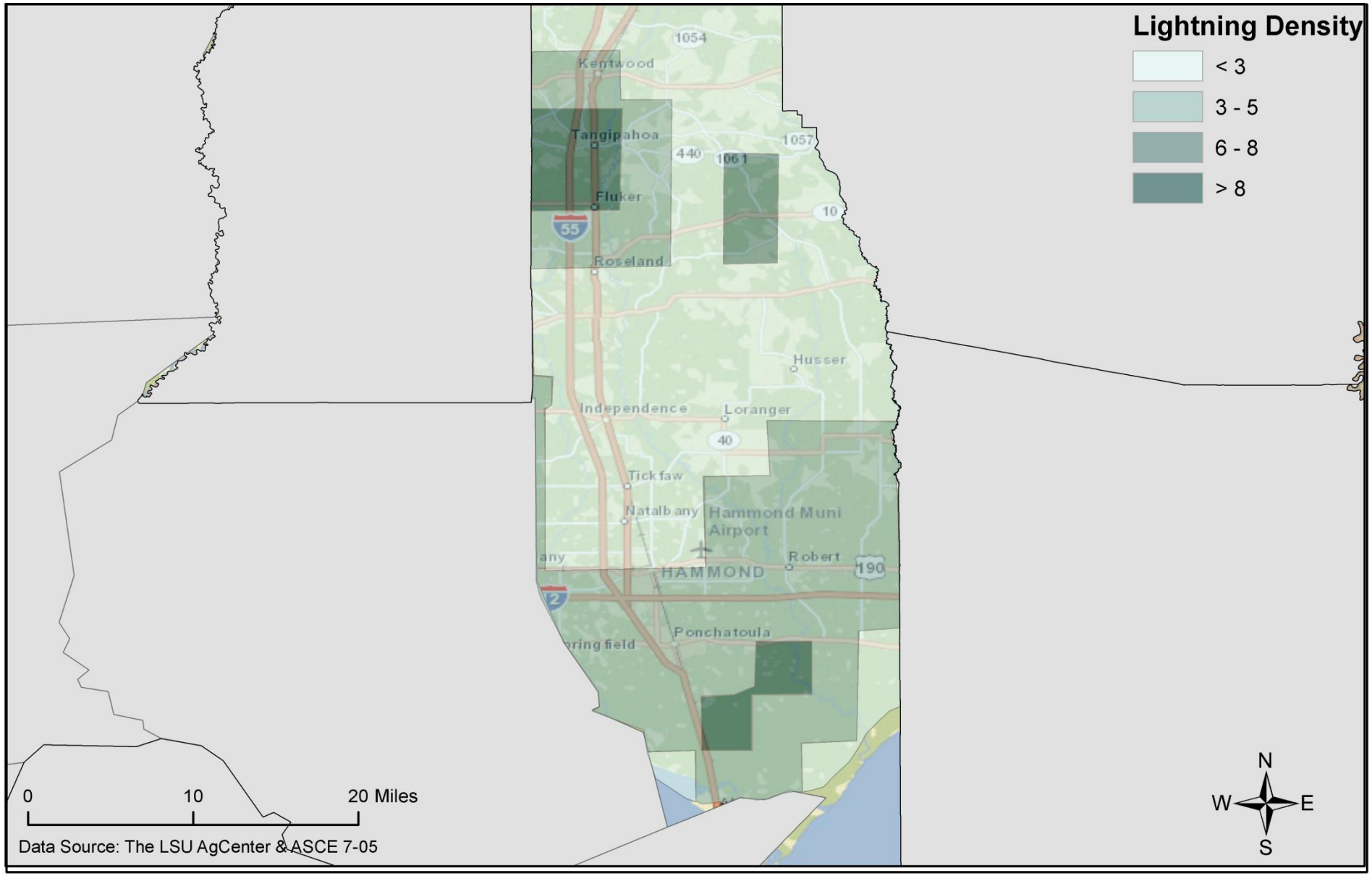


High Risk Areas for Thunderstorms in Louisiana

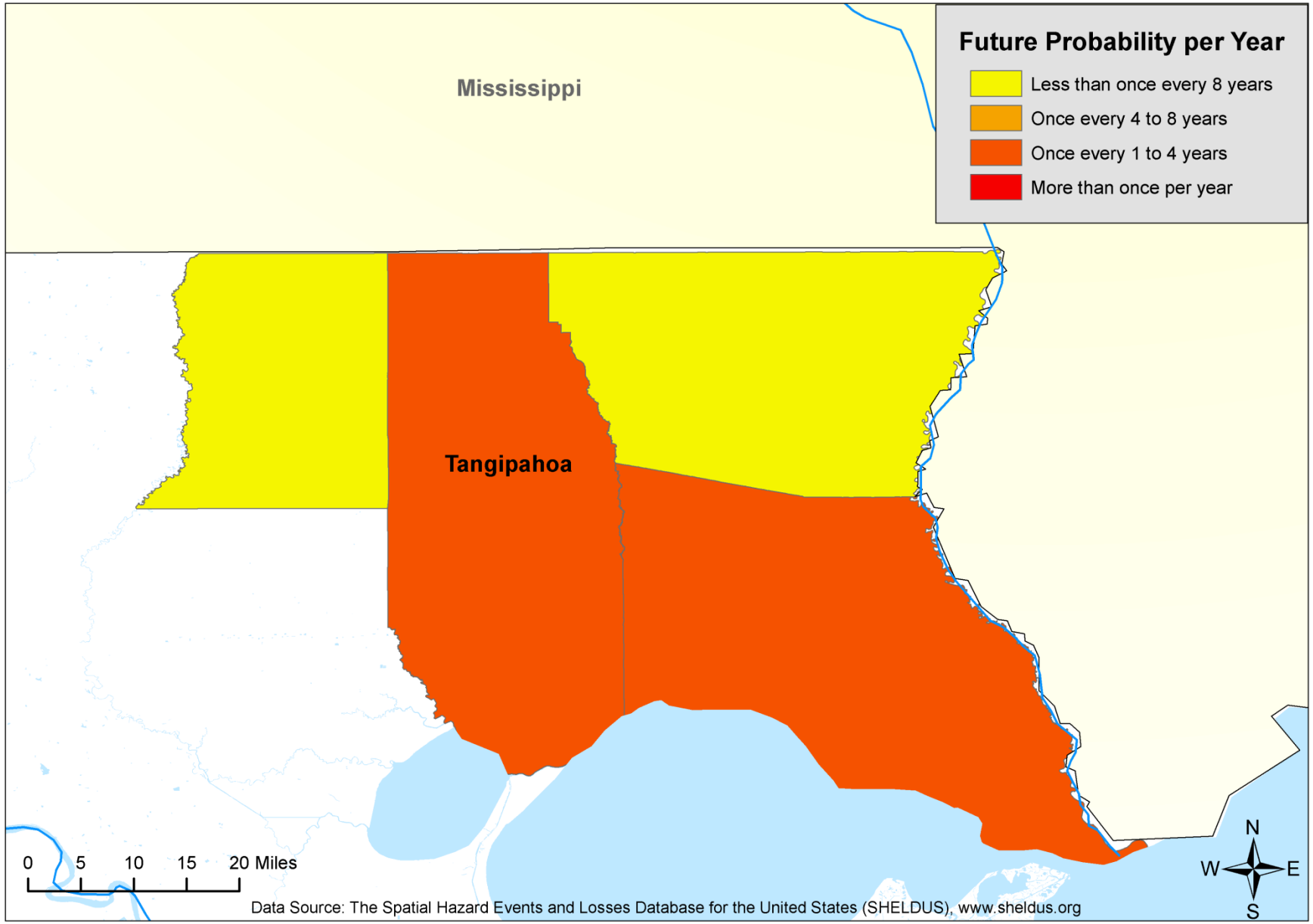


Data Sources: SHELDUS, NCDC, NOAA

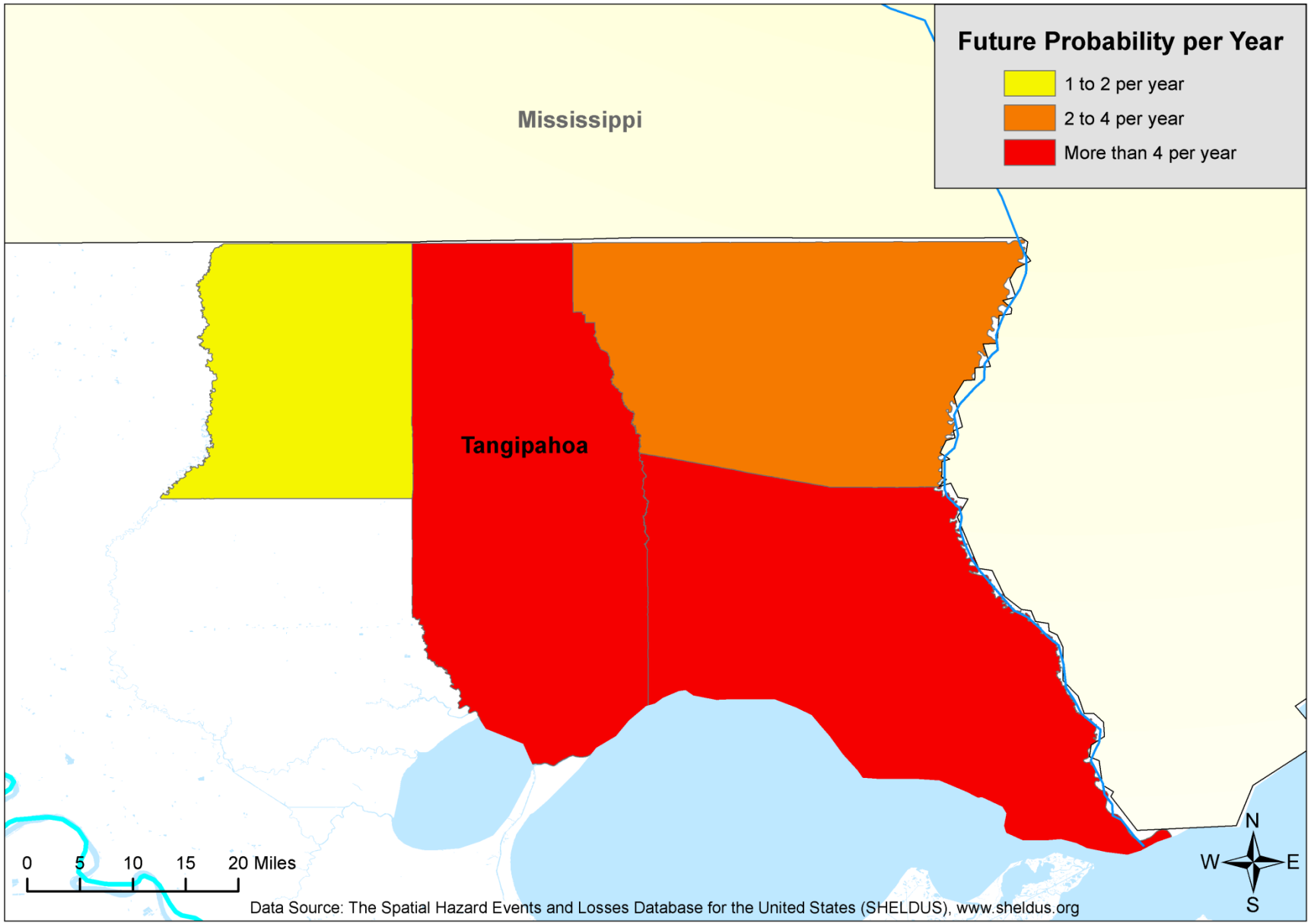
Lightning Density Map for Tangipahoa Parish



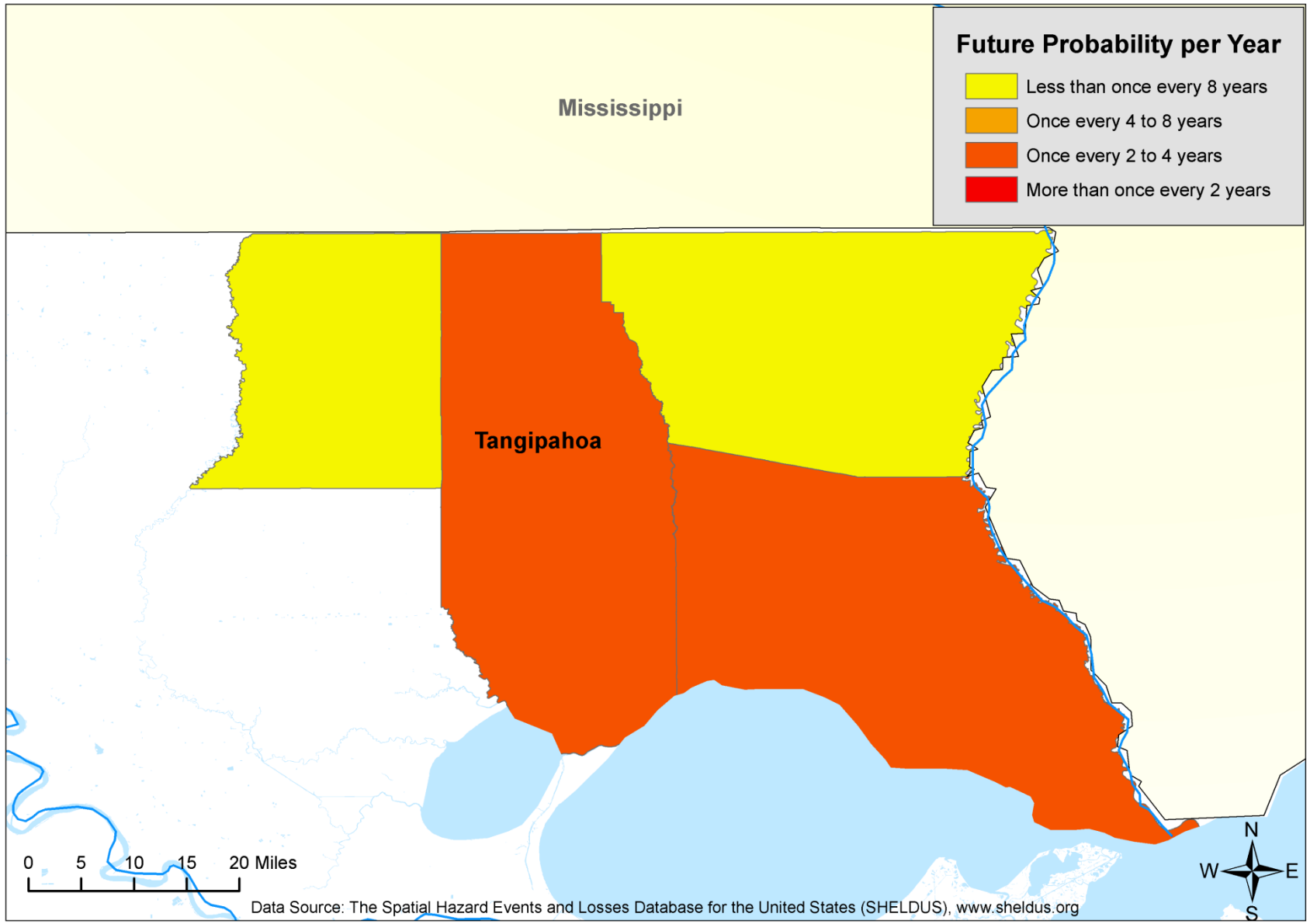
GOHSEP Region 9 Vulnerability: Lightning Probability



GOHSEP Region 9 Vulnerability: High Wind Probability



GOHSEP Region 9 Vulnerability:
Hail Probability

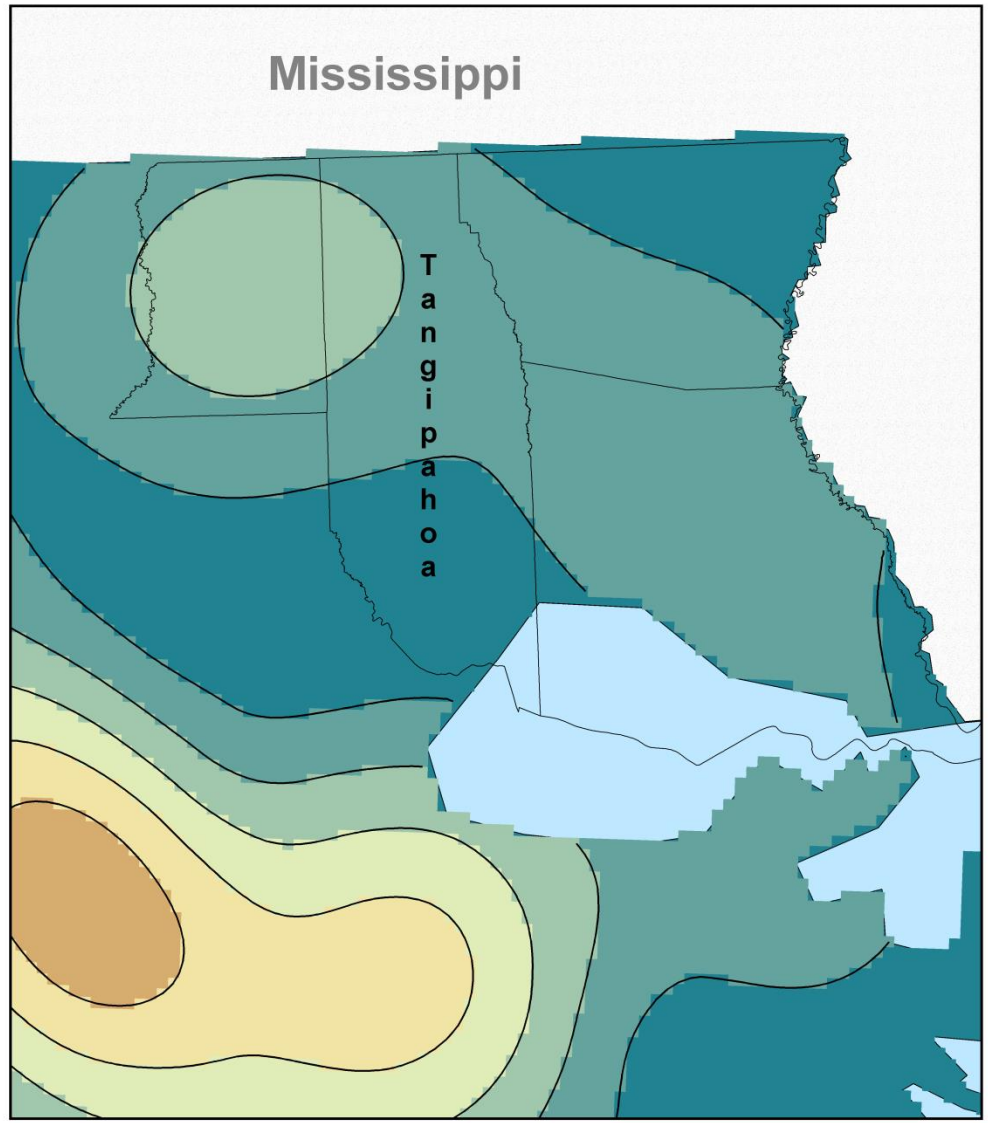


Wildfires

- Wildfires are fueled by naturally occurring or non-native species of trees, brush, and grasses.
- Topography, fuel, and weather are the three principal factors that impact wildfire hazards and behavior.
- There are four categories of wildfires; wildland fires, interface or intermixed fires, firestorms, and prescribed natural fires.

Haze in Baton Rouge from 2013 Tangipahoa/St Tammany Wildfires

GOHSEP Region 9
Fire Density



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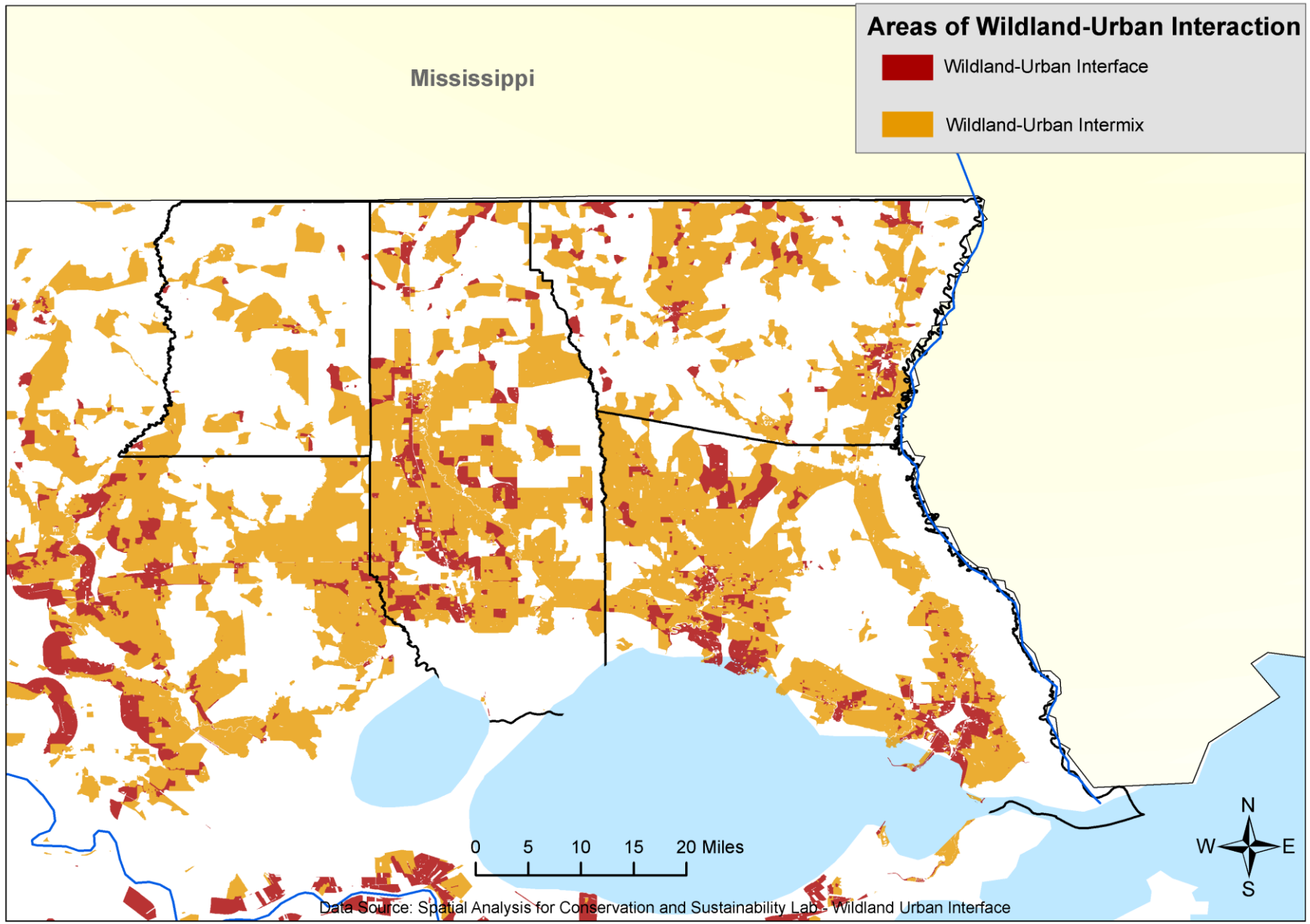
Data Source: USDA Forest Service Active Fire Mapping Program

Fire Density
(Fire Reports / 25 sq mi)

Low High

GOHSEP Region 9 Vulnerability: Wildland-Urban Interaction



Hazard Summary Since 1960 for Tangipahoa Parish

Hazard	Occurrences since 1960	Return Frequency	Total Property Damages	Average Cost Per Event	Injuries	Fatalities
Flooding	17	Every 3 Years	$76,609,148	$4,506,420	4	1
Tropical	28	Every 2 Years	$1,155,967,148	$41,284,541	533	1
Tornado	33	Every 2 Years	$6,513,640	$197,383	18	1
Thunderstorm	134	Annual Occurrence	$201,549,907	$1,504,104	4	0
Hail	18	Every 3 Years	$434,411	$24,134	0	0
Lightning	33	Every 1-2 Years	$1,921,106	$58,215	6	7
Severe Wind	121	Annual Occurrence	$1,759,282	$14,540	0	0

Data Source: The Spatial Hazard Events and Losses Database for the United States (SHELDUS) www.sheldus.org

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Mitigation Strategy

2015 Hazard Mitigation Plan Goals

- Identify and pursue preventative measures that will reduce future damages from hazards
- Reduce repetitive flood losses in the Parish and municipalities
- Regulate sound development in the Parish and municipalities so as to reduce or eliminate the potential impact of hazards

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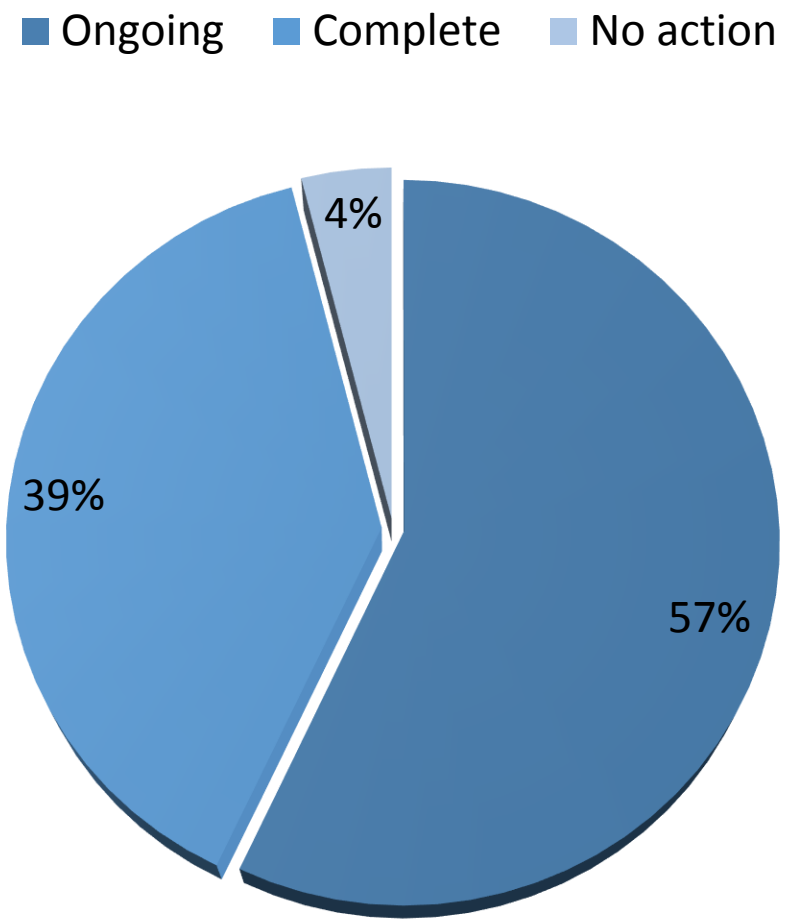
2009-2014 Parish HM Project Status



- 16 out of 28 initiatives are ongoing
- 11 out of 28 are completed
- 1 out of 28 had no action

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2009-2014 Parish Completed Projects

- Amite School Gym Retrofit
- Hardening of Hammond Westside School Gymnasium
- Hardening of Hammond Criminal Justice Center
- Hardening of Hammond City Fire Administration Office
- Hardening of Hammond City Fire Department
- Backup power supply/generator @ Amite High School (portable generators as well)
- Backup power supply/generator @ Hammond Westside School (portable generators as well)
- Backup power supply/generator @ Hood Memorial Hospital (standby backup generator installed)
- Backup power supply/generator @ Amite City Hall
- Installation of quick connection fittings at Hood Memorial

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Proposed HM Projects

- Drainage projects include Wardline Rd., Chapapeella Rd., and Ash St. in Ponchatoula
- Building hardening projects for public buildings include: Ponchatoula City Hall, Hammond Fire Stations #2 and #5, Hammond Public Works Building - Highway 190 East; Tangipahoa Parish Animal Shelter, Tangipahoa Parish Sheriff's Office in Amite, and several public school gymnasiums
- Home elevations and 3 home acquisitions/demolitions of repetitive loss properties
- Lee's Landing Boat Launch renovation
- Two new safe room buildings- next to the Parish Courthouse Annex in Amite, and the Parish Road Maintenance shop on West Pleasant Ridge Road in Hammond.

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Public Forum Activities

- Jurisdictional Representatives/Project Specialists
- Risk Analysis Activity (Hazard Occurrences)
- Problem Area Identification (Jurisdiction and Parish Maps)
- Survey

Contact Us

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Stephenson Disaster Management Institute

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