Ouachita Parish Hazard Mitigation Plan Update Public Meeting

August 15, 2023

West Monroe, LA

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Introductions

- **Ouachita Parish OHSEP Director/Parish Staff**
- **Stephenson Disaster Management Institute (SDMI) at LSU**
  - Chris Rippetoe – Hazard Mitigation Program Manager
  - Jason Martin – Emergency Management Analyst
- **Governor's Office of Homeland Security and Emergency Preparedness**
  - Jeffrey Giering – State Hazard Mitigation Officer
  - Marion Pearson – Hazard Mitigation Planner

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Agenda

Introductions

Hazard Mitigation Overview

Planning Process

Risk Assessment

Maps

Public Outreach Activities

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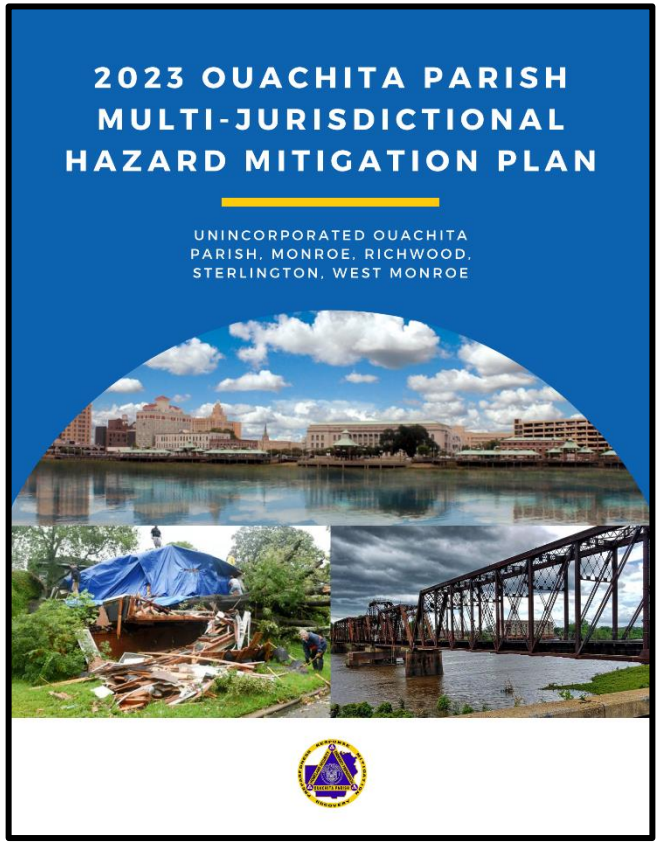
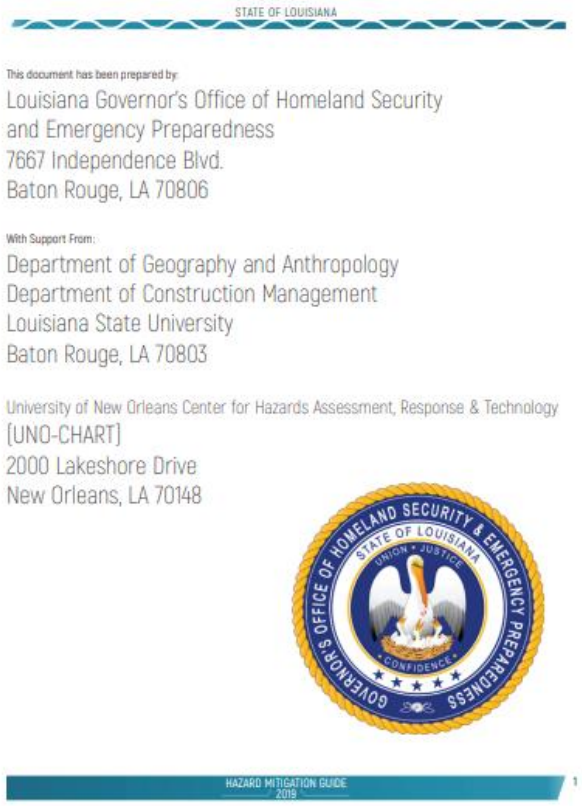
Why Are We Here?




STATE OF LOUISIANA

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HAZARD MITIGATION GUIDE
2019

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Hazard Mitigation Is…

- Any action taken to reduce long term risk to life and property;
- On-going process that occurs before, during, and after disasters;
- Mitigation actions help prevent damage to a community's infrastructure, economic, cultural and environmental assets;
- Minimize operational downtime and accelerate recovery of government and the private sector after an event;
- ***Implementation of mitigation actions leads to building stronger, safer and smarter!***

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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 Ouachita Parish Hazard Mitigation Plan will allow for distribution of HM funding following future disasters.

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Planning Process to Date

Initial Planning Meeting with OHSEP

Full Planning Committee Meeting

Risk Assessment Review with Planning Committee

Public Meeting

Constant communication with Parish and Committee members!

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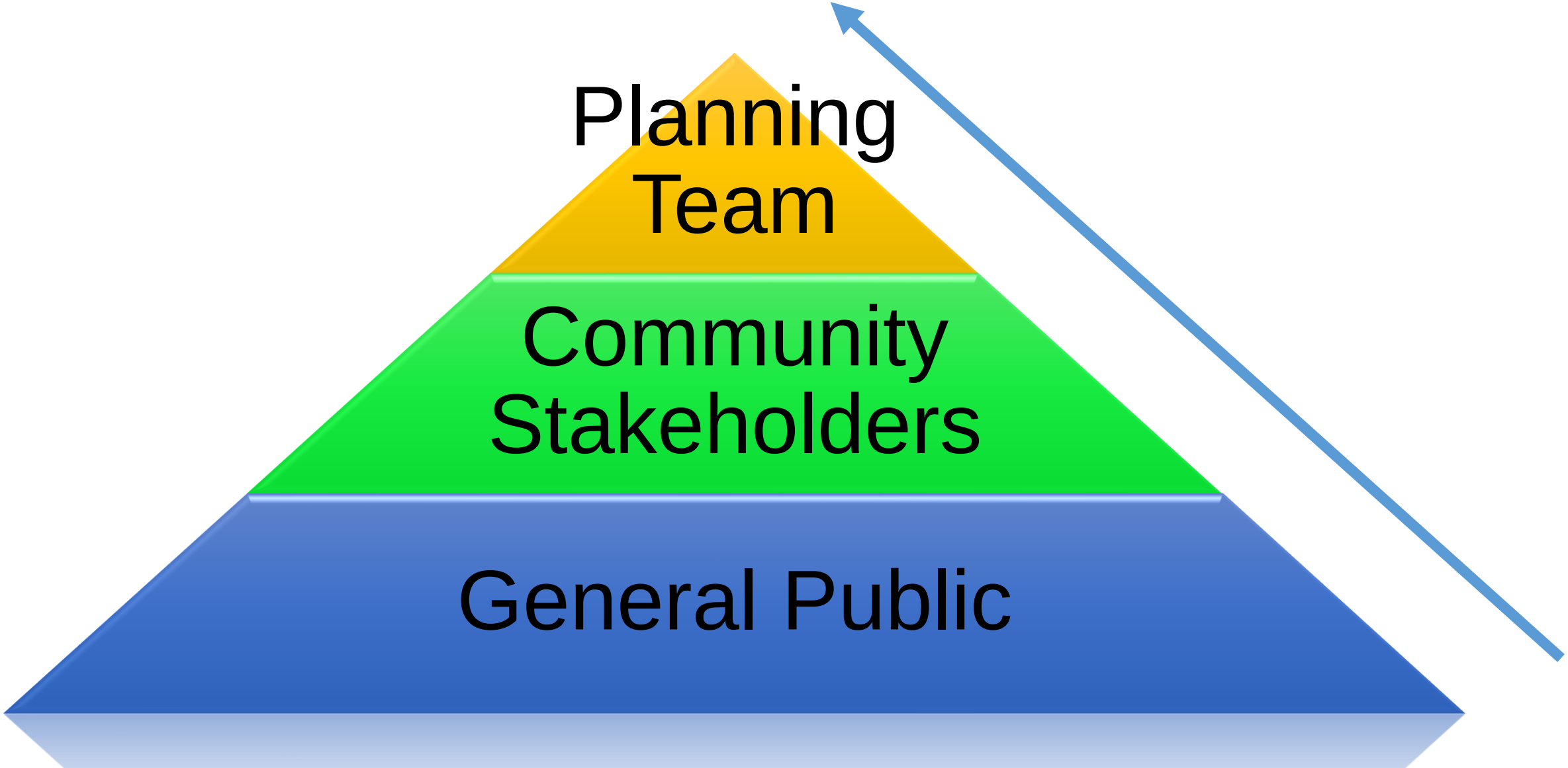
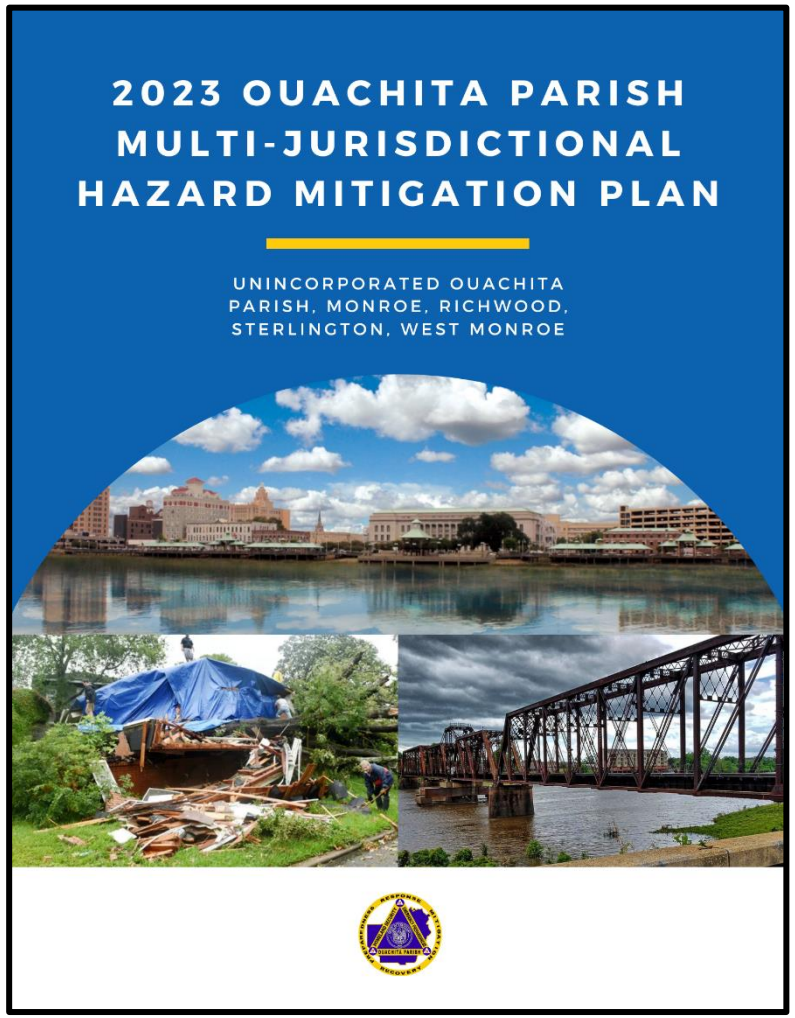
Collaborative Planning Approach



Planning Development



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Plan Layout

- **Section 1: Introduction**
  - Updated parish description
  - Updated demographics
  - Economics
- **Section 2: Hazard Identification and Parish-wide Risk Assessment**
- **Section 3: Capability Assessment**
- **Section 4: Mitigation Strategies**
  - New actions
  - Action updates
  - Survey results

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Plan Layout

- **Appendix A**: Planning Process
- **Appendix B**: Plan Maintenance
- **Appendix C**: Parish Critical Facilities
- **Appendix D**: Plan Adoption
- **Appendix E**: State Required Worksheets

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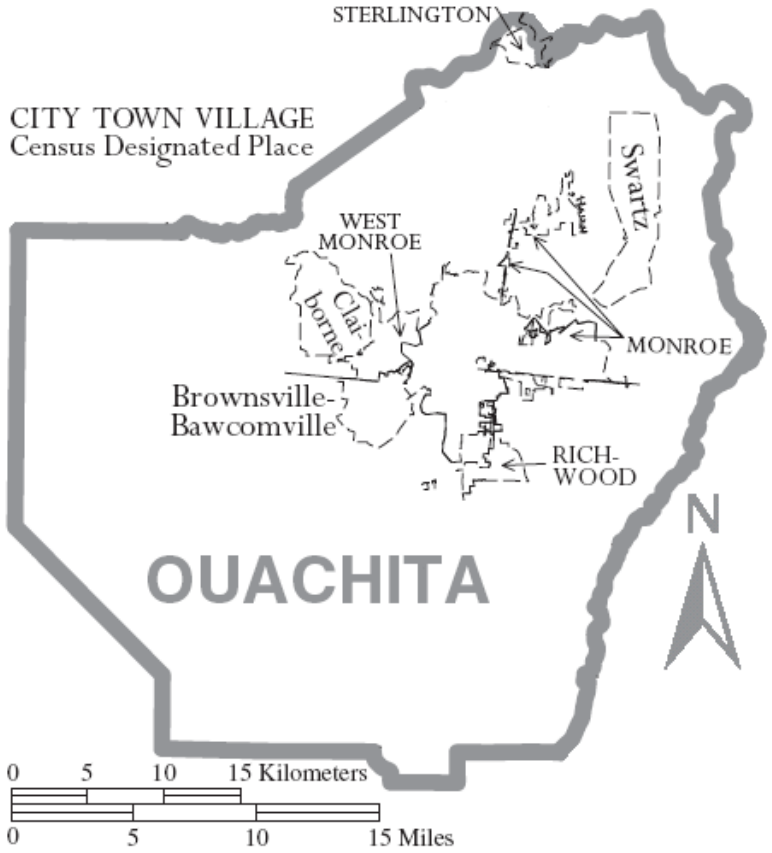
Hazard Identification and Risk Assessment

- The plan includes descriptions of the natural hazards that affect the jurisdictions in the planning area.

- The hazards identification includes the following:
  - *locations affected*
  - *extent or strength*
  - *previous occurrences*
  - *probability of future events*



Hazard Identification And Risk Assessment

- Based on Currently Profiled Risks
- Any Newly Identified Risks
- Prevalent Hazards
- Previous Occurrences
- Probability of Future Events
- Assets Inventory
- Essential Facilities
- Hazard Impact
- Future Development
- Future Hazard Impacts
- Zoning and Land Use
- Hazard Profiles

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Hazard Identification And Risk Assessment

- Drought
- Excessive Heat
- Flooding
- Levee Failure
- Thunderstorms
- Tornadoes
- Tropical Cyclones
- Wildfires
- Winter Weather

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Risk Matrix For Ouachita Parish

Hazard	Probability	Impact	Spatial Extent	Warning Time	Duration	Overall Risk
Drought	3	2	4	2	3	2.8
Extreme Heat	3	1	4	1	3	2.4
Flooding	4	4	3	4	3	3.65
Levee Failure	3	2	4	2	3	2.8
Thunderstorms - Hail	4	2	3	3	1	2.7
Thunderstorms - Lightning	3	2	2	3	1	2.25
Thunderstorms - Wind	4	2	3	3	1	2.7
Tornadoes	3	3	2	4	3	2.95
Tropical Cyclones	3	4	4	1	4	3.3
Wildfires	1	3	4	1	2	2.25
Winter Weather	3	3	4	1	2	2.75

Risk Factor	PRI Range
High Risk	2.5 to 4.0
Moderate Risk	2.0 to 2.4
Low Risk	0 to 1.9

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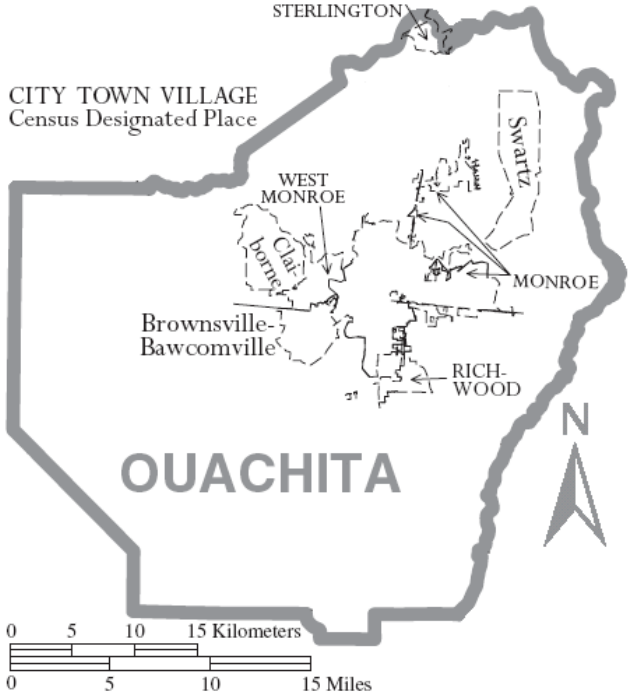
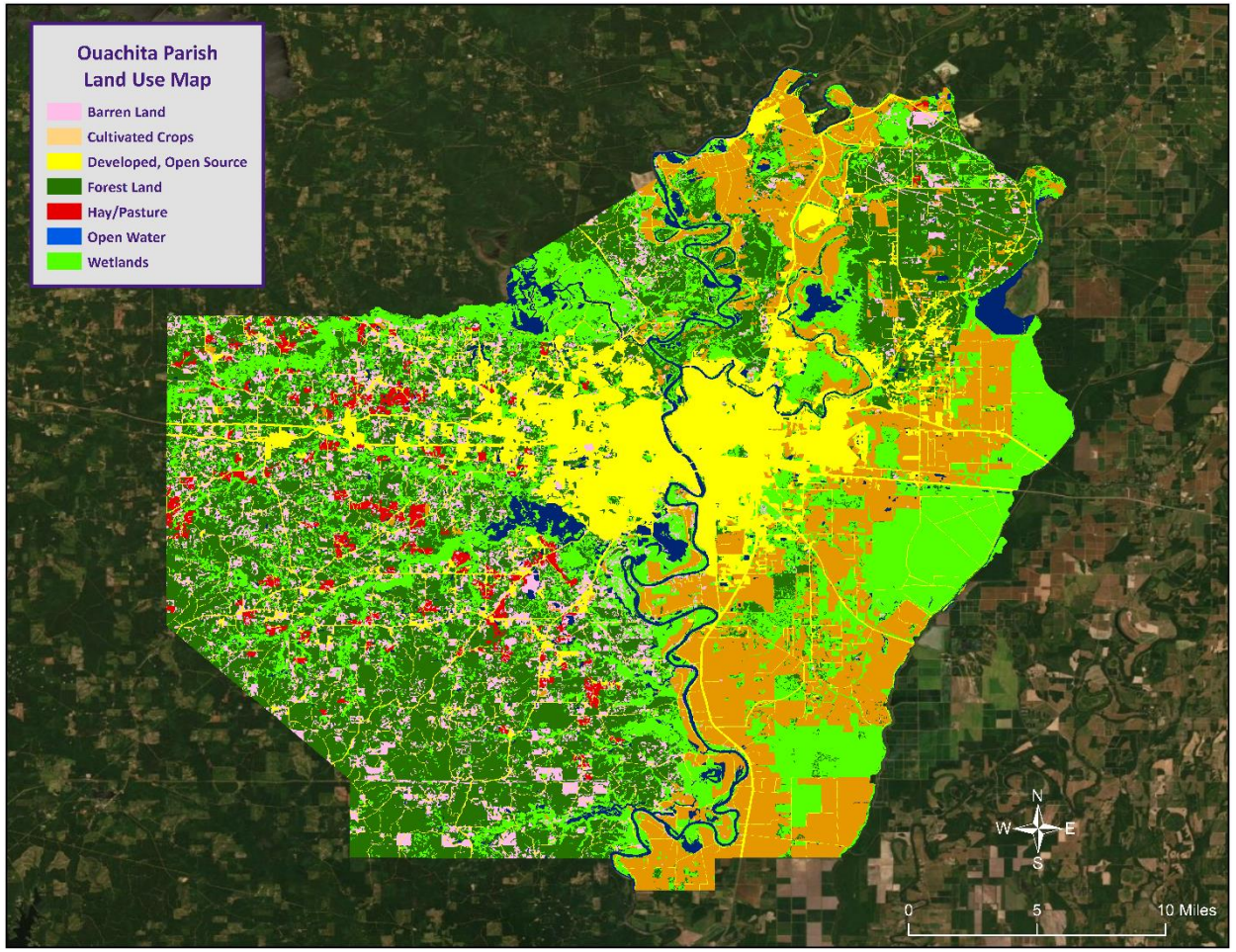


Risk Assessment Maps

Ouachita Parish Land Use



Land Use	Acres	Percentage
Agricultural Land, Cropland, and Pasture	103,027	25%
Wetlands	96,479	24%
Forest Land (Not including forested wetlands)	122,823	30%
Urban/Development	64,416	16%
Water	17,572	4%

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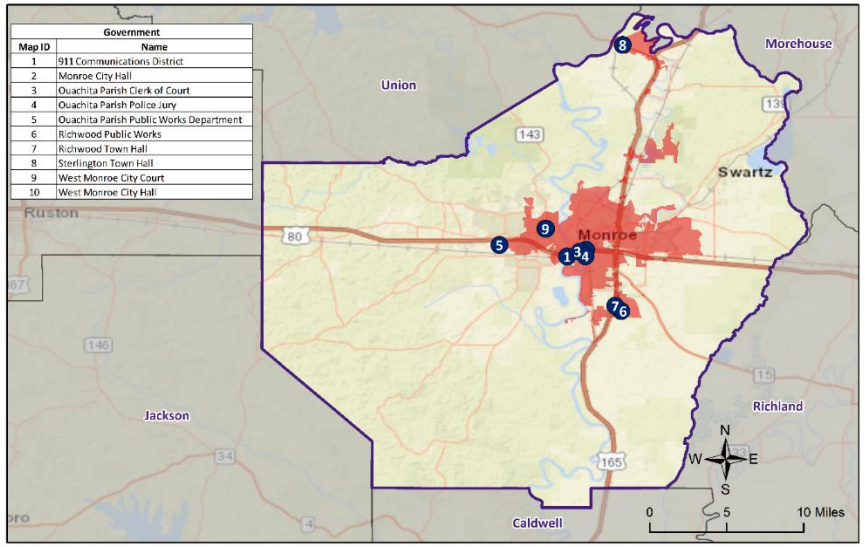
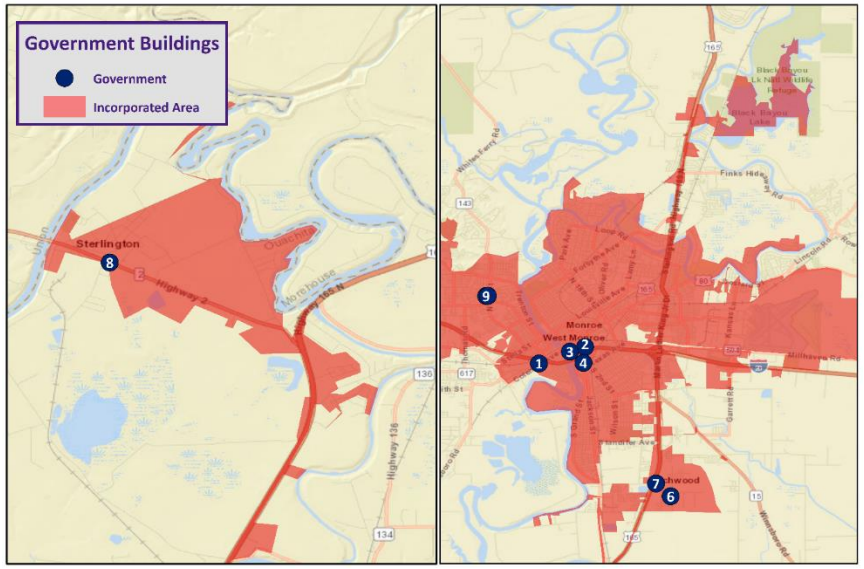
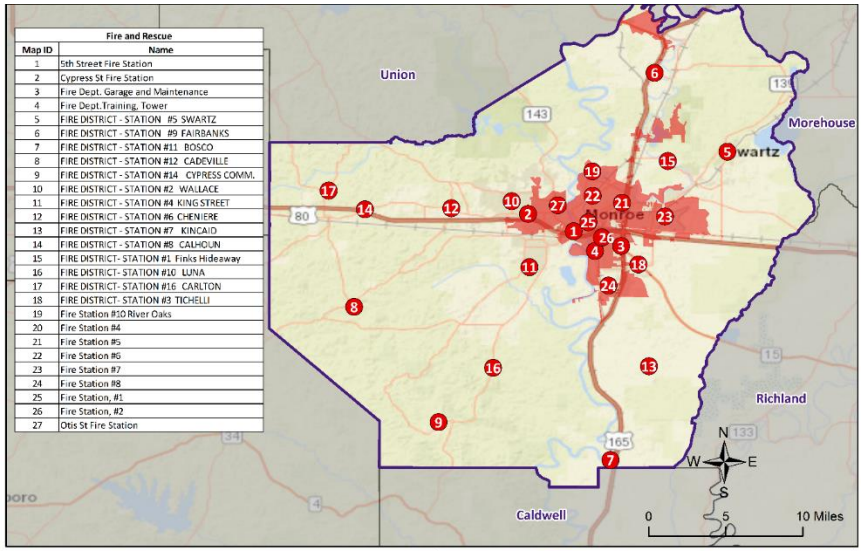
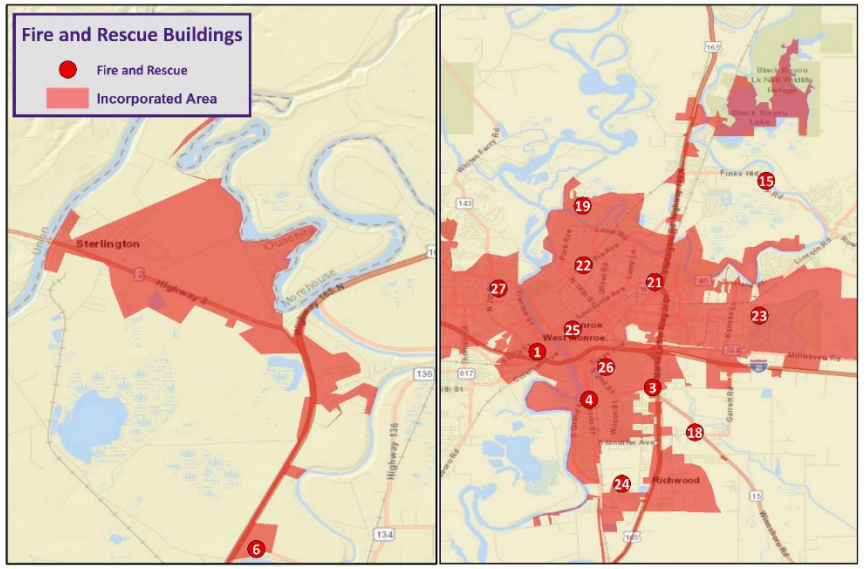
Critical Facilities





Civil Government

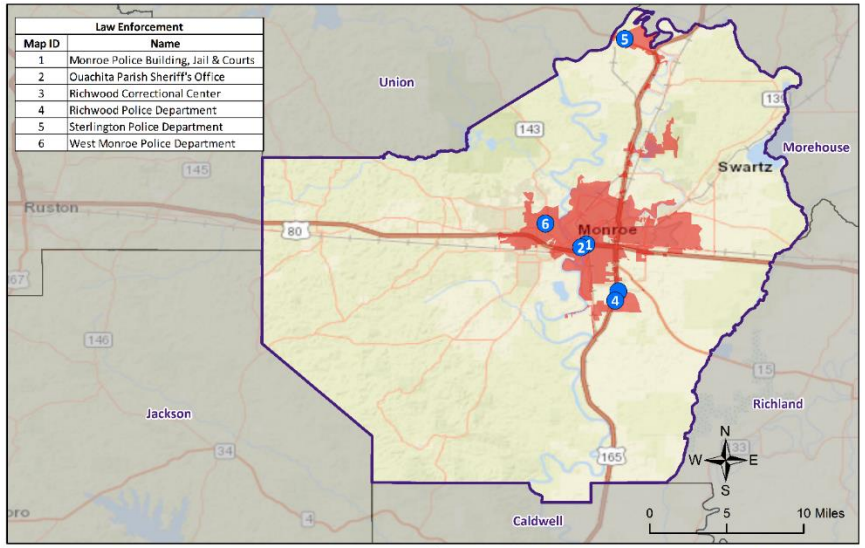


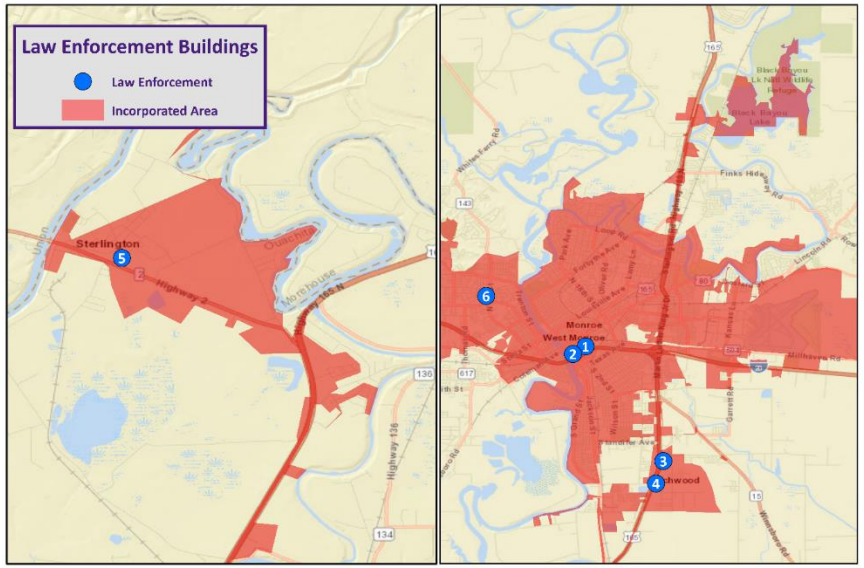


Fire & SAR

Critical Facilities

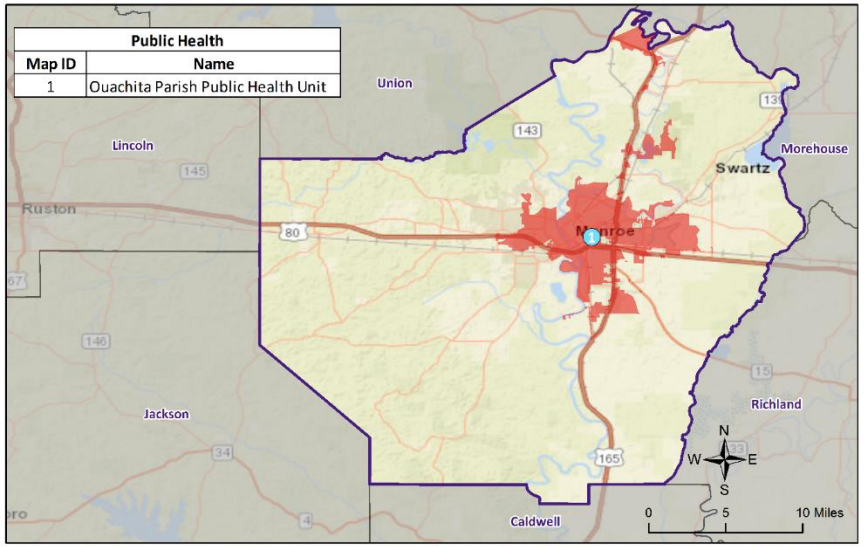
Law Enforcement	
Map ID	Name
1	Monroe Police Building, Jail & Courts
2	Ouachita Parish Sheriff's Office
3	Richwood Correctional Center
4	Richwood Police Department
5	Sterlington Police Department
6	West Monroe Police Department

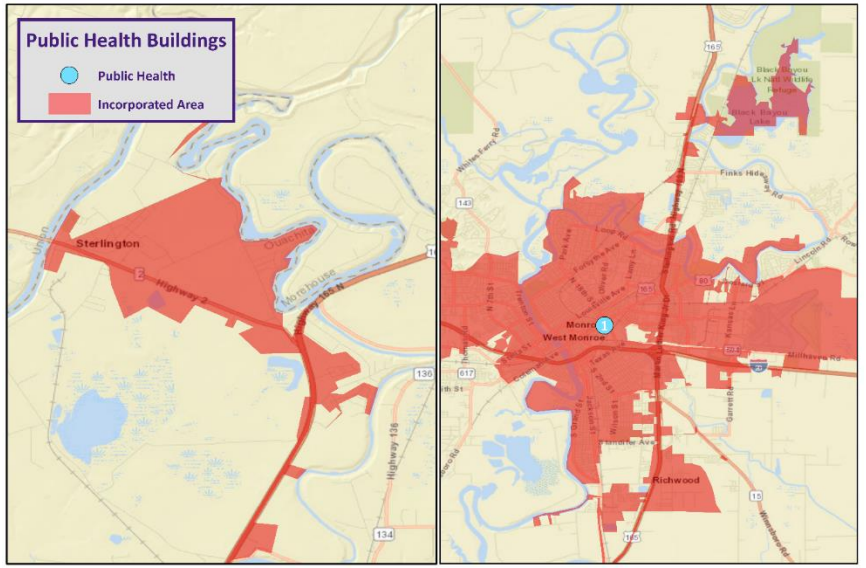




Law Enforcement

Public Health	
Map ID	Name
1	Ouachita Parish Public Health Unit

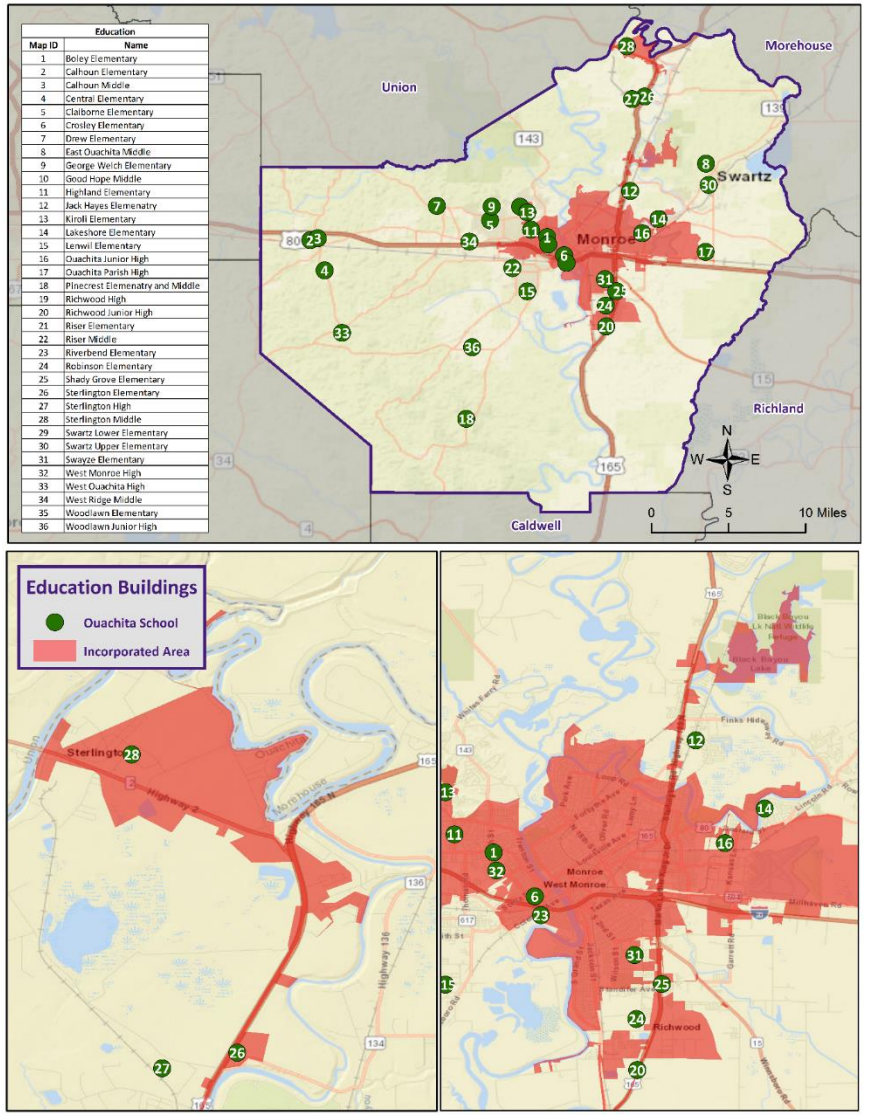




Public Health

Critical Facilities

Education	
Map ID	Name
1	Boley Elementary
2	Calhoun Elementary
3	Calhoun Middle
4	Central Elementary
5	Claiborne Elementary
6	Crosley Elementary
7	Drew Elementary
8	East Ouachita Middle
9	George Welch Elementary
10	Good Hope Middle
11	Highland Elementary
12	Jack Hayes Elemenatry
13	Kiroli Elementary
14	Lakeshore Elementary
15	Lenwil Elementary
16	Ouachita Junior High
17	Ouachita Parish High
18	Pinecrest Elemenatry and Middle
19	Richwood High
20	Richwood Junior High
21	Riser Elementary
22	Riser Middle
23	Riverbend Elementary
24	Robinson Elementary
25	Shady Grove Elementary
26	Sterlington Elementary
27	Sterlington High
28	Sterlington Middle
29	Swartz Lower Elementary
30	Swartz Upper Elementary
31	Swayze Elementary
32	West Monroe High
33	West Ouachita High
34	West Ridge Middle
35	Woodlawn Elementary
36	Woodlawn Junior High



Public Education

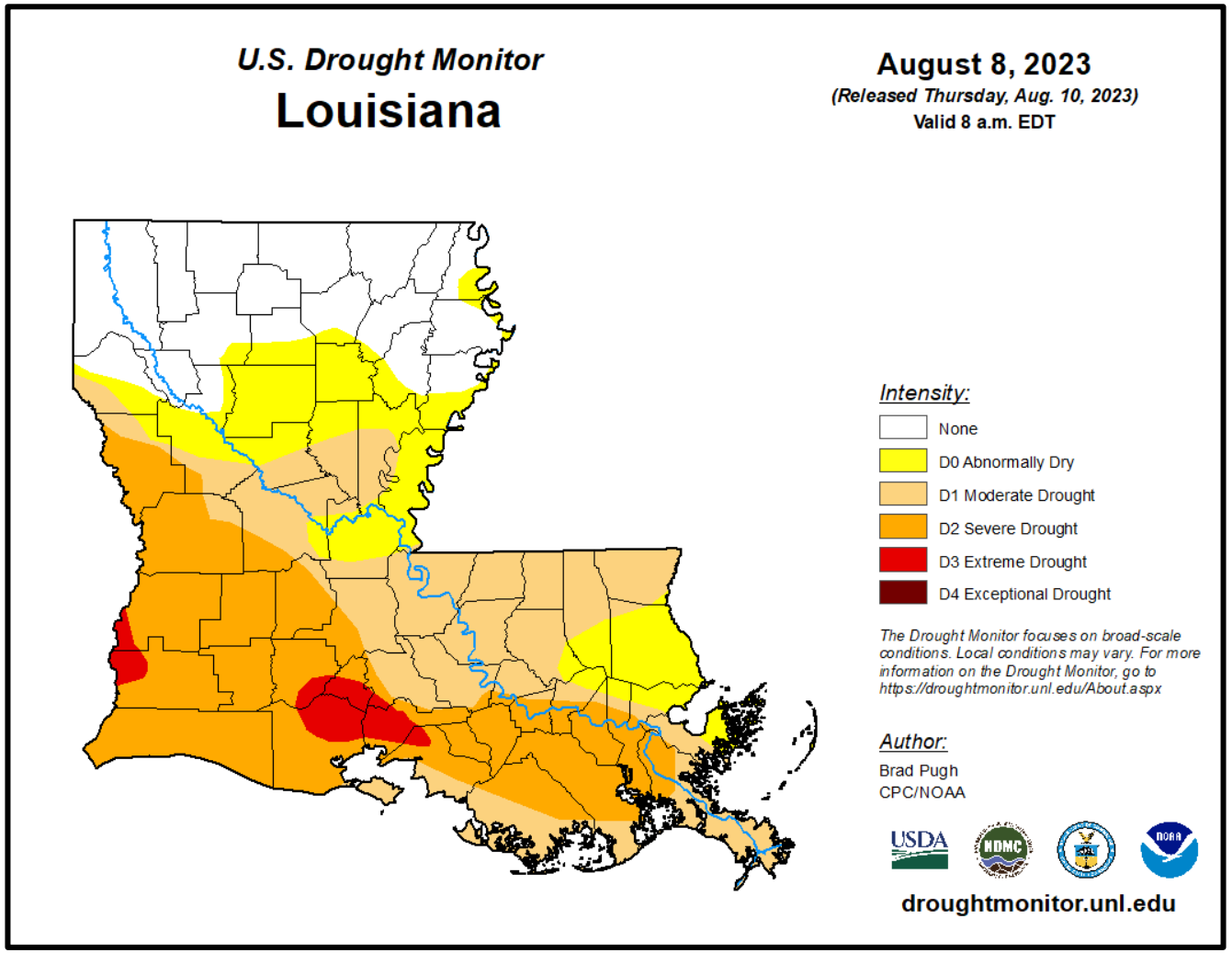
Drought

- A drought is a deficiency in water availability over an extended period of time, caused by precipitation totals and soil water storages that do not satisfy the environmental demand for water either by evaporation or transpiration through plant leaves.

- There are four classes of drought:
  - ✓Meteorological Drought
  - ✓Hydrologic Drought
  - ✓Agricultural Drought
  - ✓Socioeconomic Drought

- Generally, the entire parish will be affected by drought
  - Not limited to one particular location within the parish

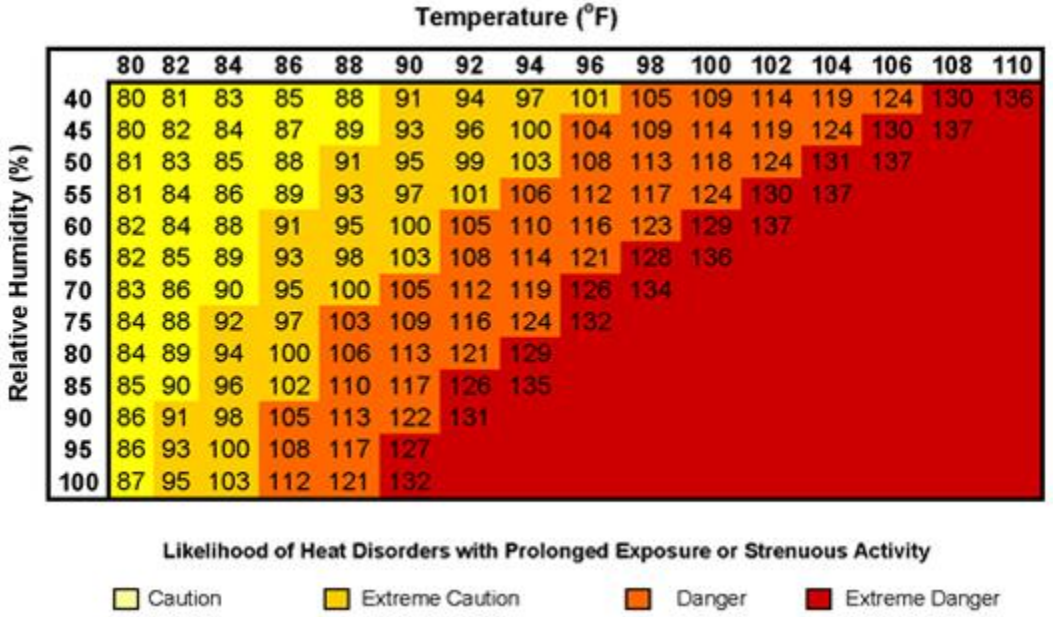
Drought Monitor



Excessive Heat

- No universal definition for Excessive Heat
- Often seen in conjunction with regional drought
- Heat waves are easier to define
  - At least 5 consecutive days where the daily max temperature exceeds the average max temperature by 9 degrees

Excessive Heat



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

Flooding

- A flood is the overflow of water onto land that is usually not inundated.

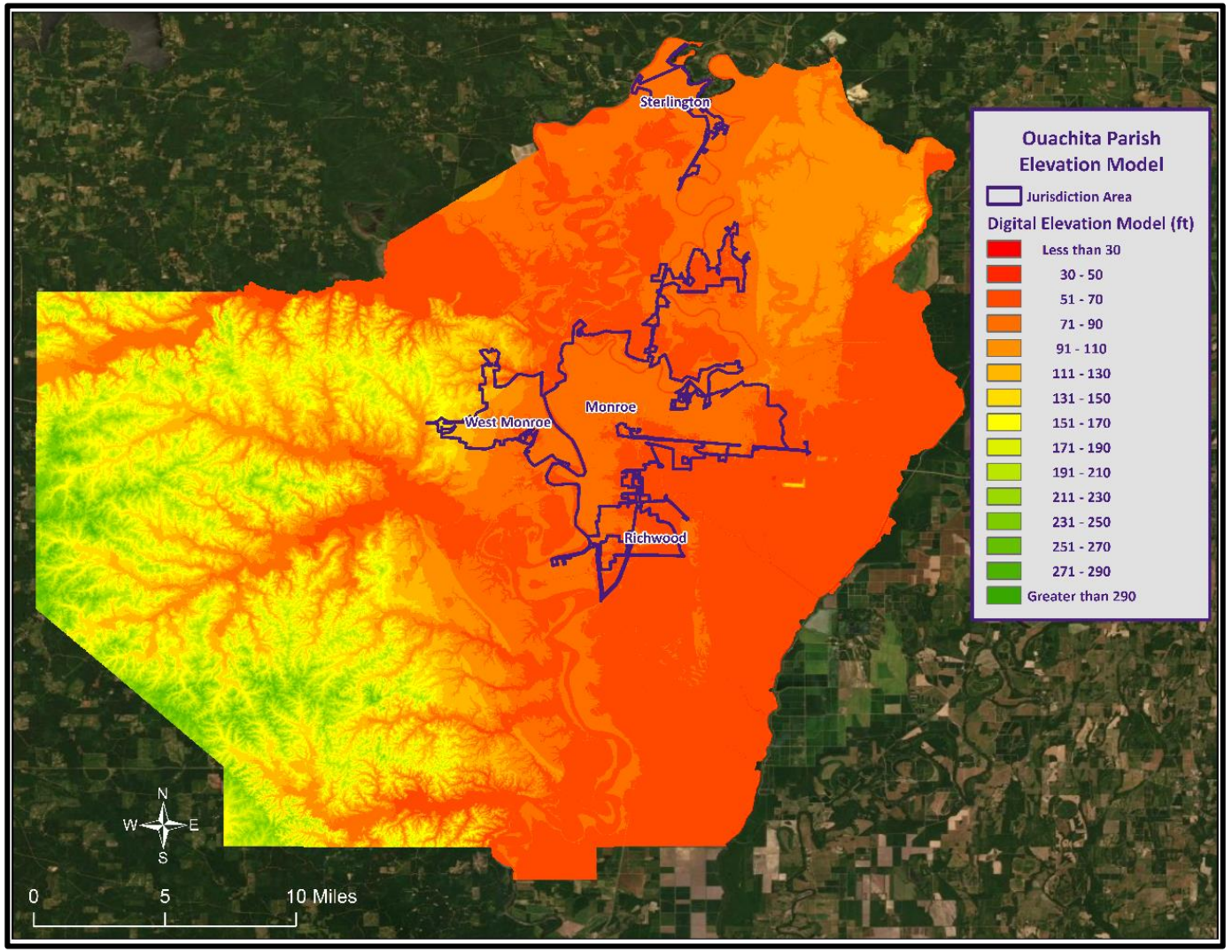
- The National Flood Insurance Program defines a flood as “a general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties from overflow of inland or tidal waves, unusual and rapid accumulation or runoff of surface waters 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

In Louisiana, six specific types of flooding are of main concern:

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

Digital Elevation Model



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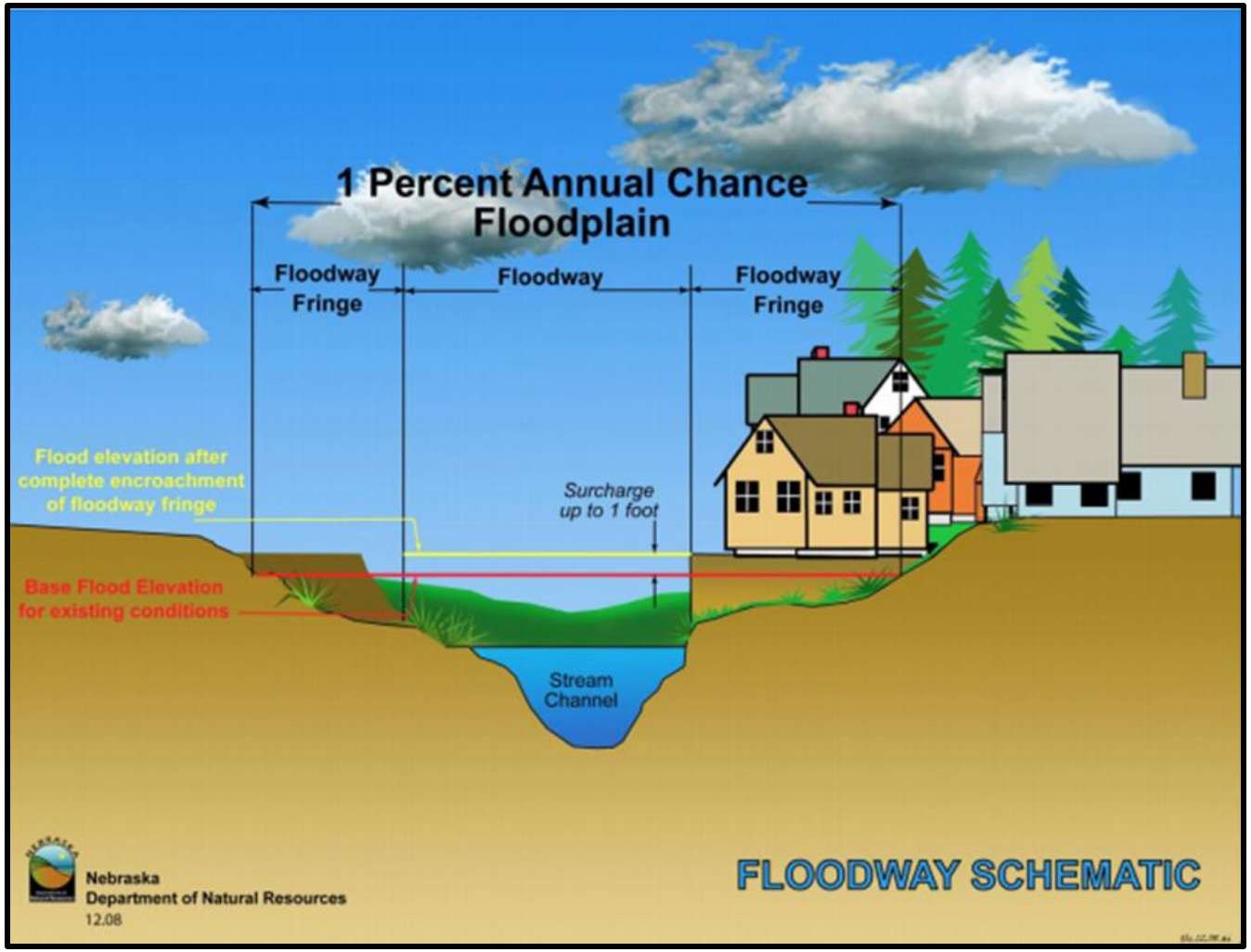
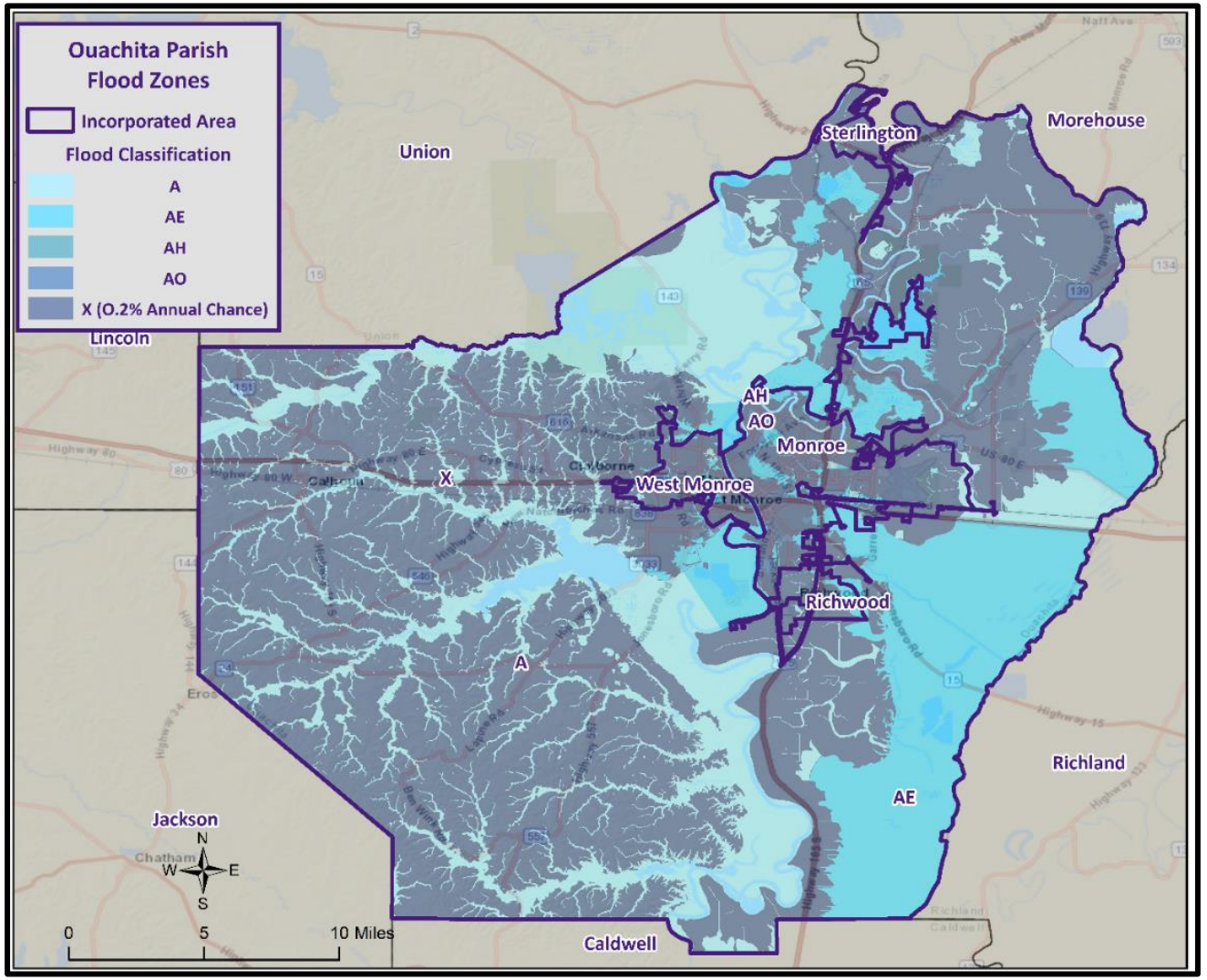
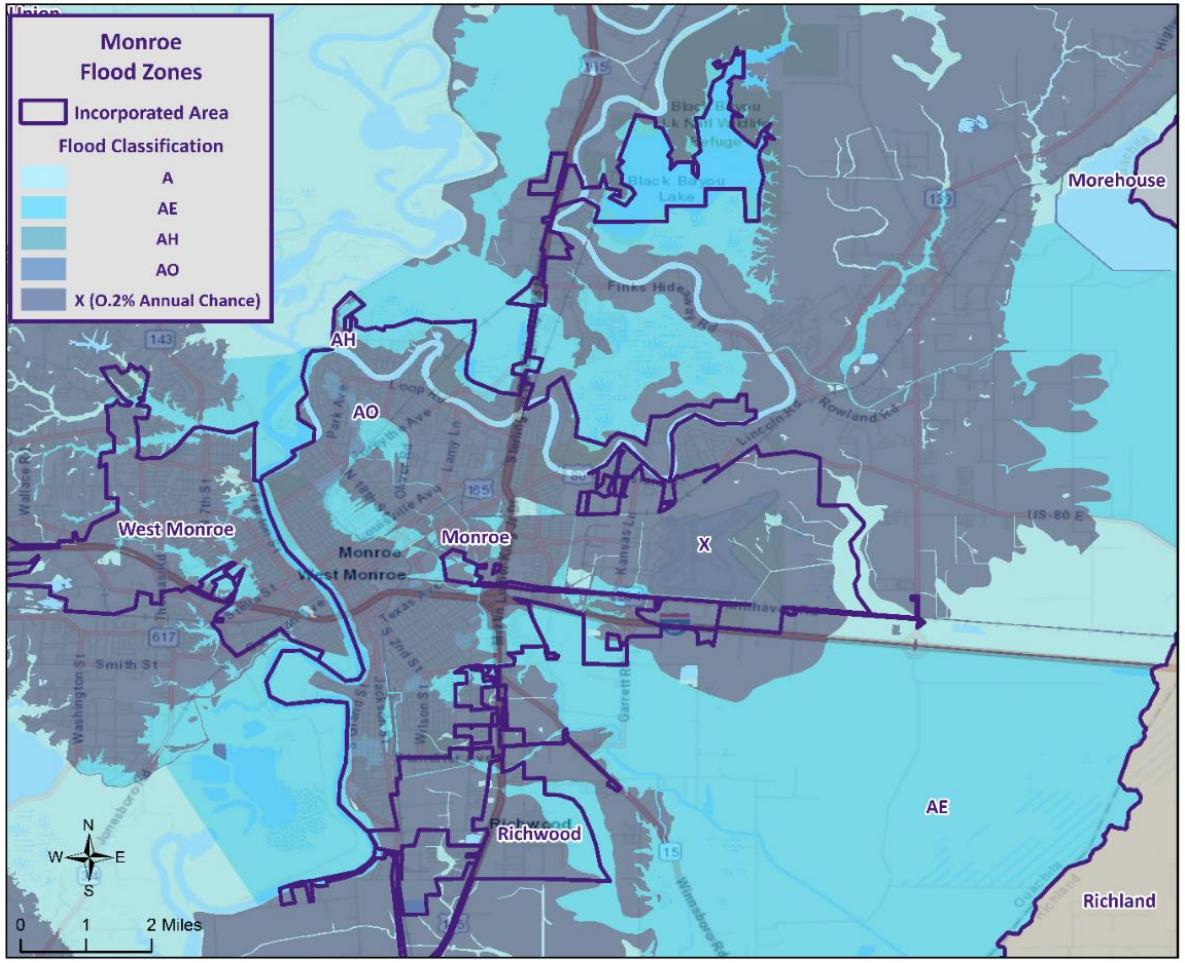
Floodway Diagram



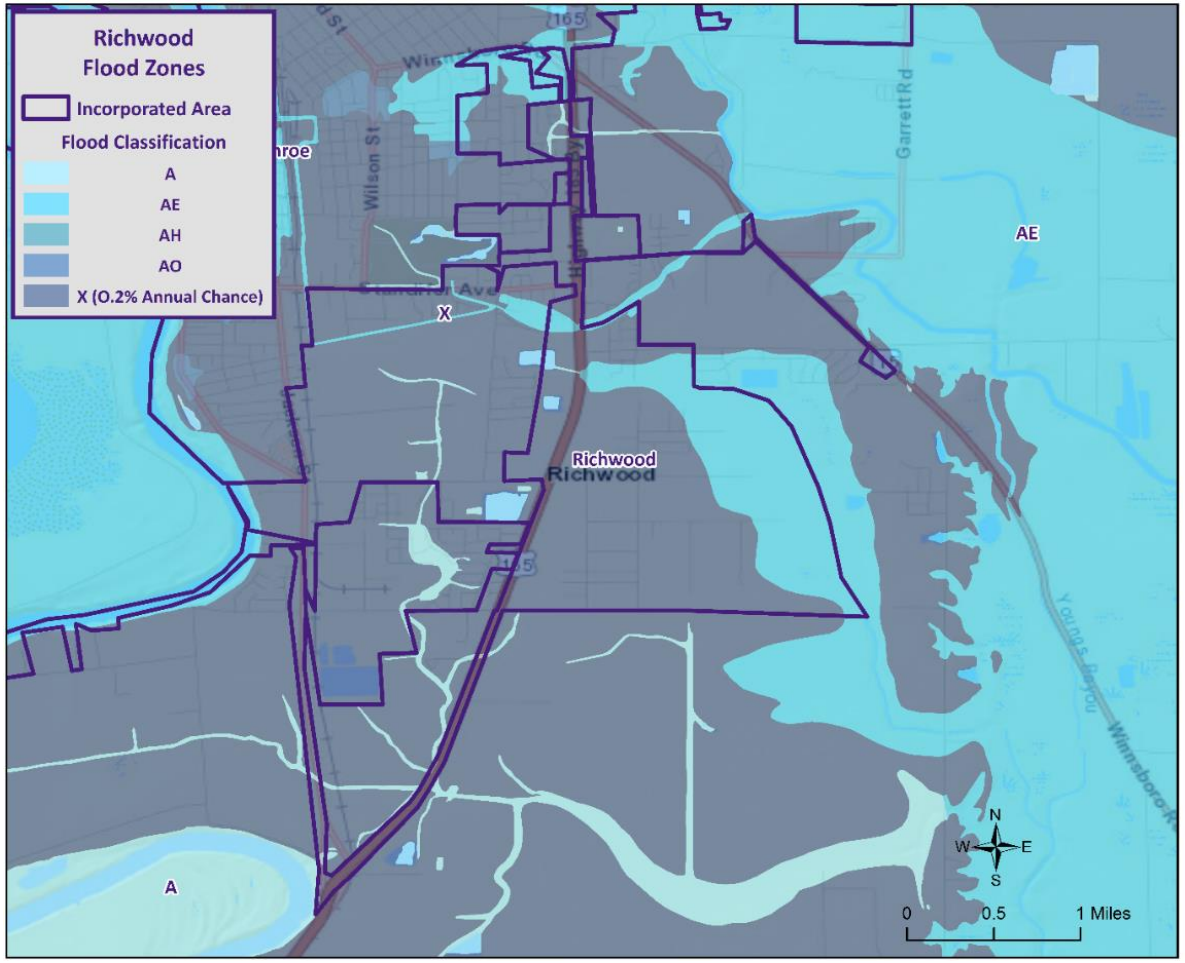
Ouachita Parish Flood Map



Municipal Flood Maps

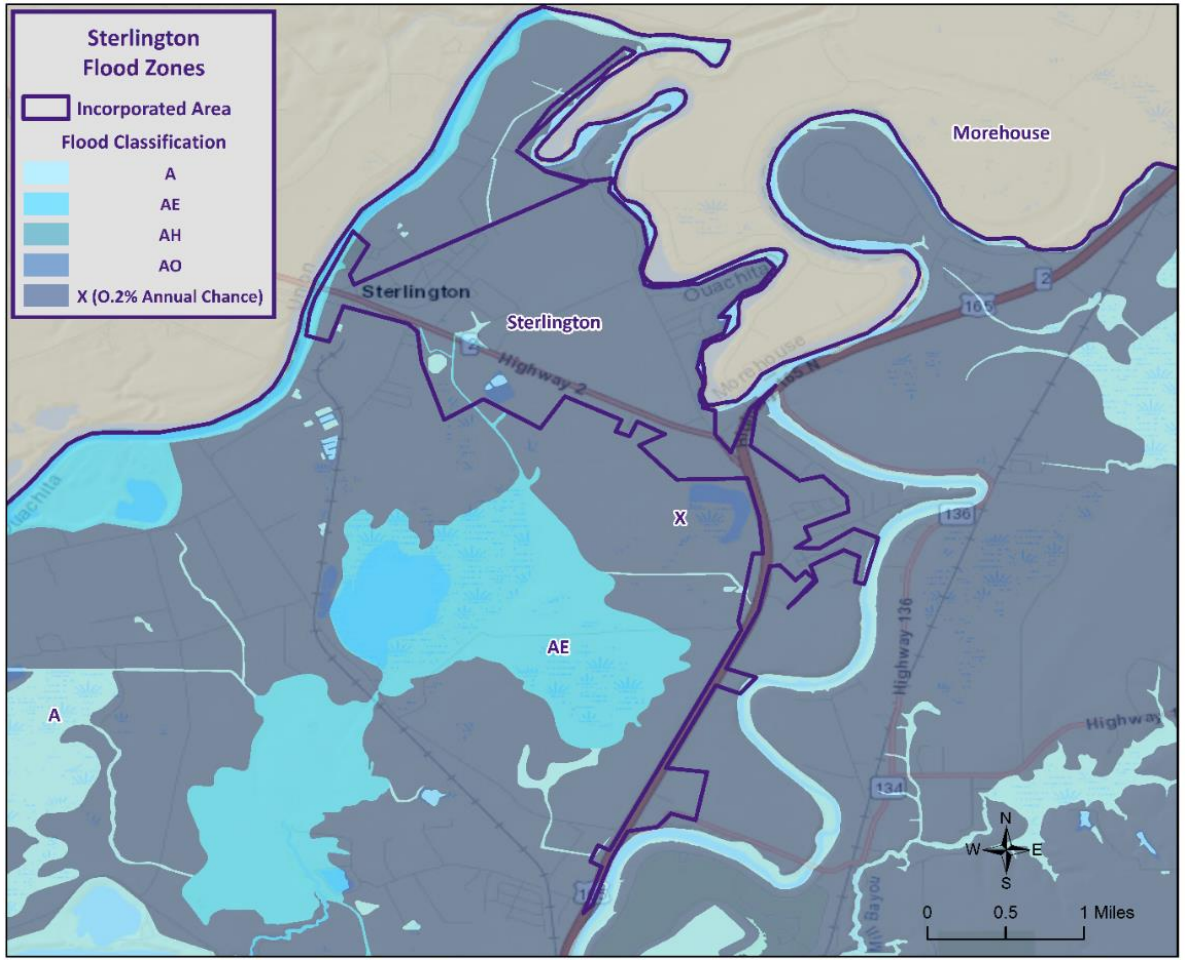


Monroe

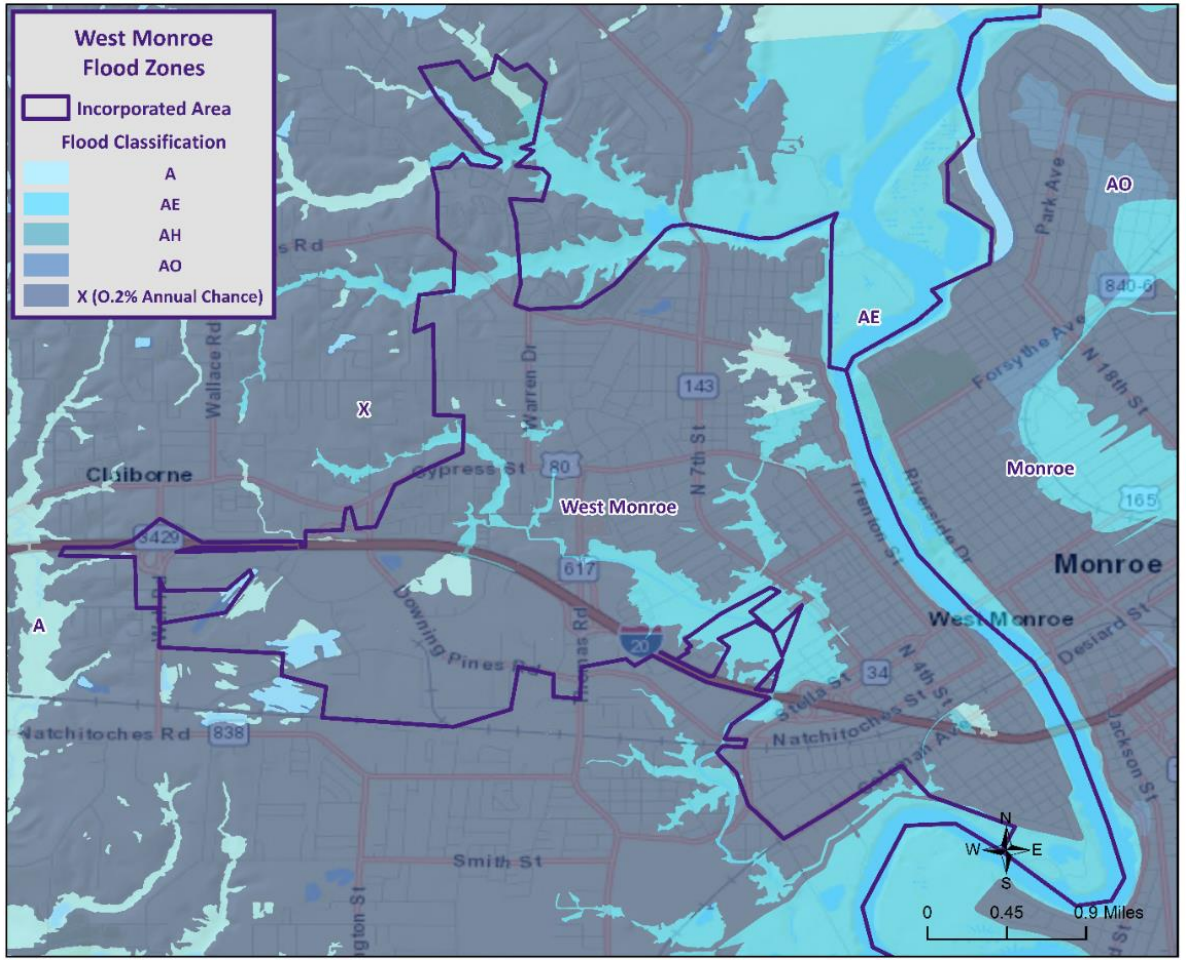


Richwood

Municipal Flood Maps



Sterlington

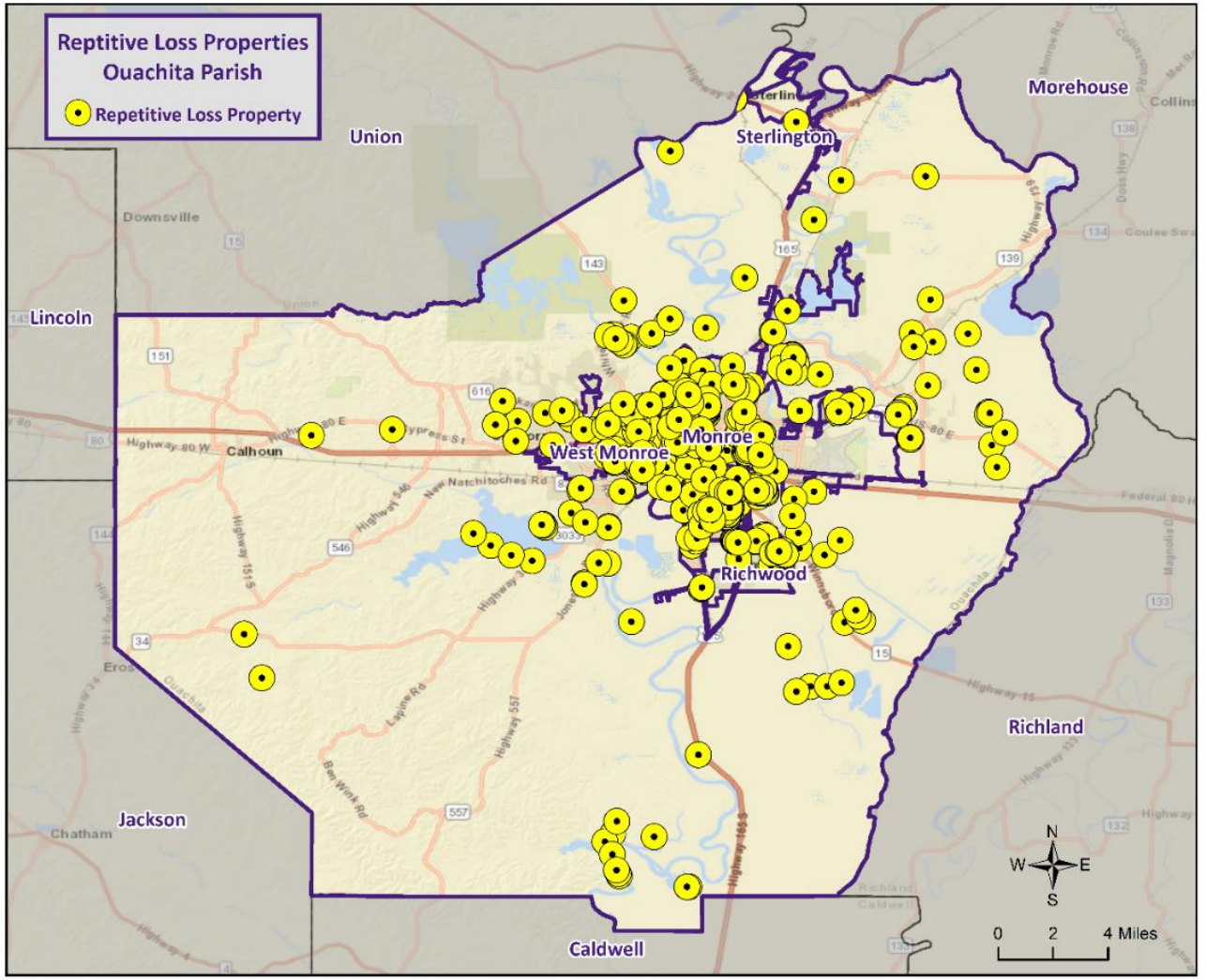


West Monroe

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.
- There are currently around 160,000 repetitive loss properties in the U.S.
- These properties comprise 1% of the NFIP policy base, but they account for approximately 30% of the country’s flood insurance claim payments.

Repetitive Loss Properties



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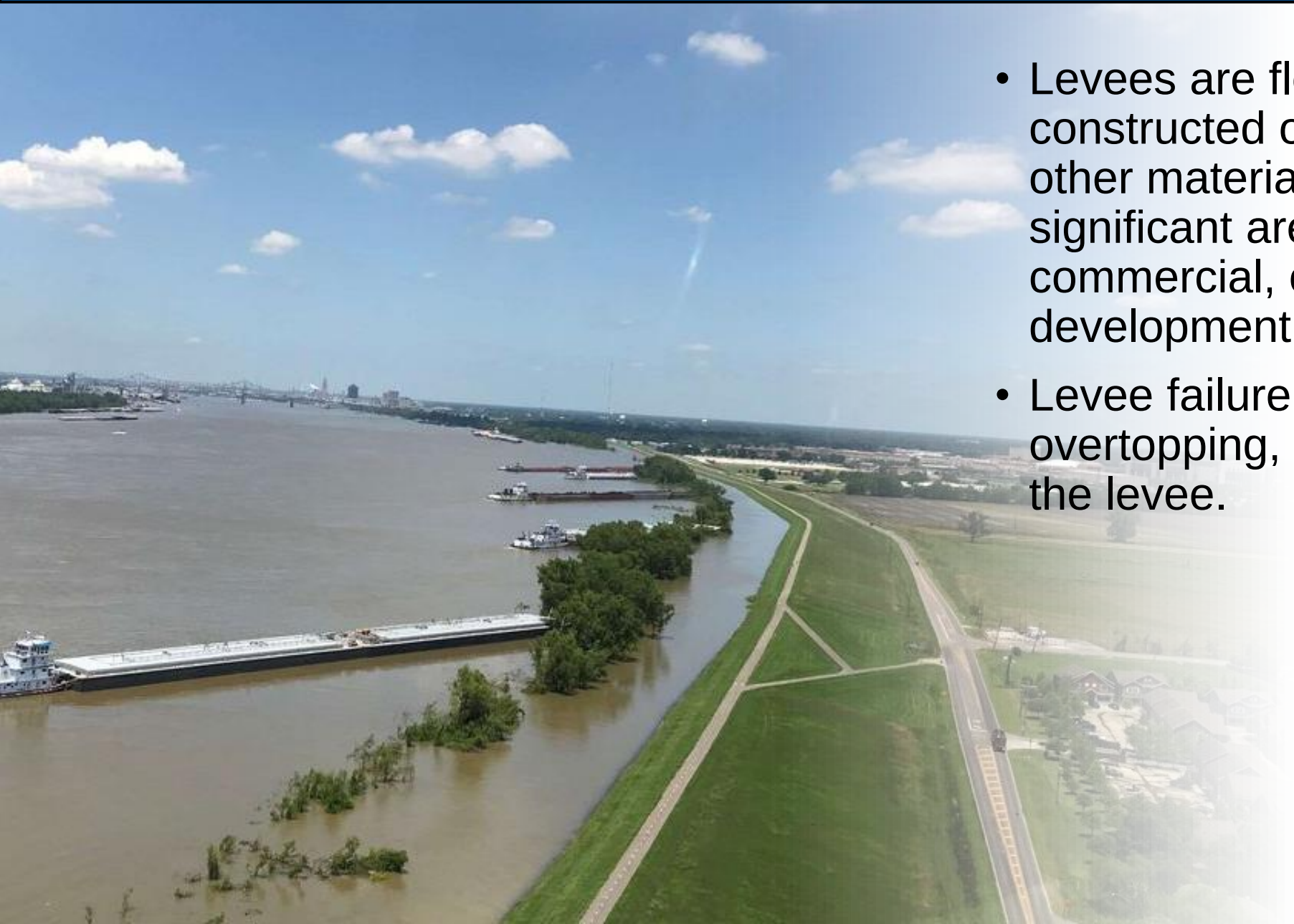
Levee Failure



- Levees are flood control barriers constructed of earth, concrete, or other materials that protect significant areas of residential, commercial, or industrial development.
- Levee failure involves the overtopping, breach, or collapse of the levee.

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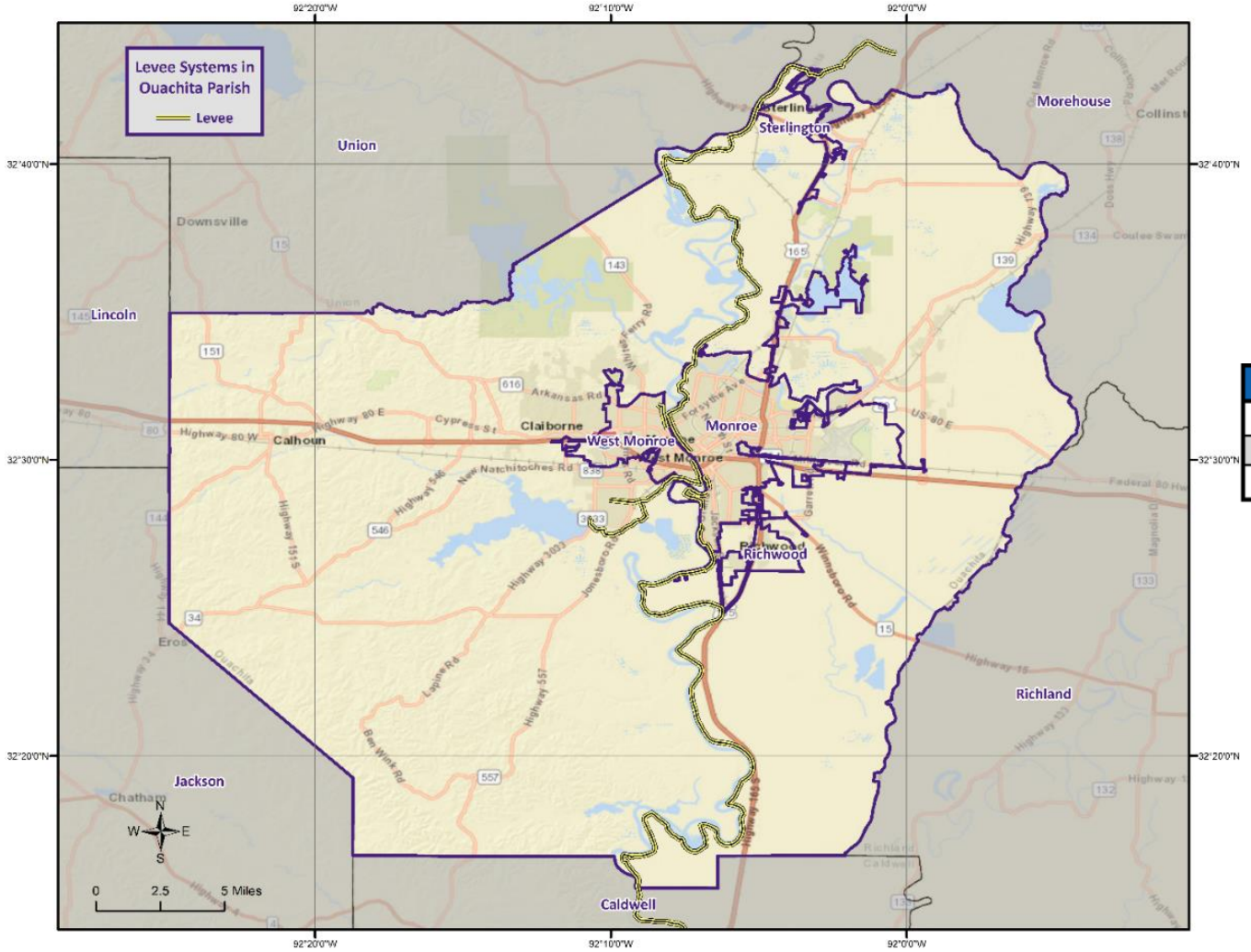
Location of Levees in Ouachita Parish



System	Risk	Height (ft)	Population	Buildings	Property Value
Bawcomville	Low	12	1,703	838	$212 M
Ouachita River LA	Moderate	15	47,912	15,179	$5.2 B
West Monroe Area	Low	10	17,843	5,029	$2.04 B

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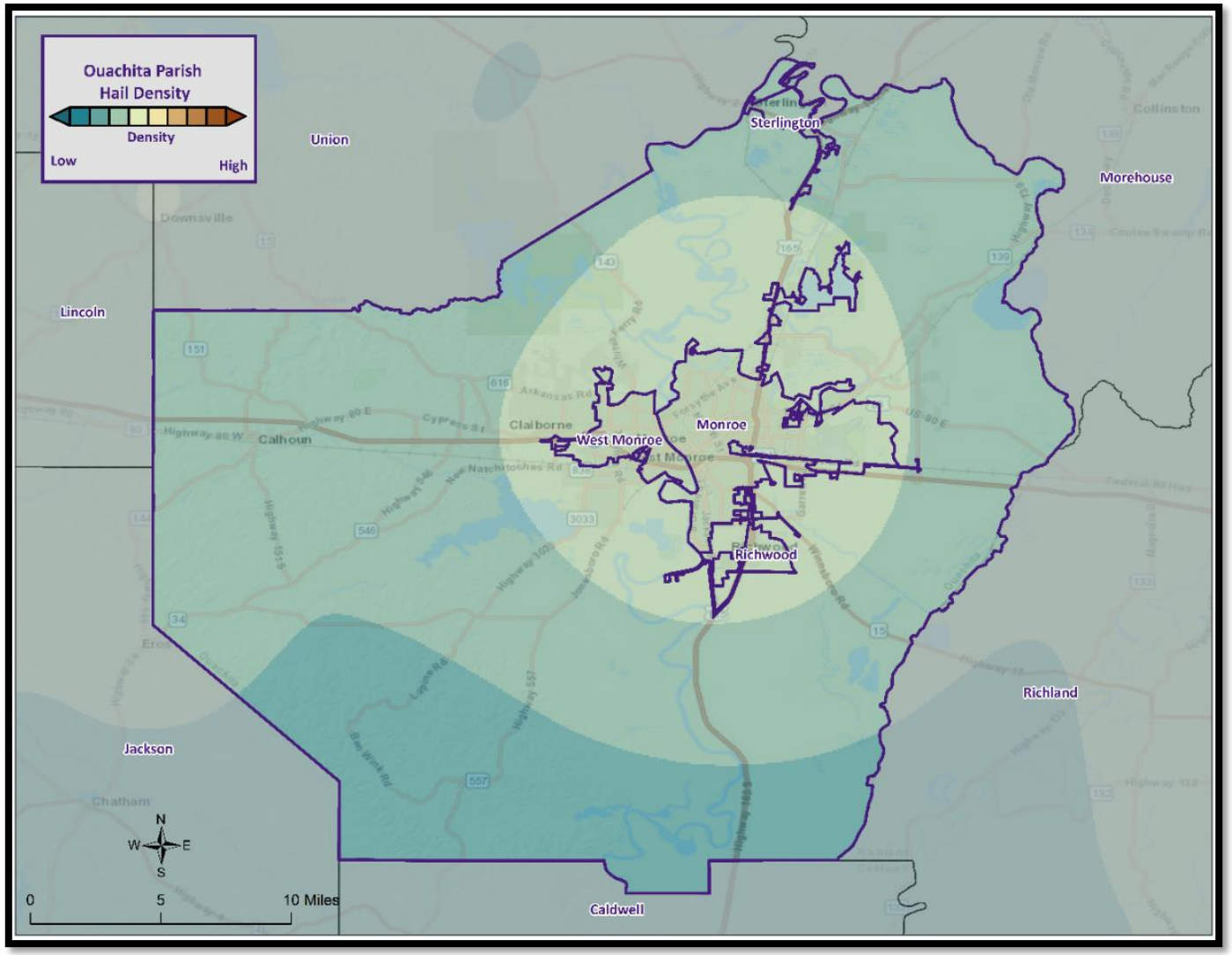
Thunderstorms

- A **thunderstorm**, also known as an **electrical storm**, a **lightning storm**, or a **thundershower**, is a type of storm characterized by the presence of lightning and its acoustic effect on the Earth's atmosphere known as thunder.

- They are usually accompanied by strong winds, heavy rain, and sometimes snow, sleet, or hail.

- Thunderstorms may line up in a series or rainband, known as a squall line. Strong or severe thunderstorms may rotate, known as supercells. While most thunderstorms move with the mean wind flow through the layer of the troposphere that they occupy, vertical wind sheer causes a deviation in their course at a right angle to the wind shear direction.

Hailstorm Density



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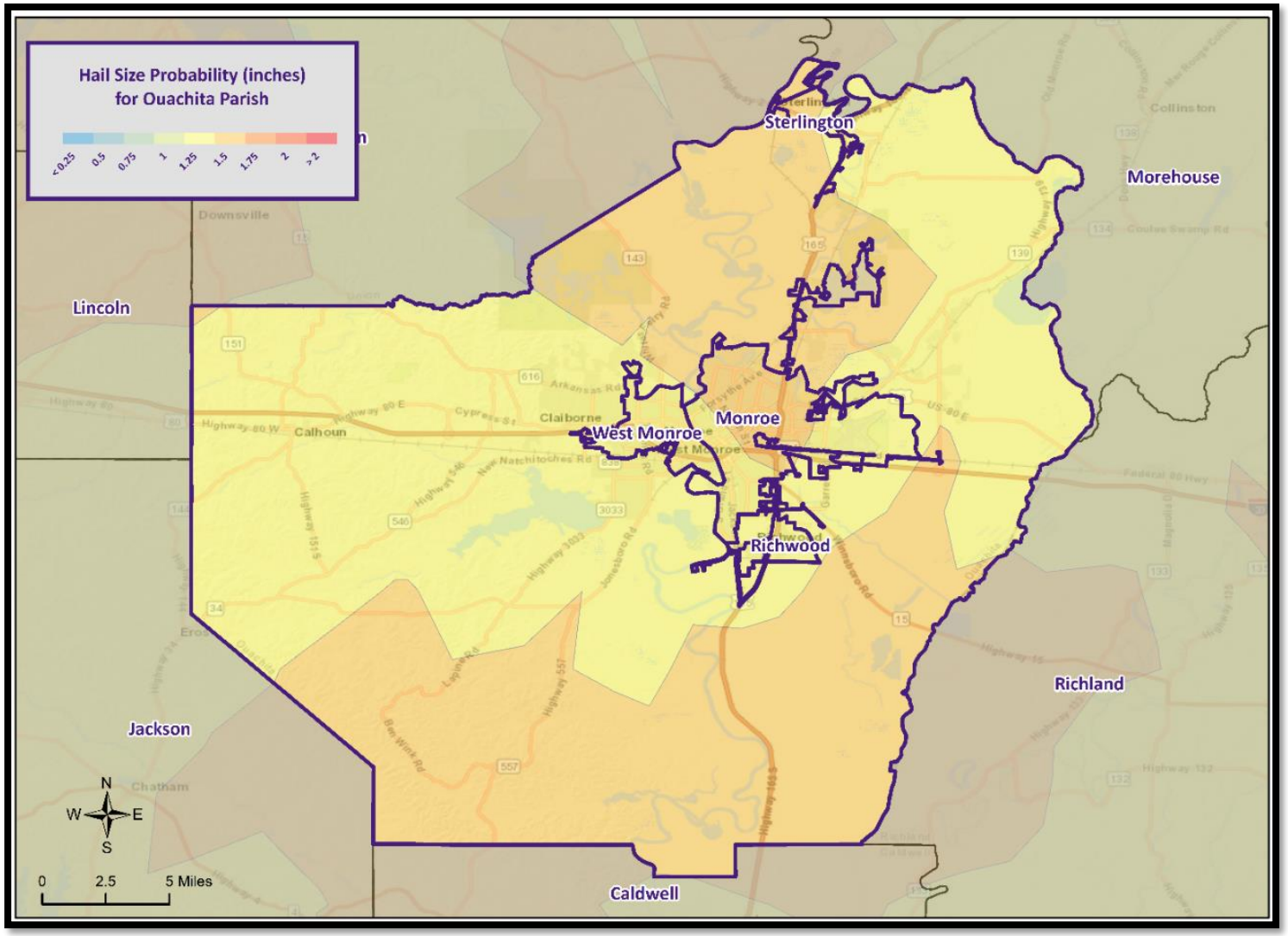
Maximum Hail Size Probability



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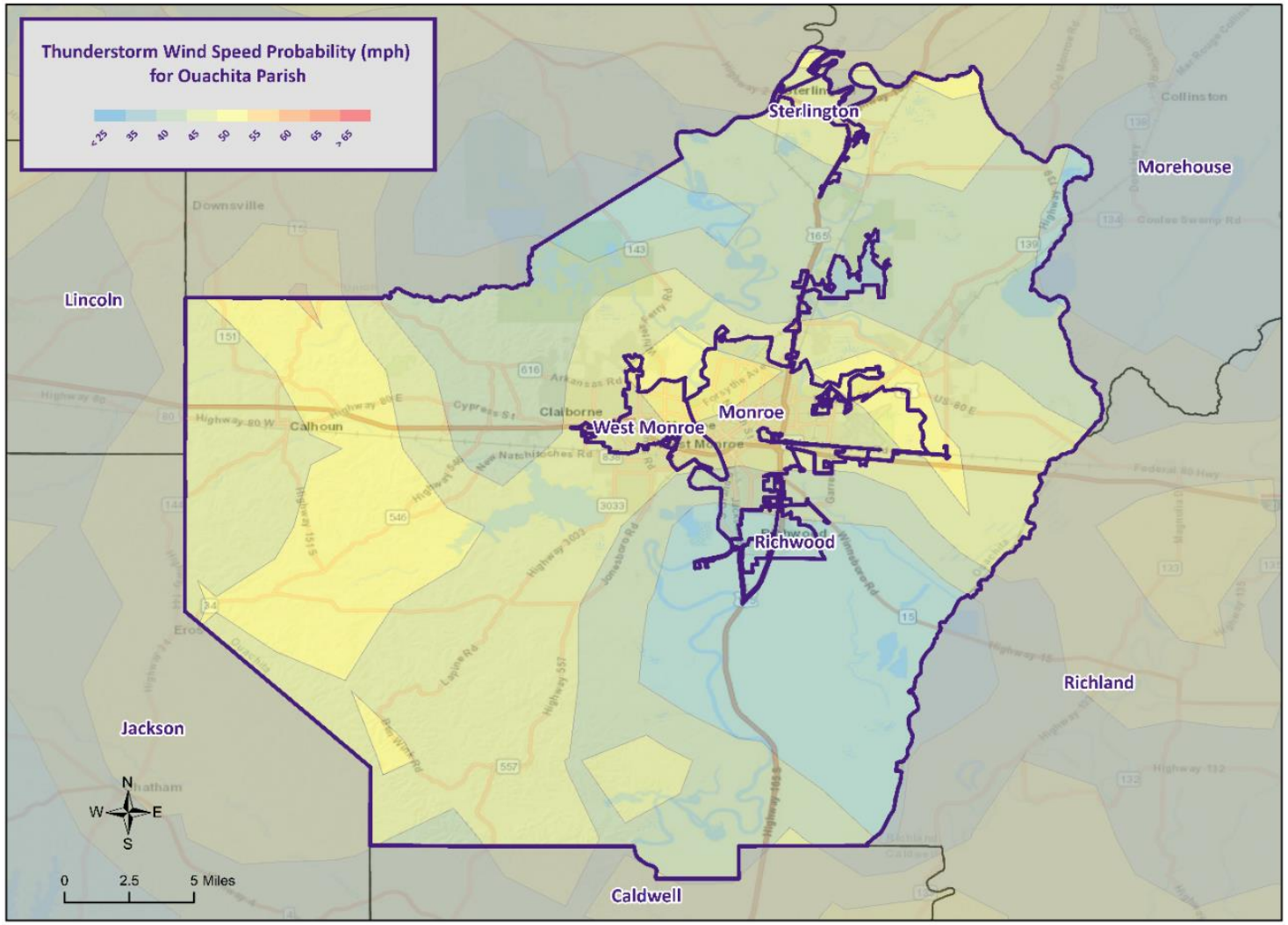
Maximum Wind Speed Probability



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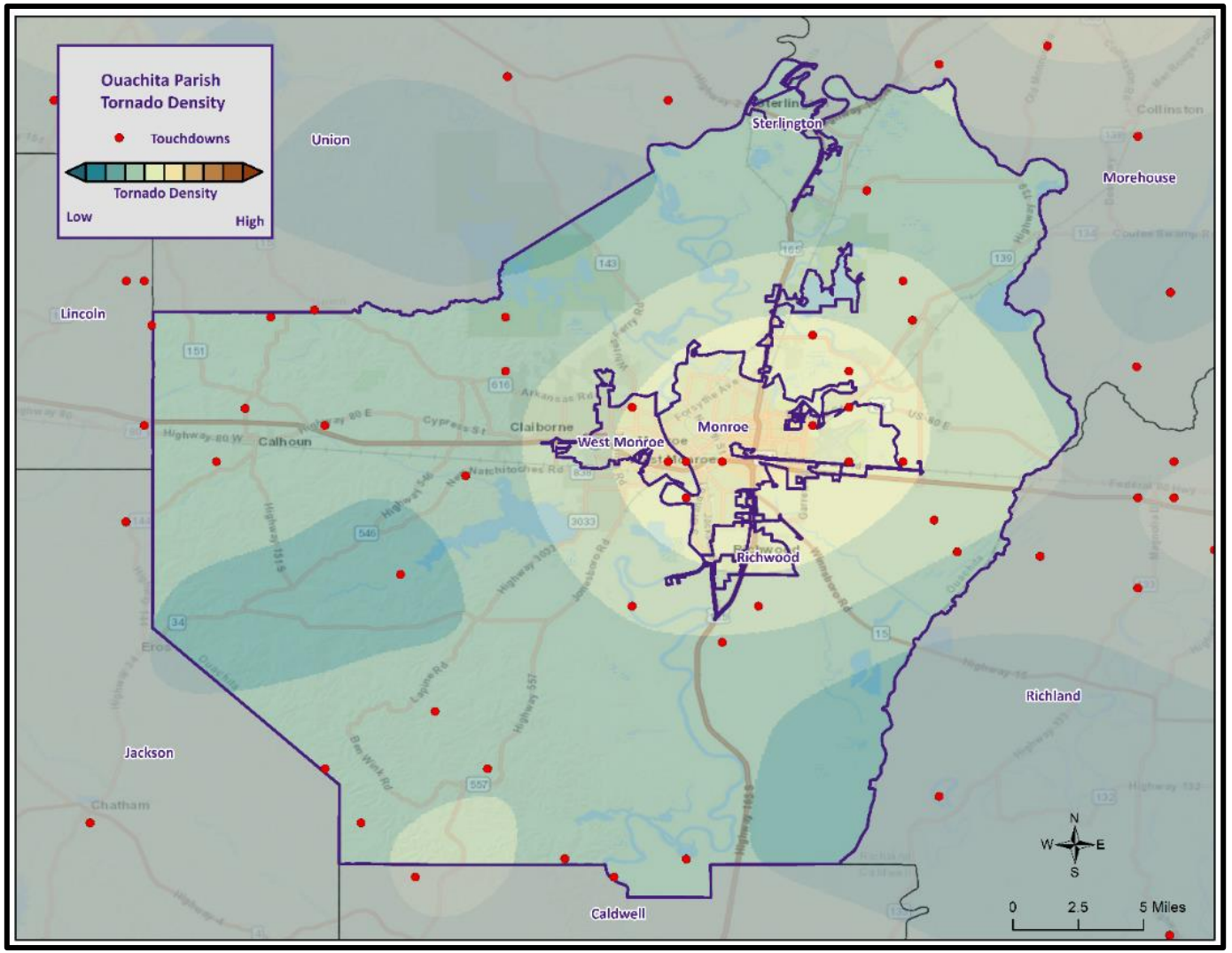
Tornadoes

- Tornadoes 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

Tornadoes in Ouachita Parish



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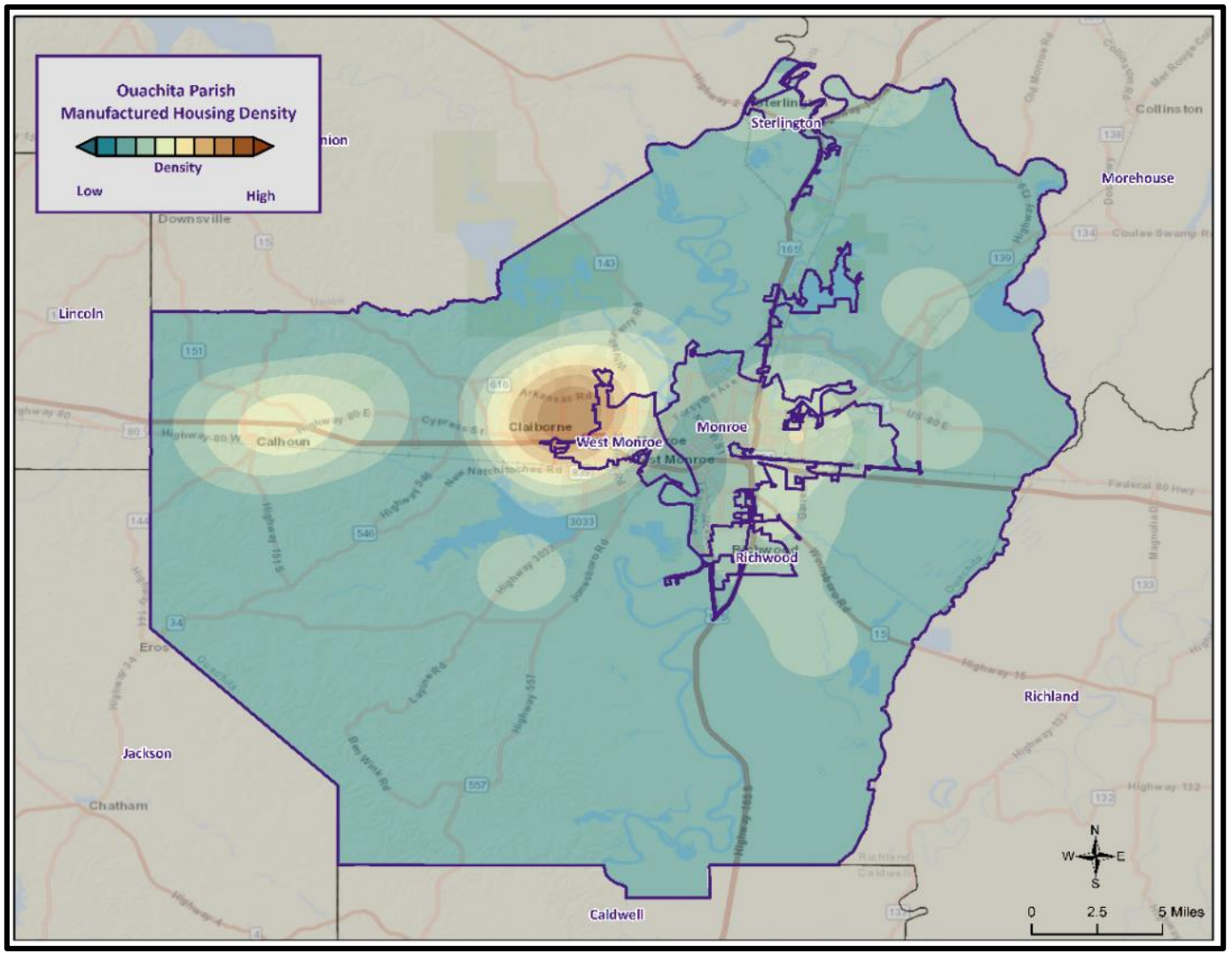
Manufactured Home Density



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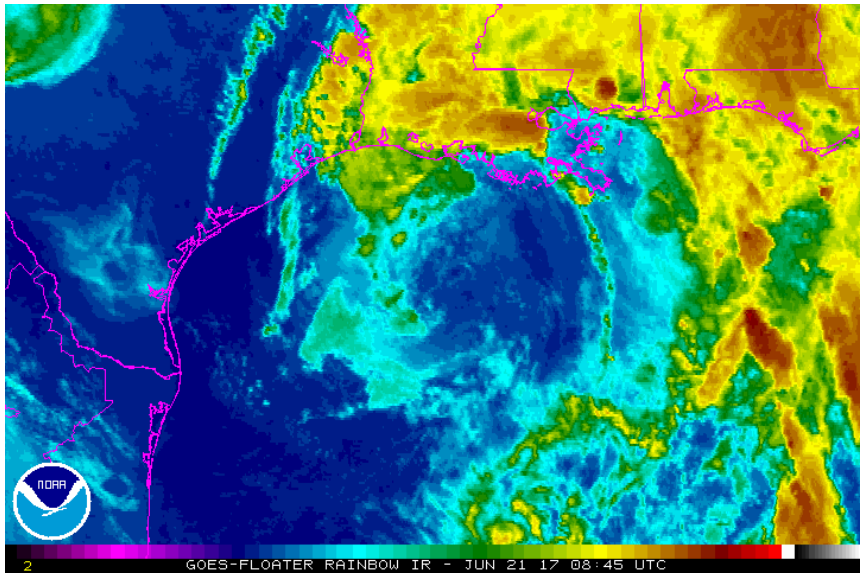
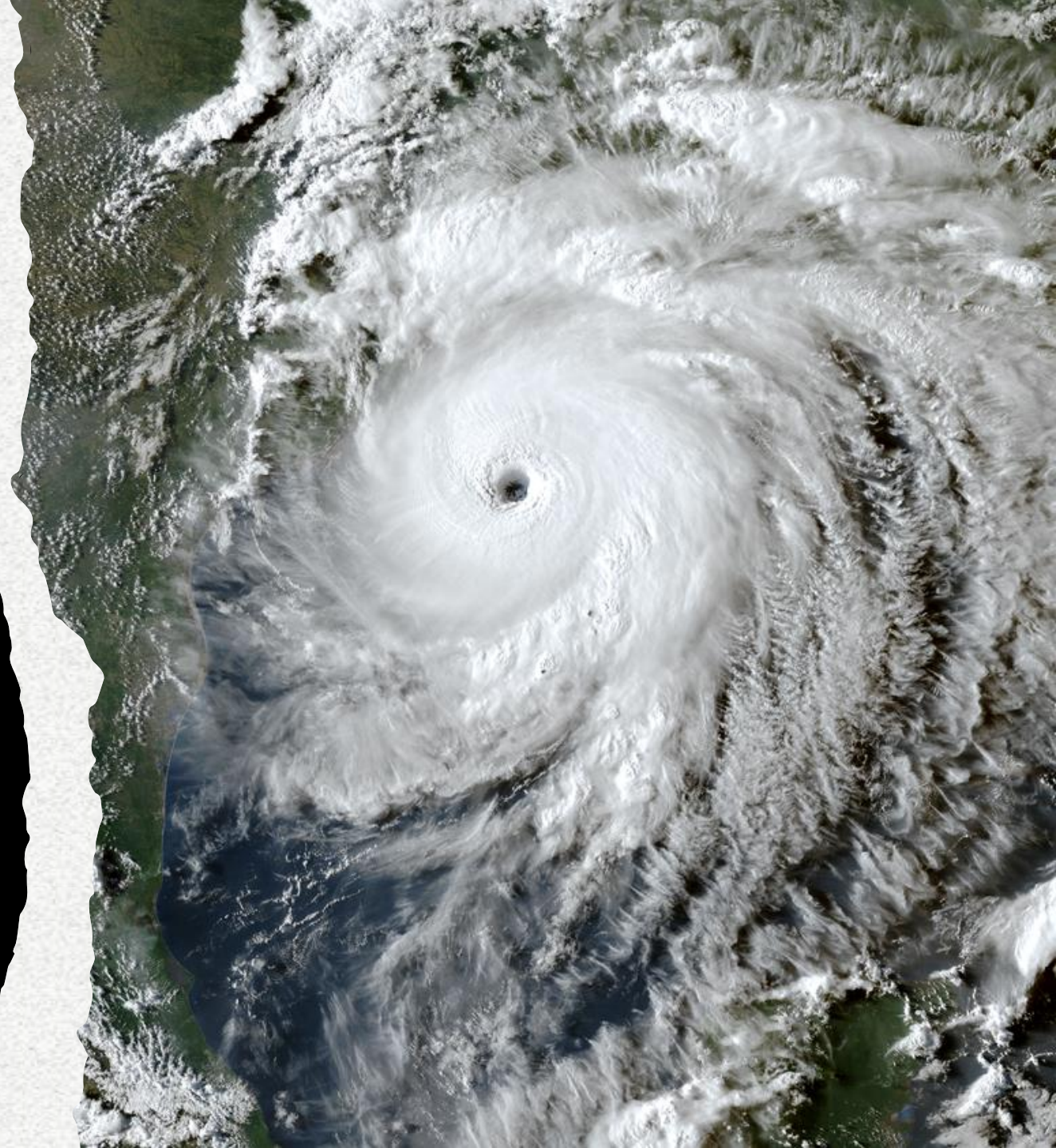
Tropical Cyclones

- 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

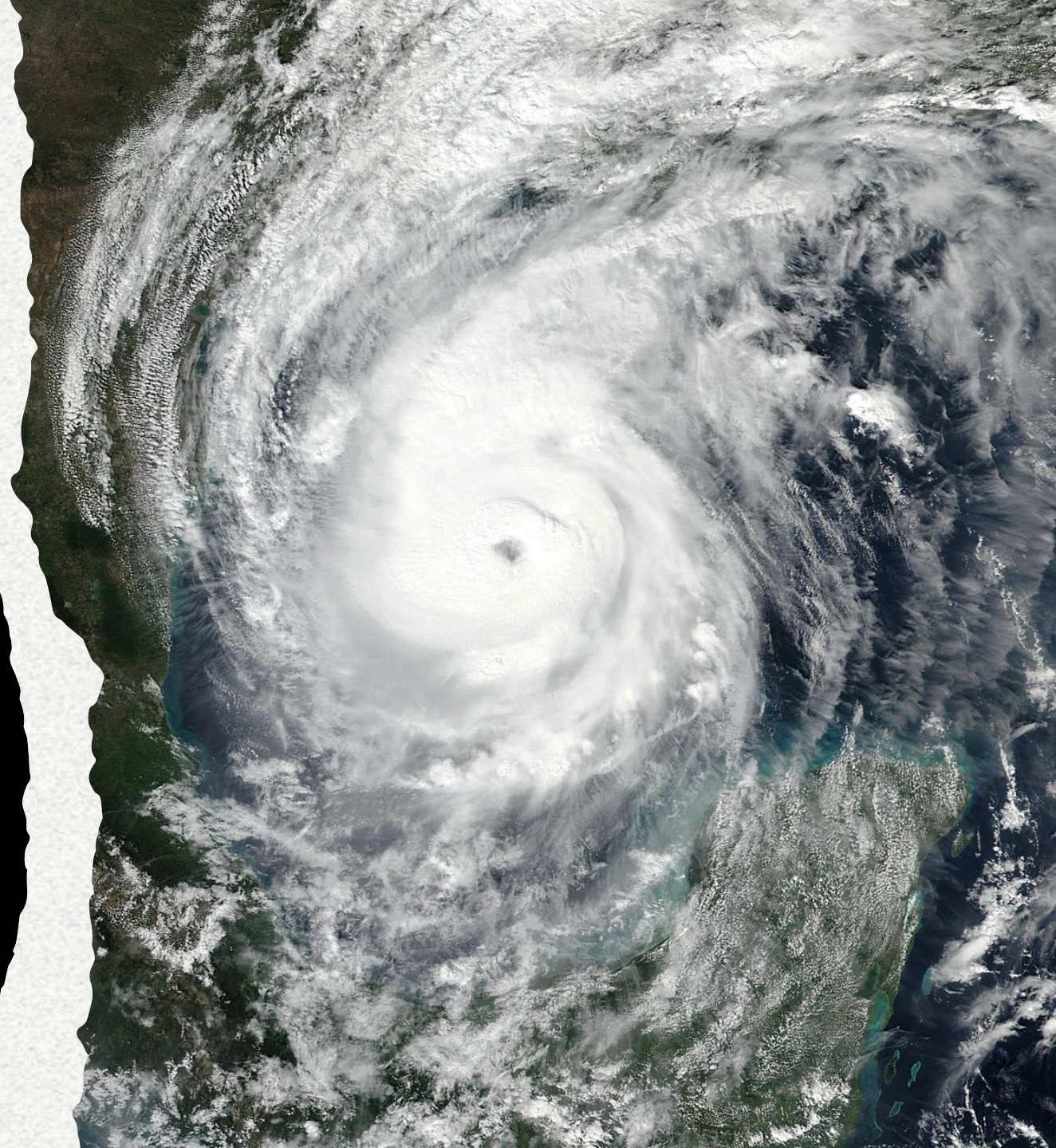
Saffir-Simpson Hurricane Wind Scale		
	Sustained Wind Speed	**Effects**
Category 1	74-95 mph (119-153 km/hr)	Very dangerous winds will produce some damage. Low-lying coastal roads flooded, minor pier damage
Category 2	96-110 mph (154-177 km/hr)	Extremely dangerous winds will cause extensive damage. Major 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.



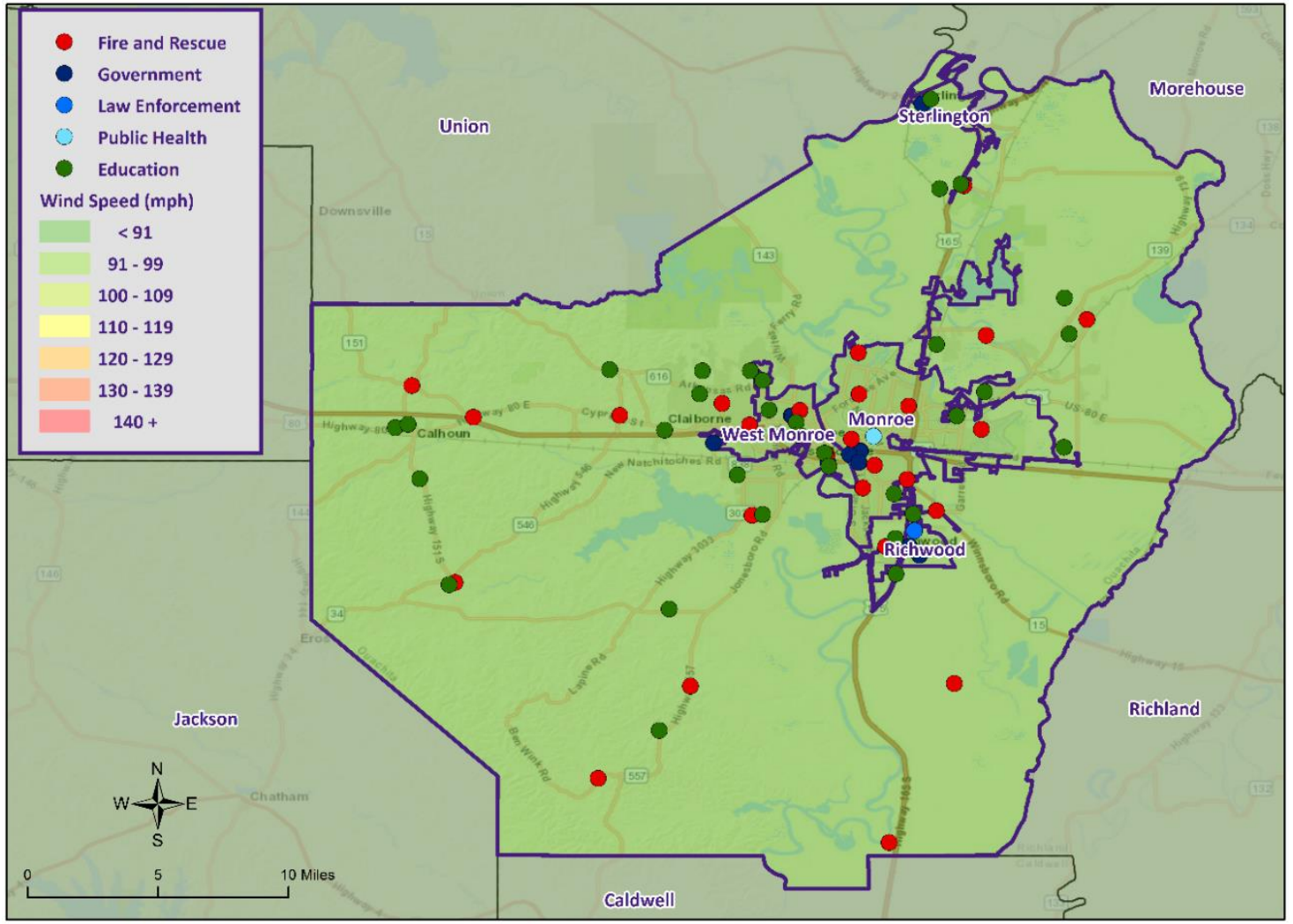
Hurricane Laura (2020)



Hurricane Delta (2020)



Wind Speed Impacts on C.I.



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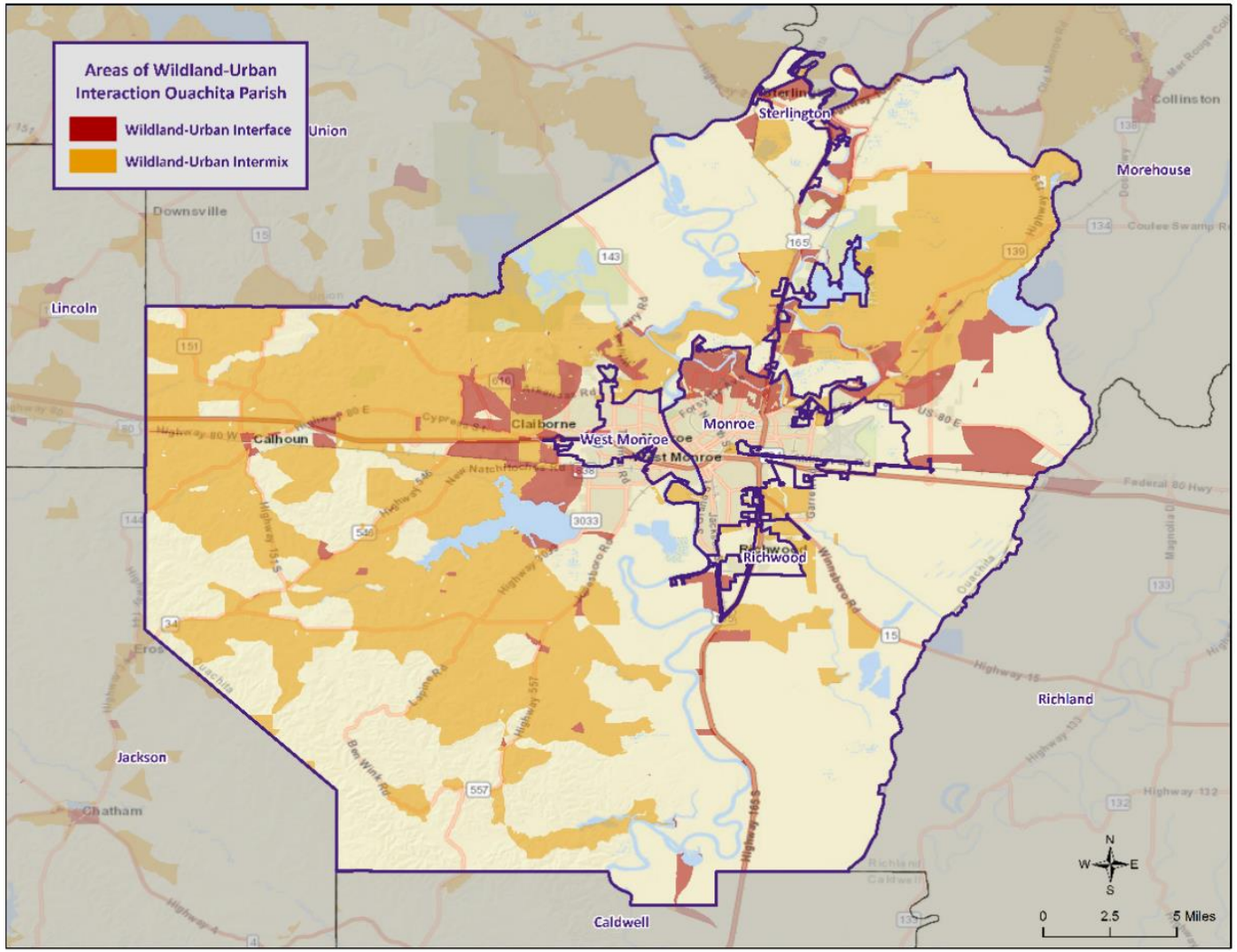
Wildfires

- A wildfire is combustion in a natural setting, marked by flames or intense heat.
- Most frequently, wildfires are ignited by lightning or unintentionally by humans. Fires set purposefully (but lawfully) are referred to as controlled fires or burns
- While loss of timber is a problem, the real hazard is when wildfires threaten developed areas. As more development moves into and next to forested areas, the hazards to people and property increases.

Wildland-Urban Interaction in Ouachita Parish



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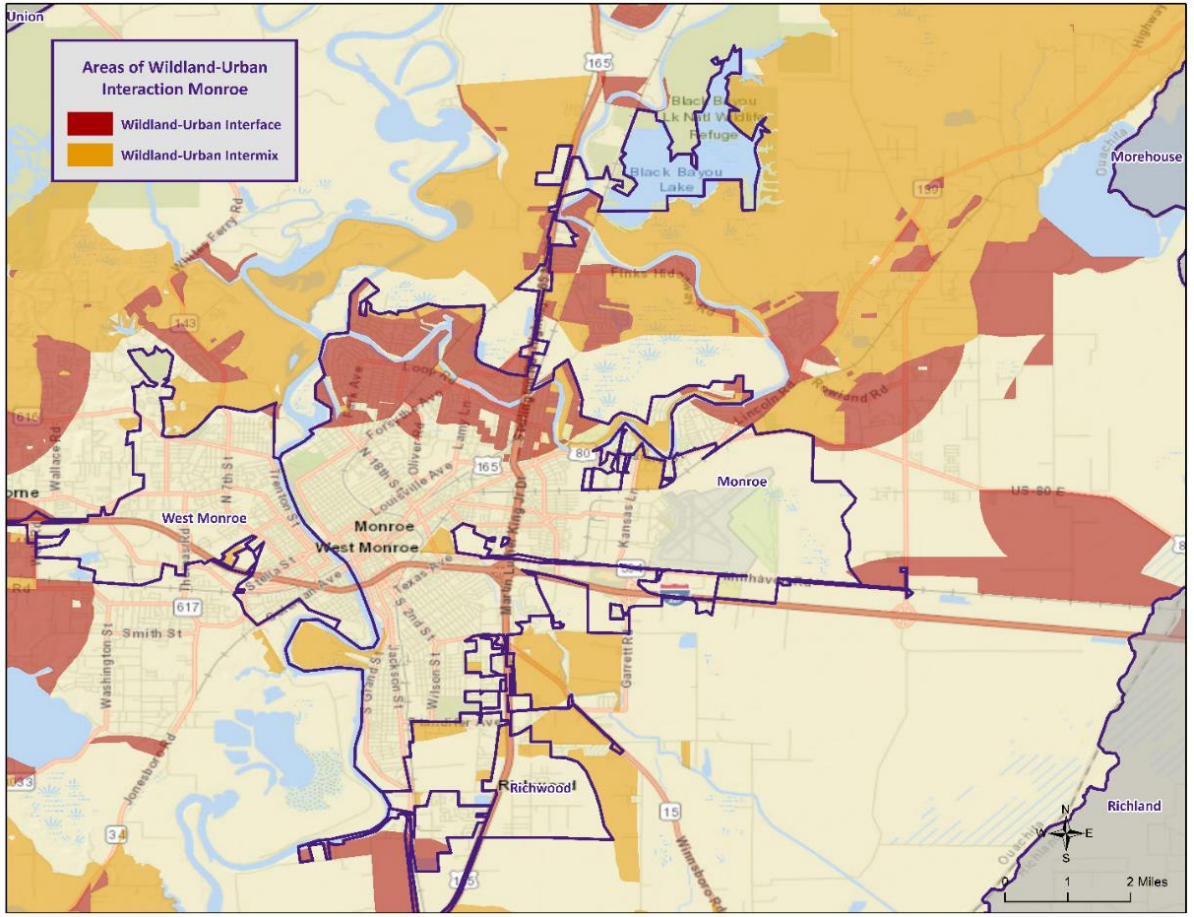
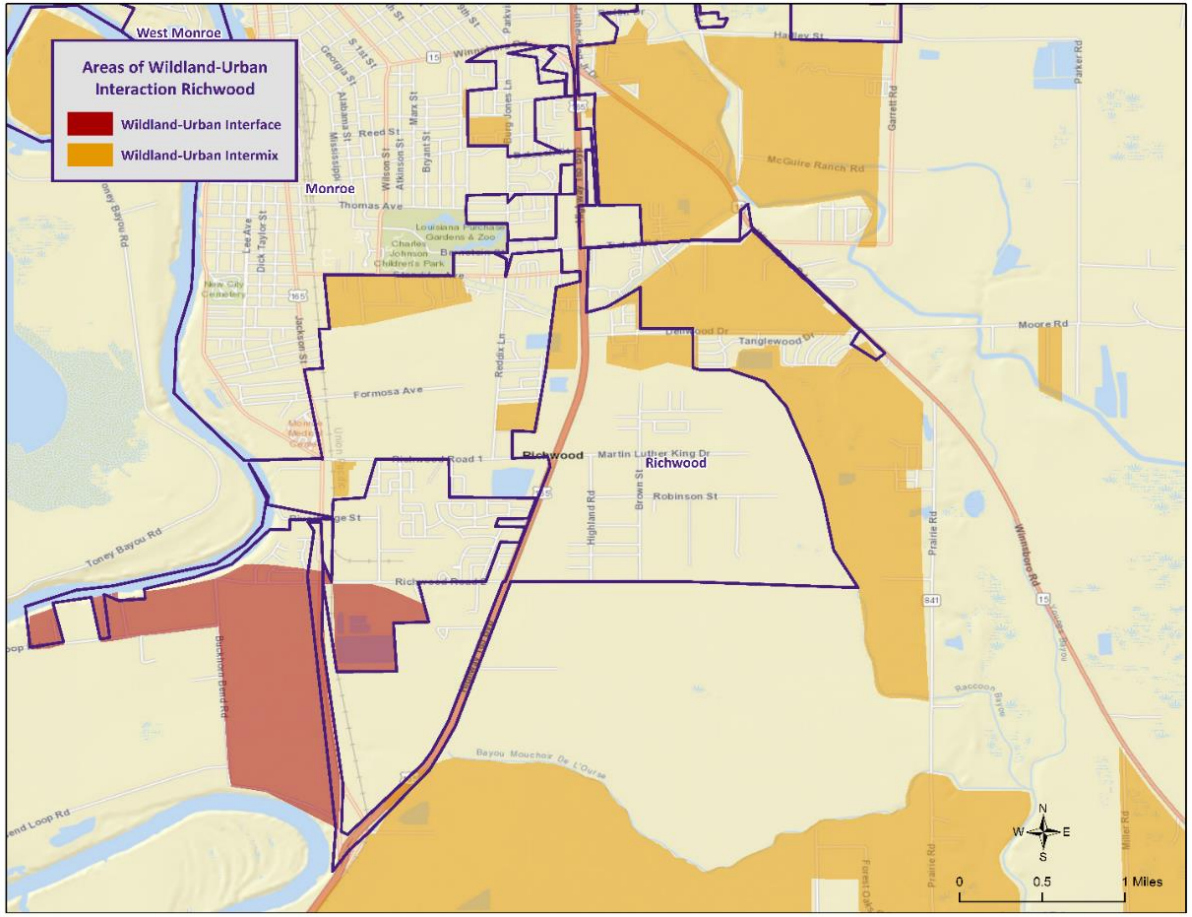
Municipal WUI Maps

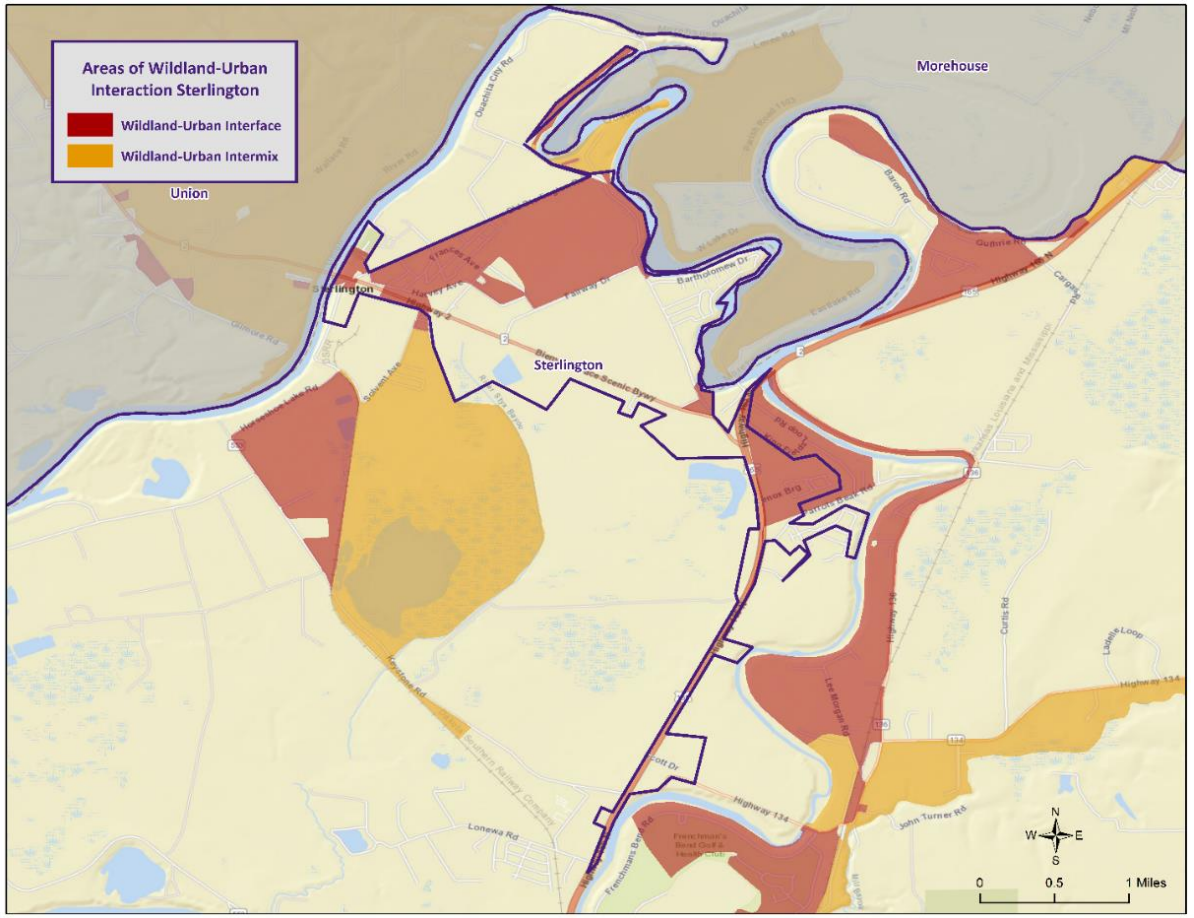


Monroe

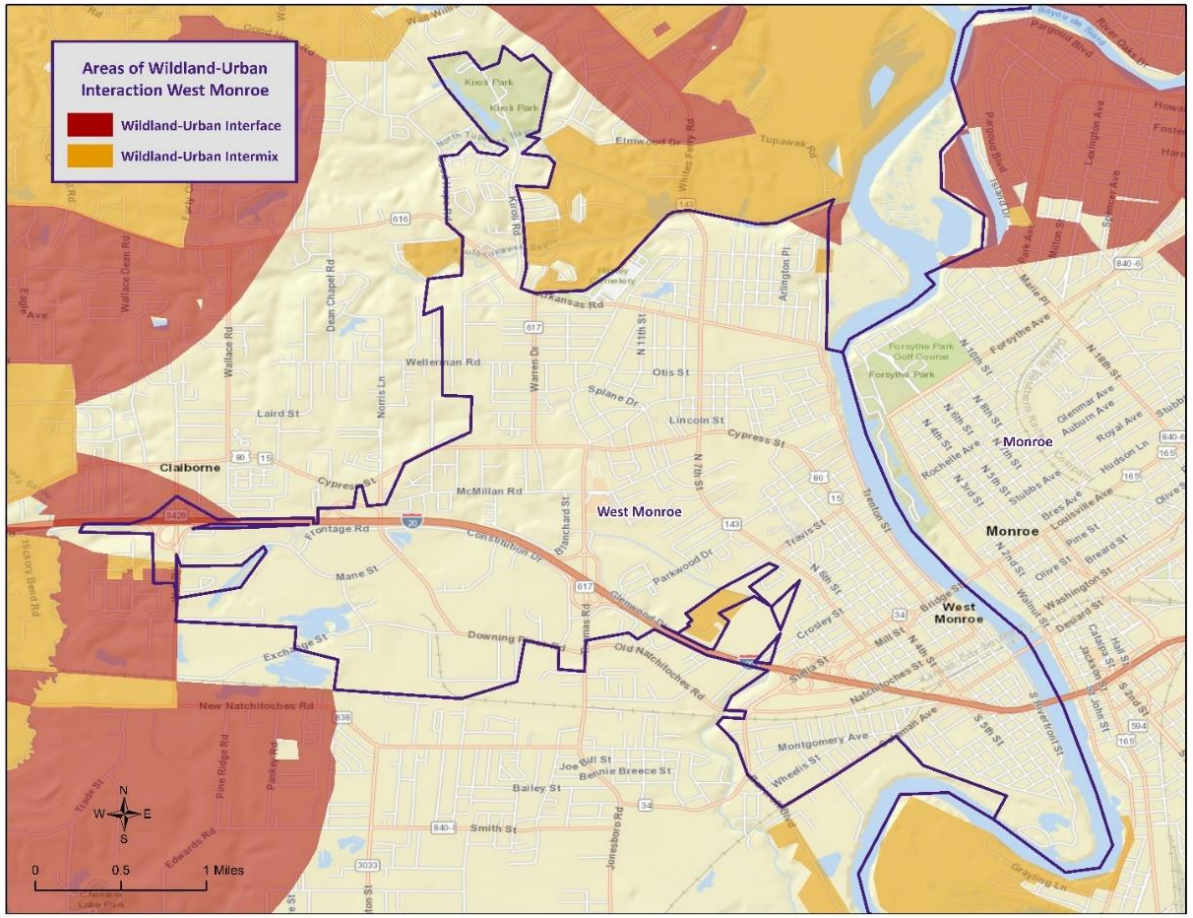


Richwood

Municipal WUI Maps



Sterlington



West Monroe

Winter Weather

- Occurs when humid air from the Gulf of Mexico meets a cold air mass from the north.
- As the temperature falls, precipitation may fall in the form of snow or sleet.
- If the ground temperature is cold enough but air temperature is above freezing, rain can freeze instantly on contact with the surface, causing massive ice storms.

Ouachita Parish Mitigation Goals

- Protect health and safety
- Protect existing properties
- Improve the quality of life in Ouachita Parish
- Ensure that public funds are used in the most efficient manner

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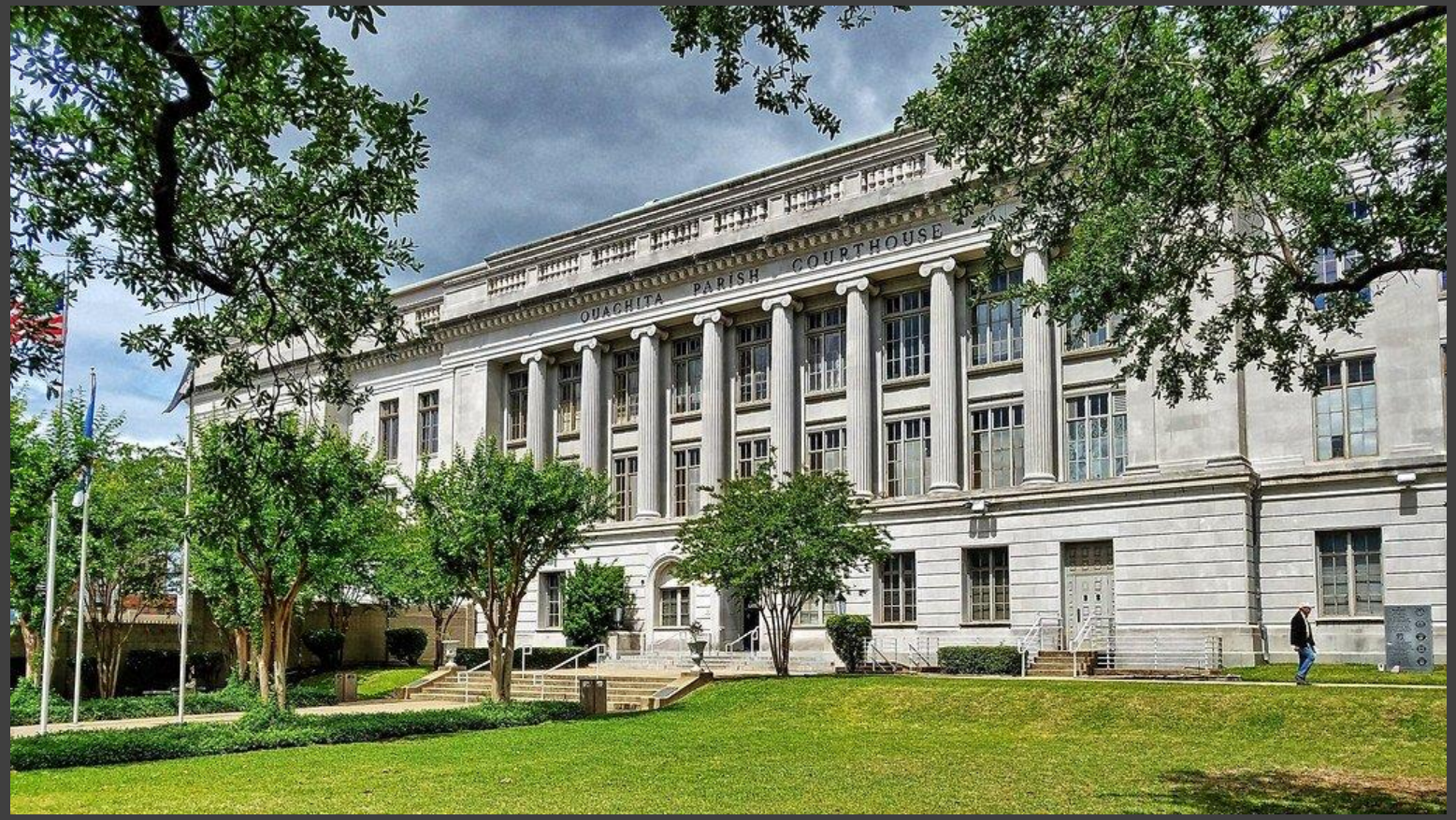


Parish Hazard Mitigation Project Update

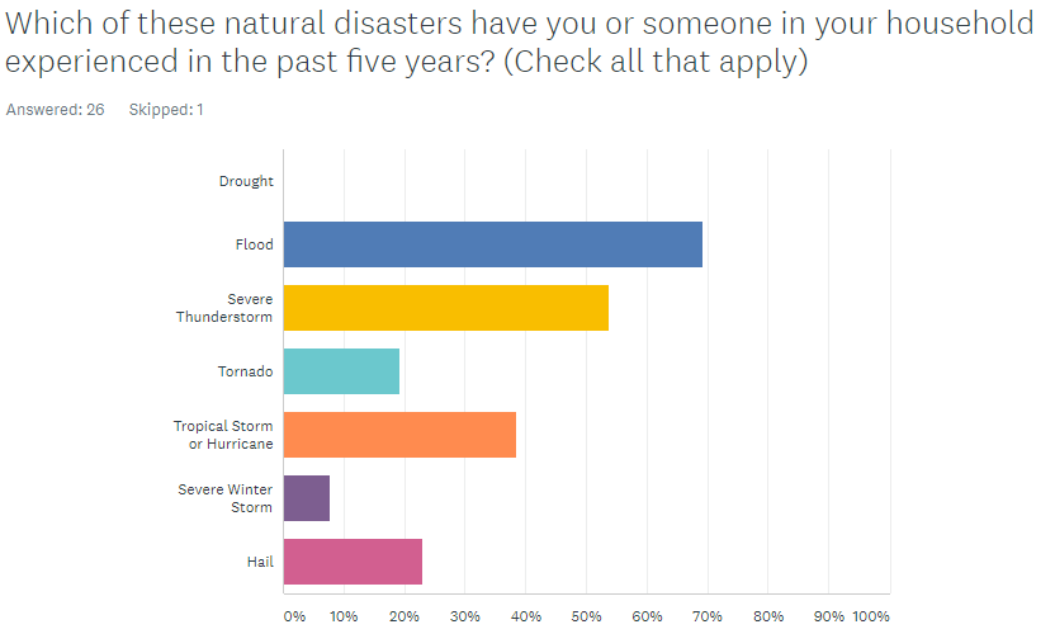
Ouachita OHSEP/

Ouachita Government Discussion

Public Outreach Activity #1

Hazard Mitigation Public Opinion Survey

https://lsu.qualtrics.com/jfe/form/SV_dmAWafEKeDhAfmC



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Public Outreach Activity #2

Please fill out an incident questionnaire!

OUACHITA PARISH PUBLIC MEETING

PUBLIC ACTIVITY: INCIDENT/ ISSUE QUESTIONNAIRE

1. HAZARD TYPE(S):

A. DROUGHT
B. EXCESSIVE HEAT
C. FLOODING
D. LEVEE FAILURE
E. THUNDERSTORMS
F. TORNADOES
G. TROPICAL CYCLONES
H. WILDFIRES
I. WINTER WEATHER

2. DESCRIBE INCIDENT OR ISSUE:

3. LOCATION:

A. CITY:

B. ADDRESS OR AREA:

4. INTENSITY:

A. DEPTH (FLOODING) OR SIZE (HAIL ETC.):

B. WIND STRENGTH

5. RECURRING OR ONE TIME:

A. IF RECURRING, HOW OFTEN:

6. WHAT TYPE OF INTERRUPTIONS DOES/DIDTHE INCIDENT OR ISSUE CAUSE? (BUSINESS CLOSURE,DAMAGE, EVACUATION, ETC.)

7. HOW LONG WAS THE INTERRUPTION (HOURS, DAYS, WEEKS ETC.)

8. HOW COULD THIS HAZARD OR IMPACT BE PREVENTED, FIXED OR ALLEVIATED?

PREPAREDNESS RESPONSE MITIGATION RECOVERY
HOMELAND SECURITY EMERGENCY PREPAREDNESS
OUACHITA PARISH

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SDMI Hazard Mitigation Website

- Repository for materials used during update process
- https://hmplans.sdmi.lsu.edu/Home/Parish/ouachita

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