



Jefferson Davis Parish Hazard Mitigation Plan Update Public Meeting

March 2, 2023

Jennings, LA

Introductions

- **Jefferson Davis 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

Agenda



Introductions



**Hazard Mitigation
Overview**



Planning Process

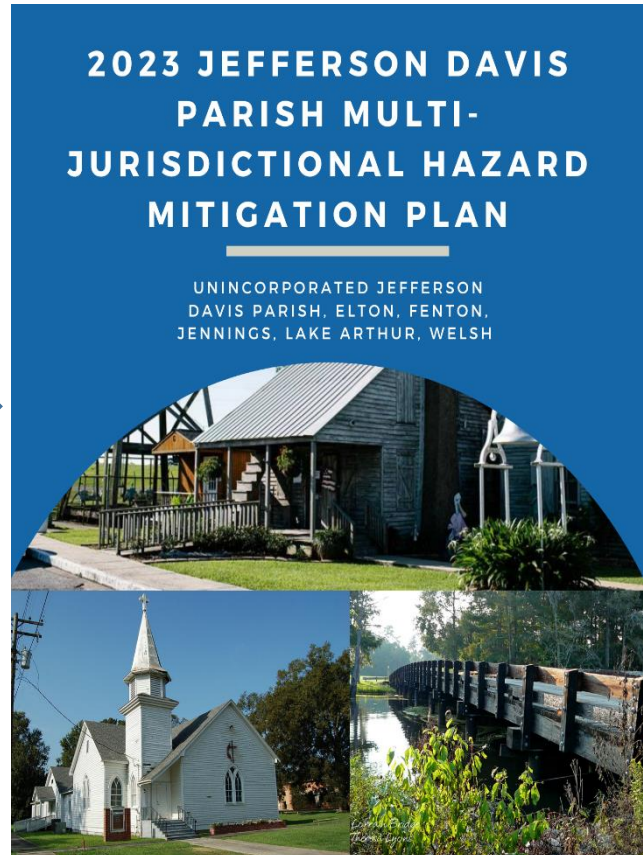


**Risk Assessment
Maps**



**Public Outreach
Activities**

Why Are We Here?



Hazard Mitigation Is....

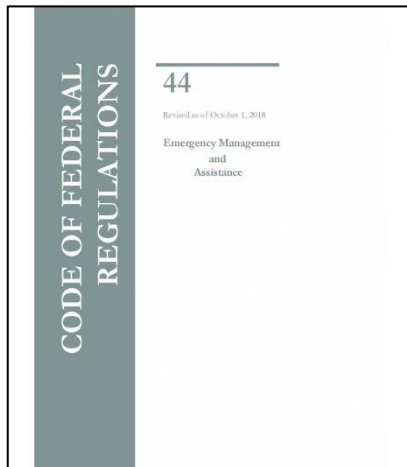
- Any action taken to reduce long term risk to life and property;
- On-going process that occurs before, during, and after disasters;
- Mitigation actions help prevent damage to a community's infrastructure, economic, cultural and environmental assets;
- Minimize operational downtime and accelerate recovery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

Why Are We Required To Have A Hazard Mitigation Plan?

- Disaster Mitigation Act of 2000 (DMA 2000)

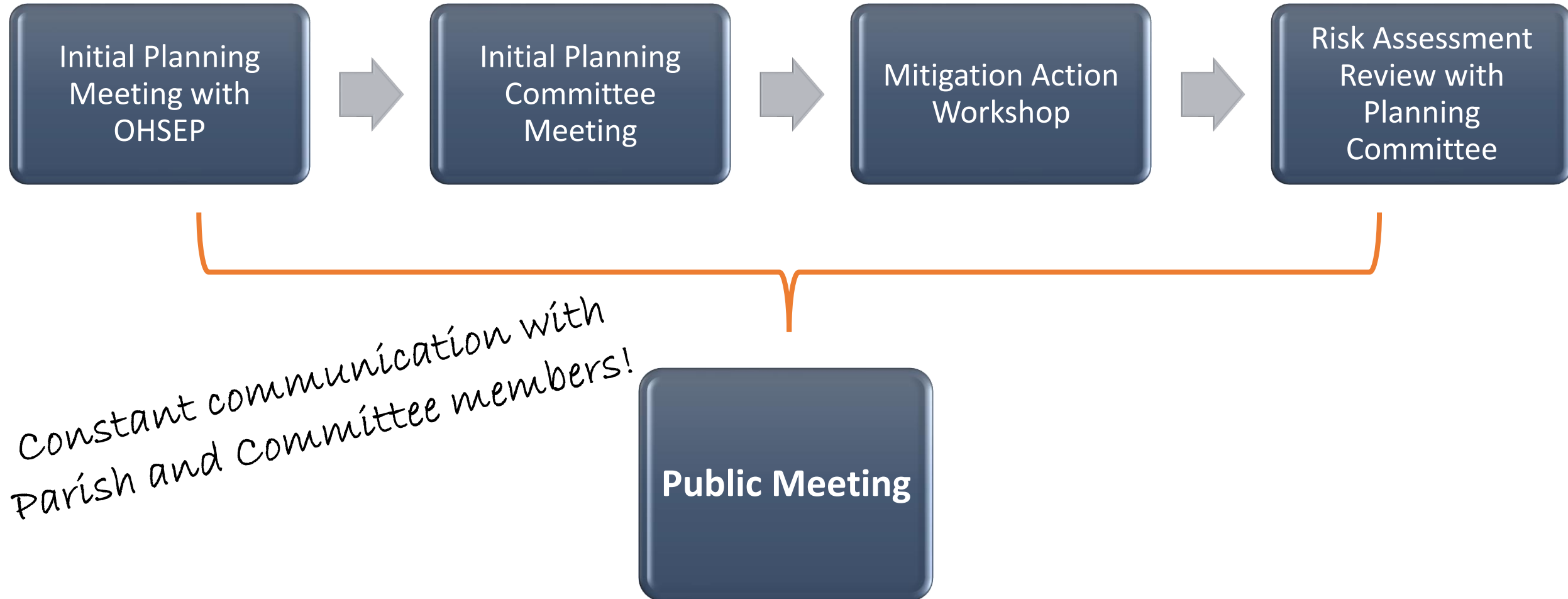
Section 322 of the Act specifically addresses mitigation planning and requires state and local governments to prepare multi-hazard migration plans as a precondition for receiving FEMA mitigation project grants.

- 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.

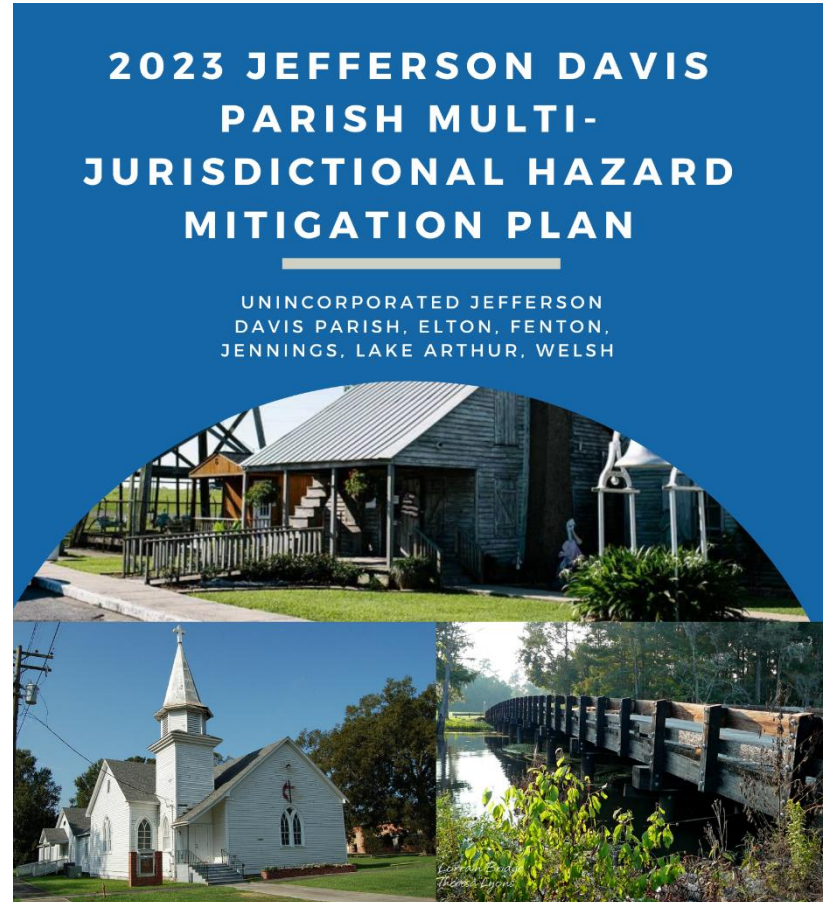


- The approved Jefferson Davis Parish Hazard Mitigation Plan will allow for distribution of HM funding following future disasters.

Planning Process to Date



Planning Development



Plan Layout

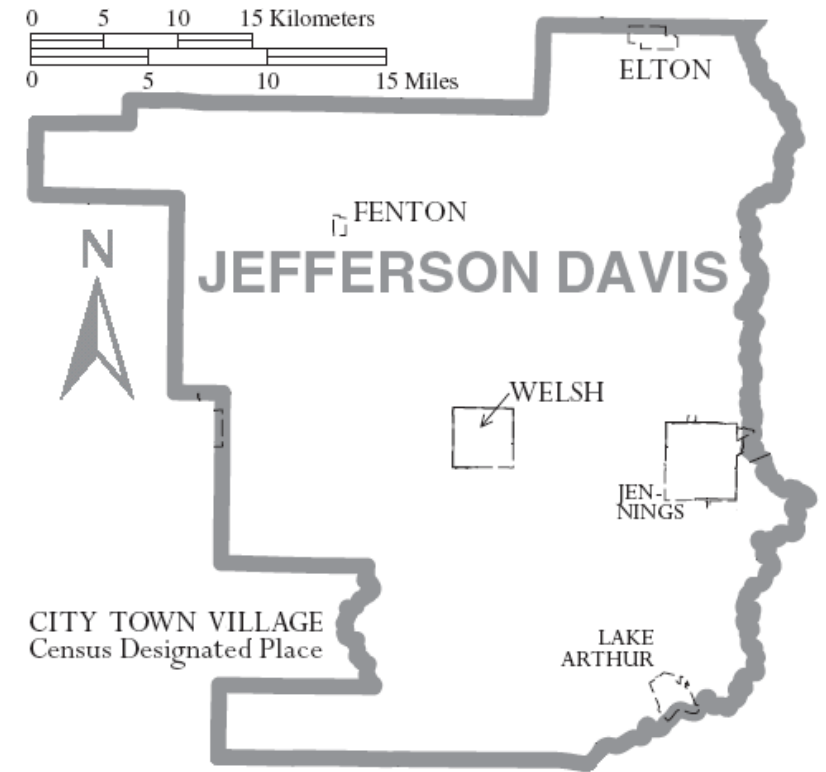
- **Section 1: Introduction**
 - Updated Parish Description
 - Updated Demographics
 - Economics
- **Section 2: Hazard Identification and Parish-wide Risk Assessment**
- **Section 3: Capability Assessment**
- **Section 4: Mitigation Strategies**
 - Action Updates
 - New Actions
 - Survey Results

Plan Layout

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

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

Section 2: Hazard Identification and Risk Assessment

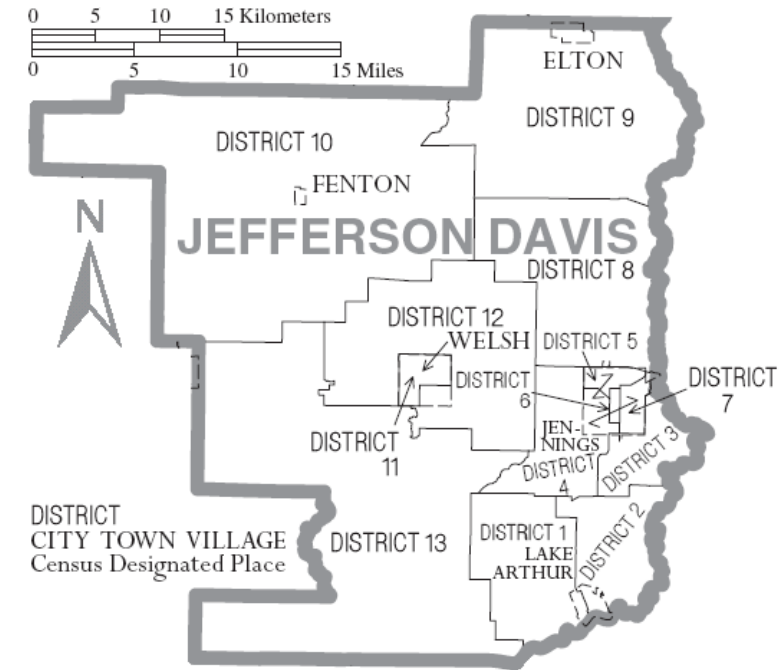
- Drought
- Flooding
- Levee Failure
- Thunderstorms
- Tornadoes
- Tropical Cyclones
- Wildfires
- Winter Weather



Risk Matrix for Jefferson Davis Parish

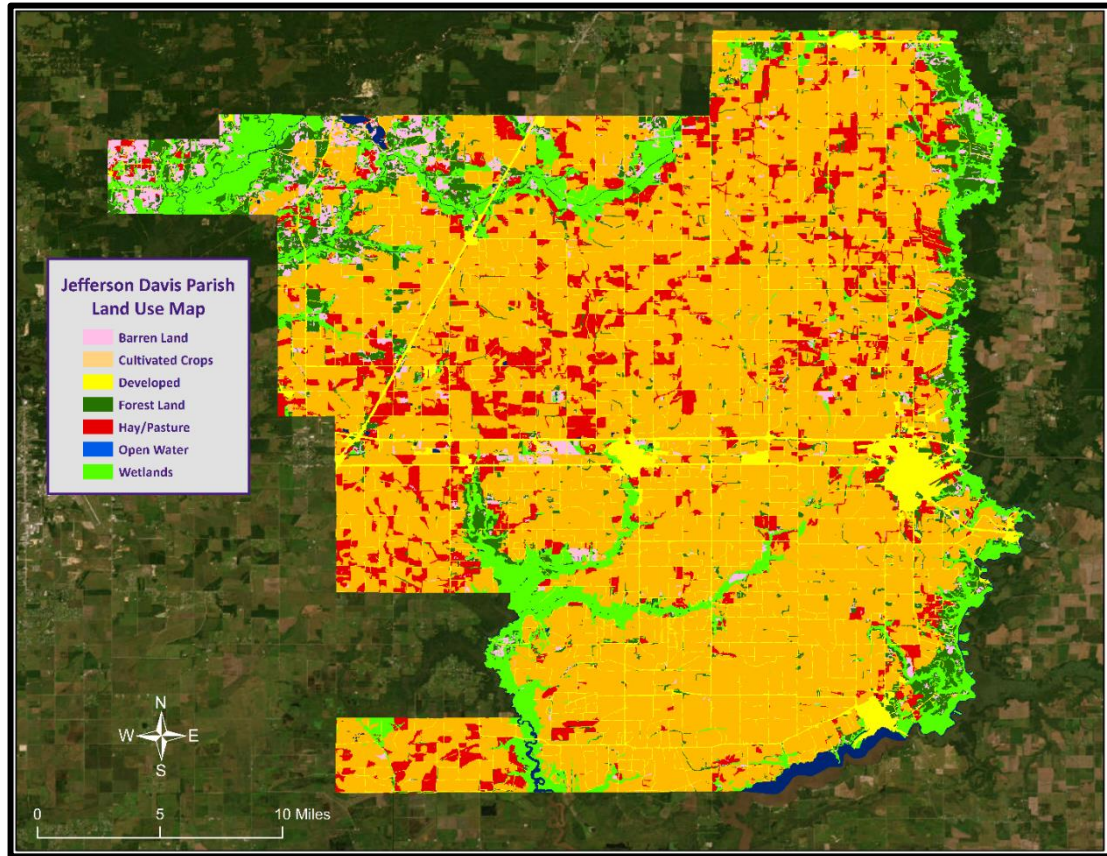
Hazard	Probability	Impact	Spatial Extent	Warning Time	Duration	Overall Risk
Drought	3	2	4	2	3	2.8
Flooding	3	4	3	4	3	3.4
Levee Failure	1	2	2	4	3	2.2
Thunderstorms - Hail	4	2	3	3	1	2.7
Thunderstorms - Lightning	1	2	2	3	1	1.75
Thunderstorms - Wind	4	2	3	3	1	2.7
Tornadoes	3	3	2	4	3	2.95
Tropical Cyclones	3	4	4	1	4	3.3
Wildfires	1	3	4	1	2	2.25
Winter Storms	3	3	4	1	3	2.9

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



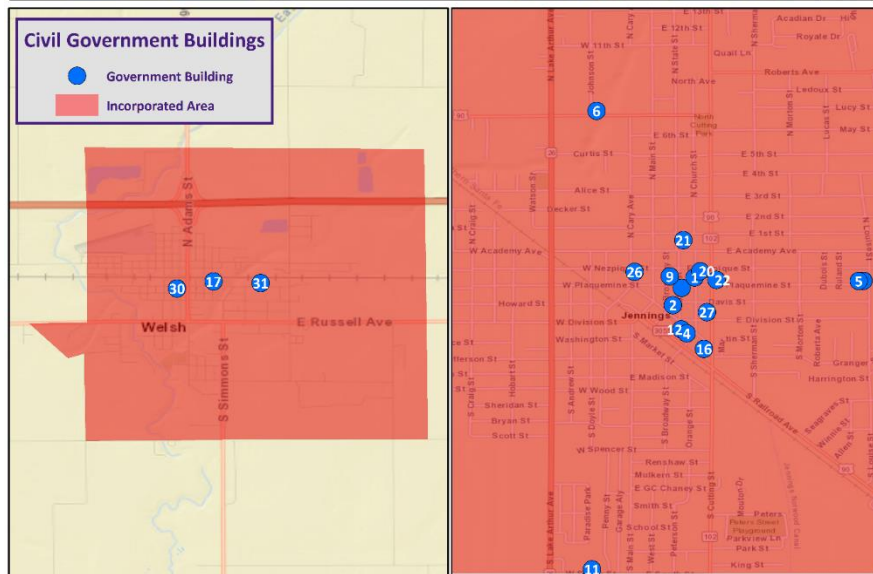
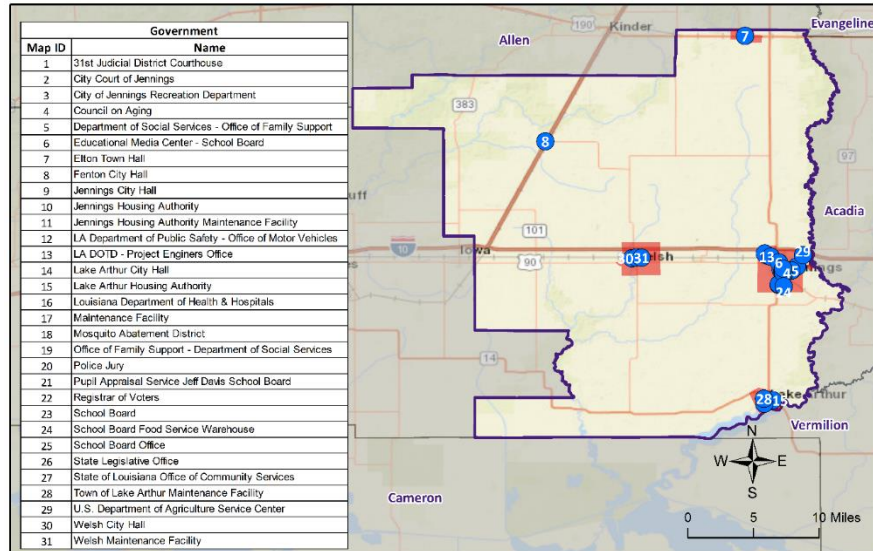
Risk Assessment Maps

Jefferson Davis Parish Land Use

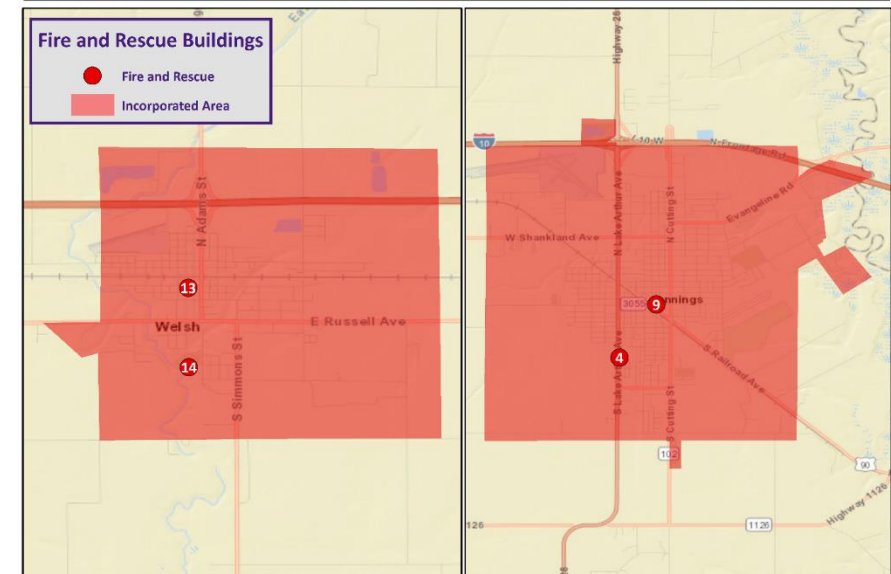
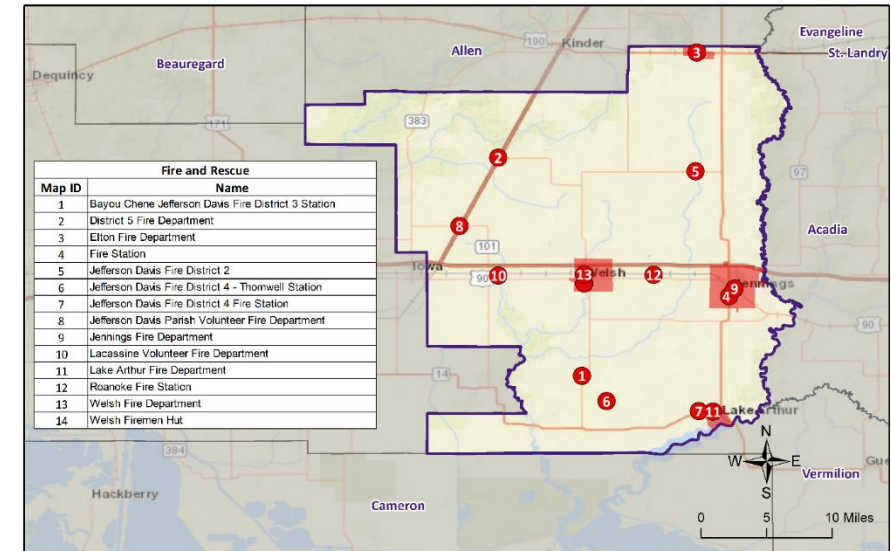


Land Use	Acres	Percentage
Agricultural Land, Cropland, and Pasture	313,111	74%
Wetlands	45,354	11%
Forest Land (Not including forested wetlands)	25,974	6%
Urban/Development	32,812	8%
Water	4,156	1%

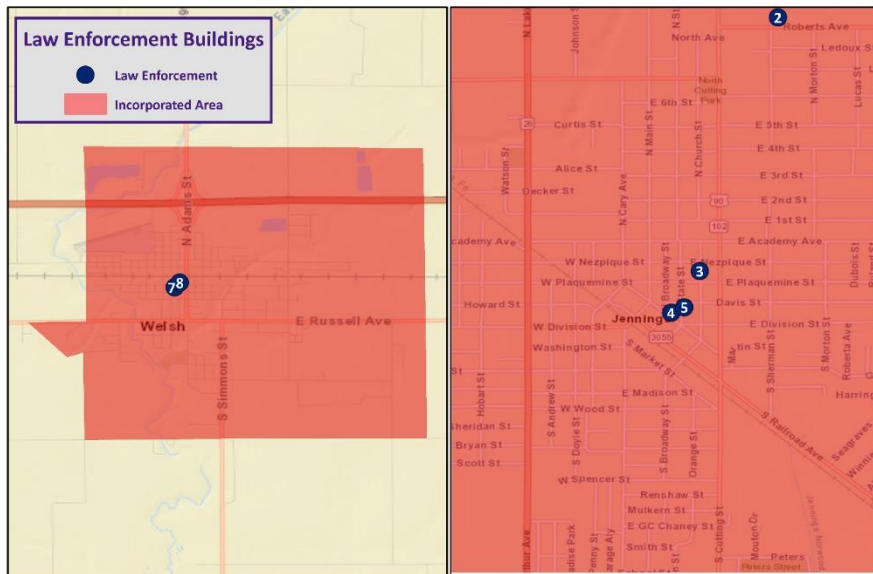
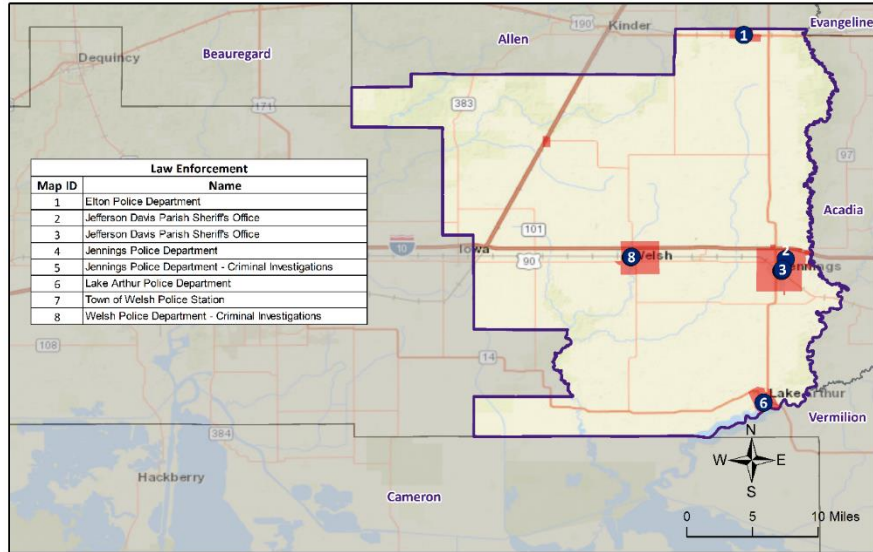
Critical Facilities: Civil Government



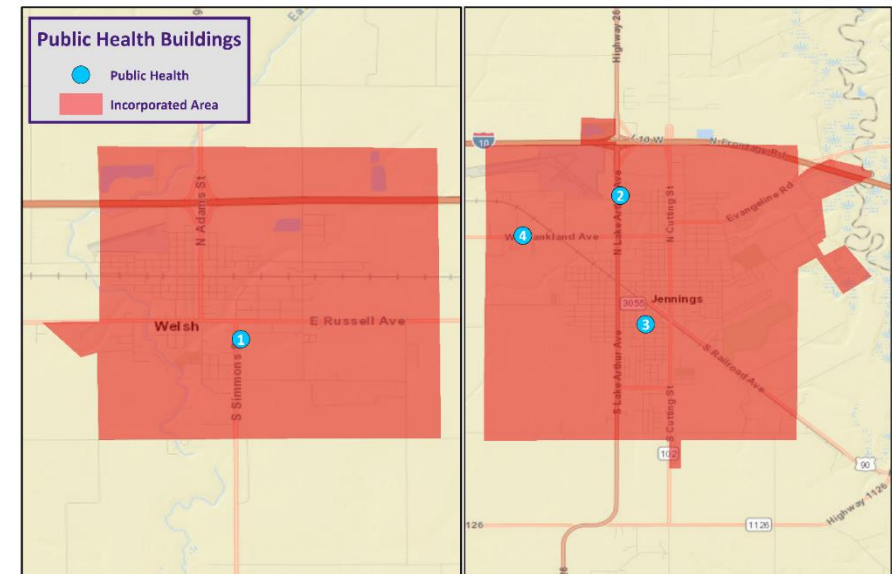
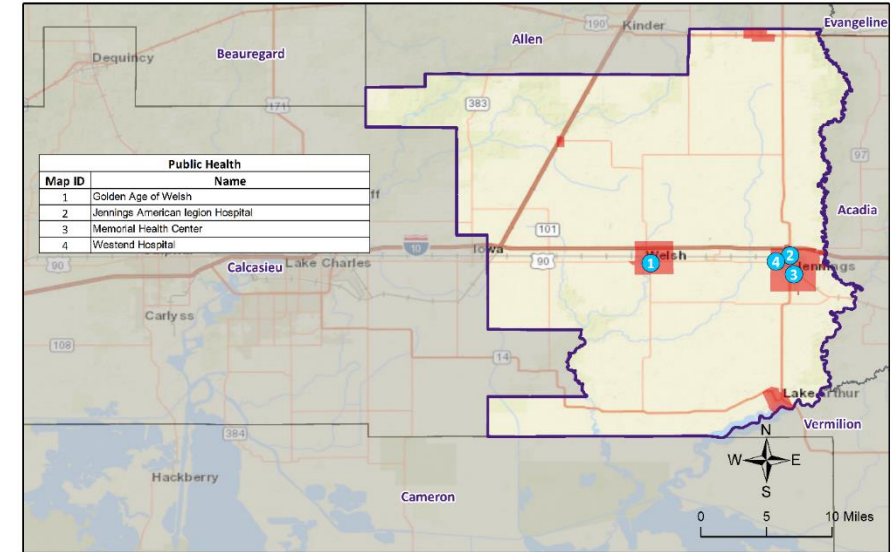
Critical Facilities: Fire & SAR



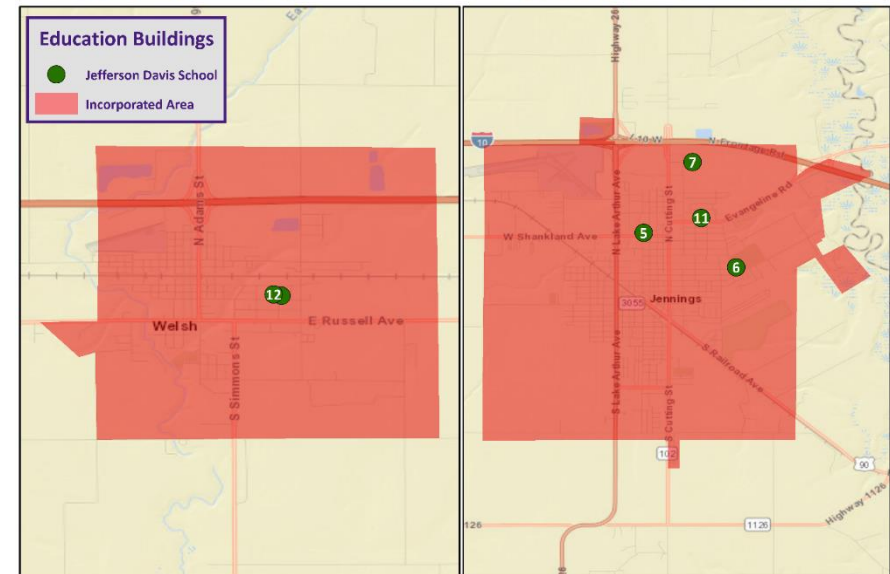
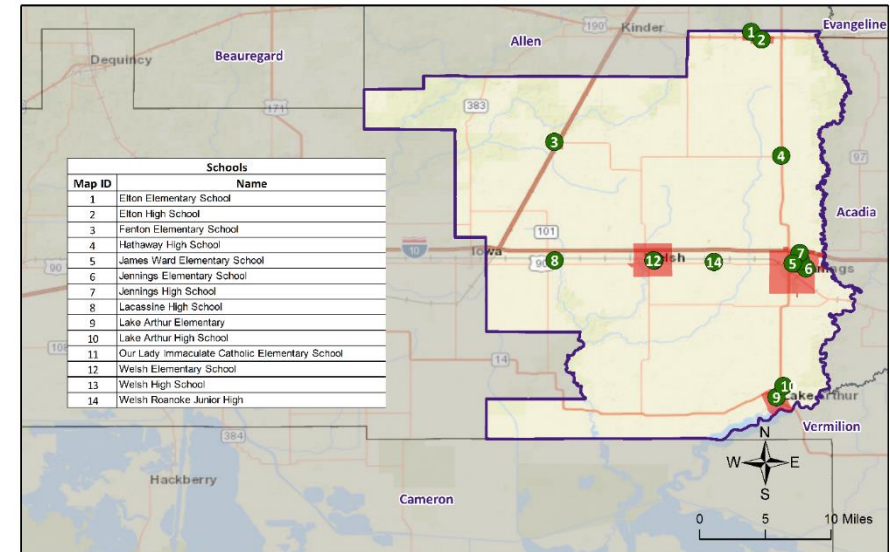
Critical Facilities: Law Enforcement



Critical Facilities: Public Health



Critical Facilities: Education



Drought

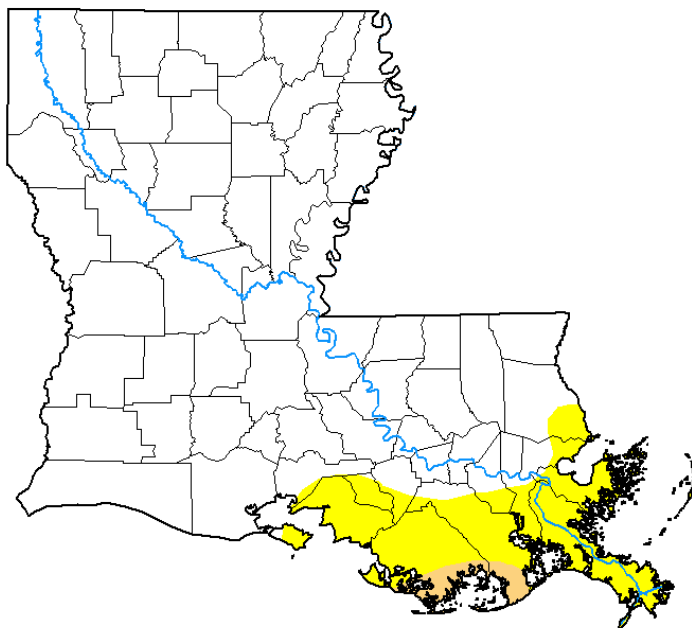


- A drought is a deficiency in water availability over an extended period of time, caused by precipitation totals and soil water storages that do not satisfy the environmental demand for water either by evaporation or transpiration through plant leaves.
- There are four classes of drought:
 - ✓ Meteorological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

U.S. Drought Monitor Louisiana

February 21, 2023
(Released Thursday, Feb. 23, 2023)
Valid 7 a.m. EST



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

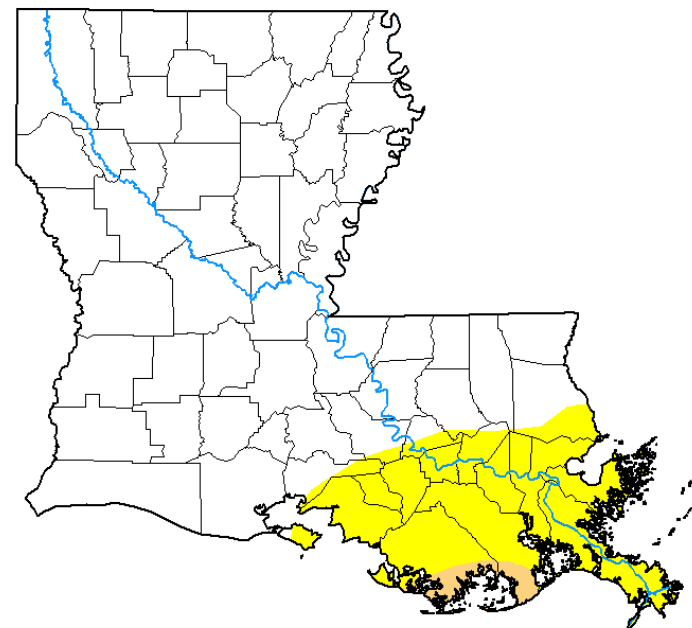
Richard Heim
NCEI/NOAA



droughtmonitor.unl.edu

U.S. Drought Monitor Louisiana

February 28, 2023
(Released Thursday, Mar. 2, 2023)
Valid 7 a.m. EST



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

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NCEI/NOAA



droughtmonitor.unl.edu

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.”

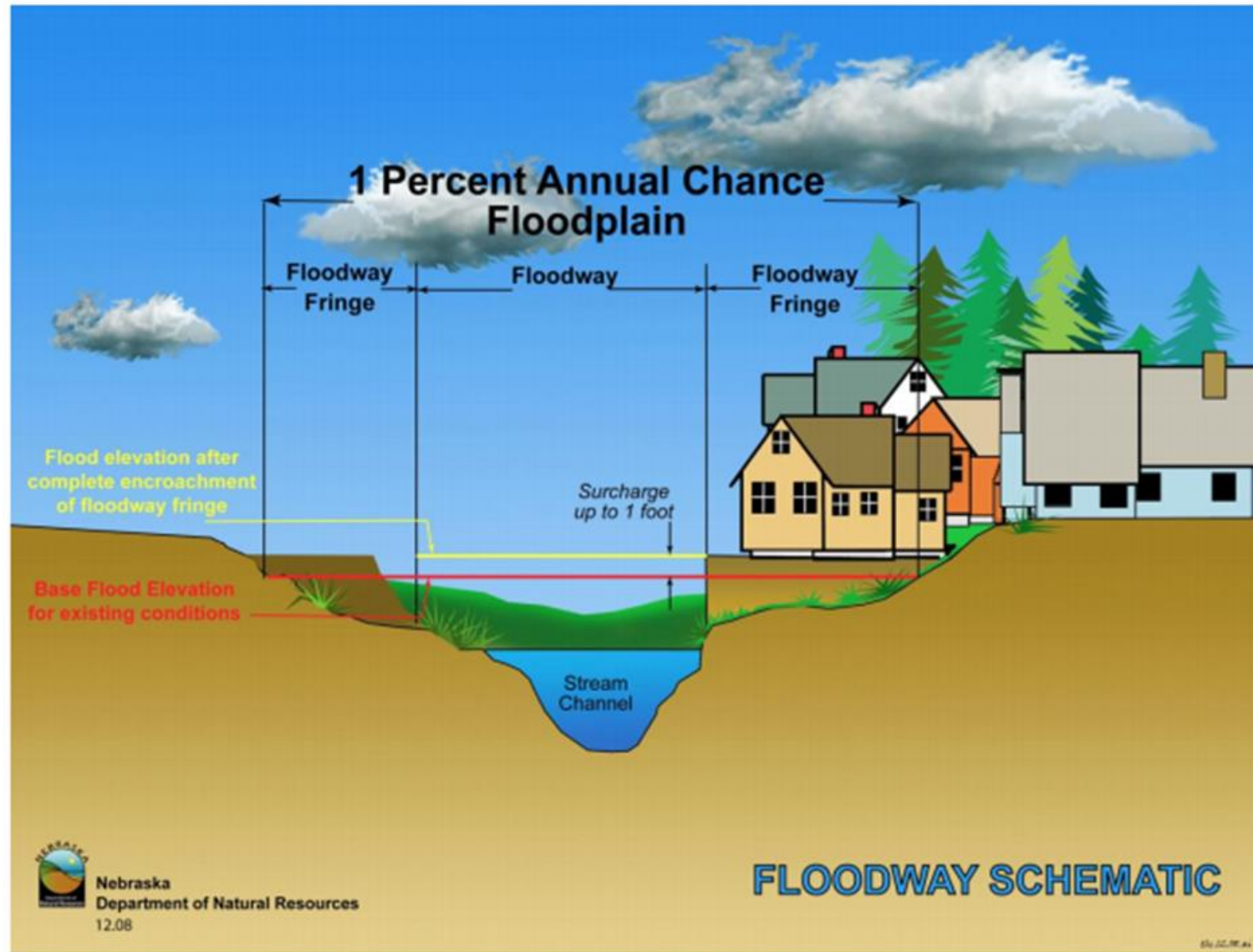


Flooding

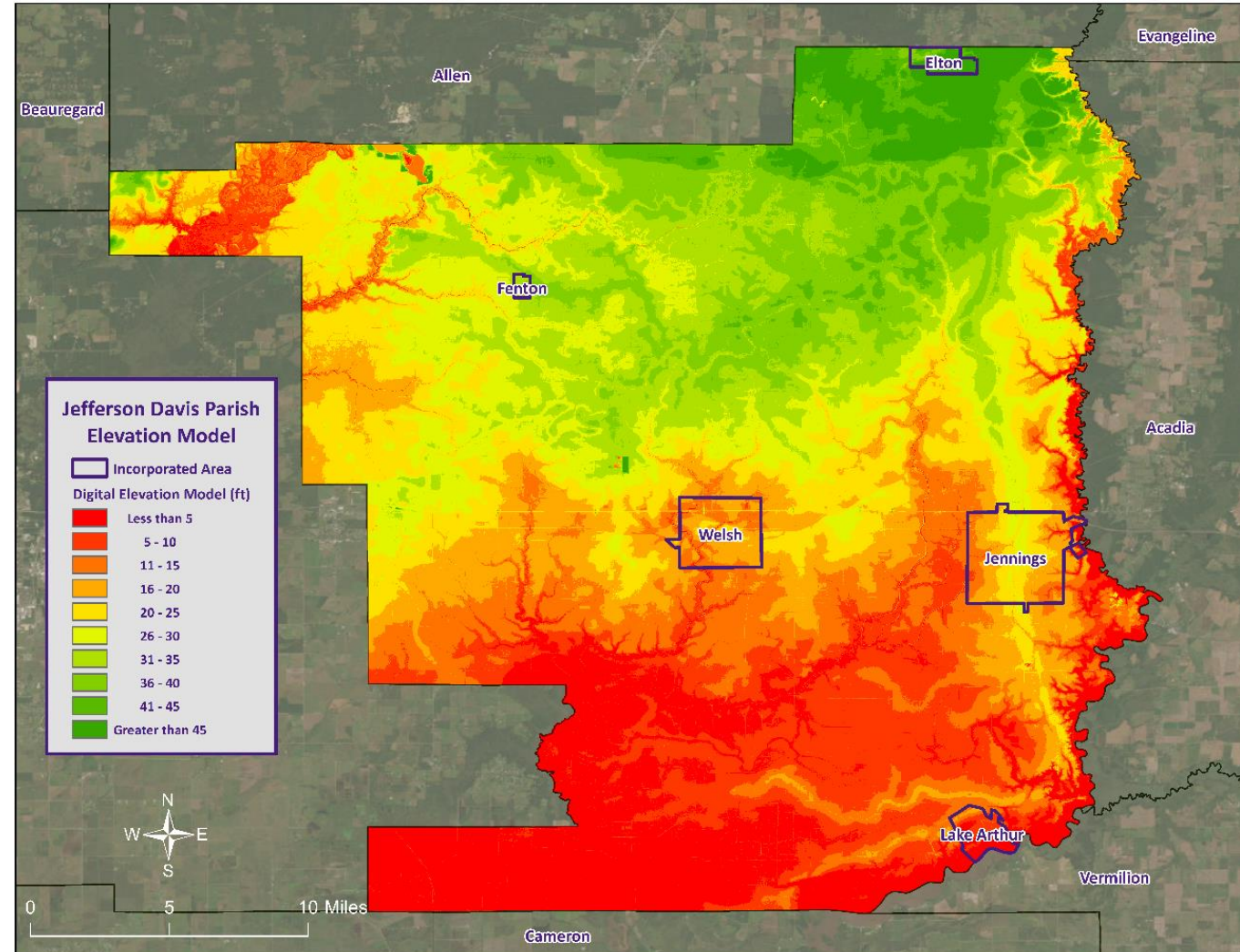
In Louisiana, six specific types of flooding are of main concern:

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

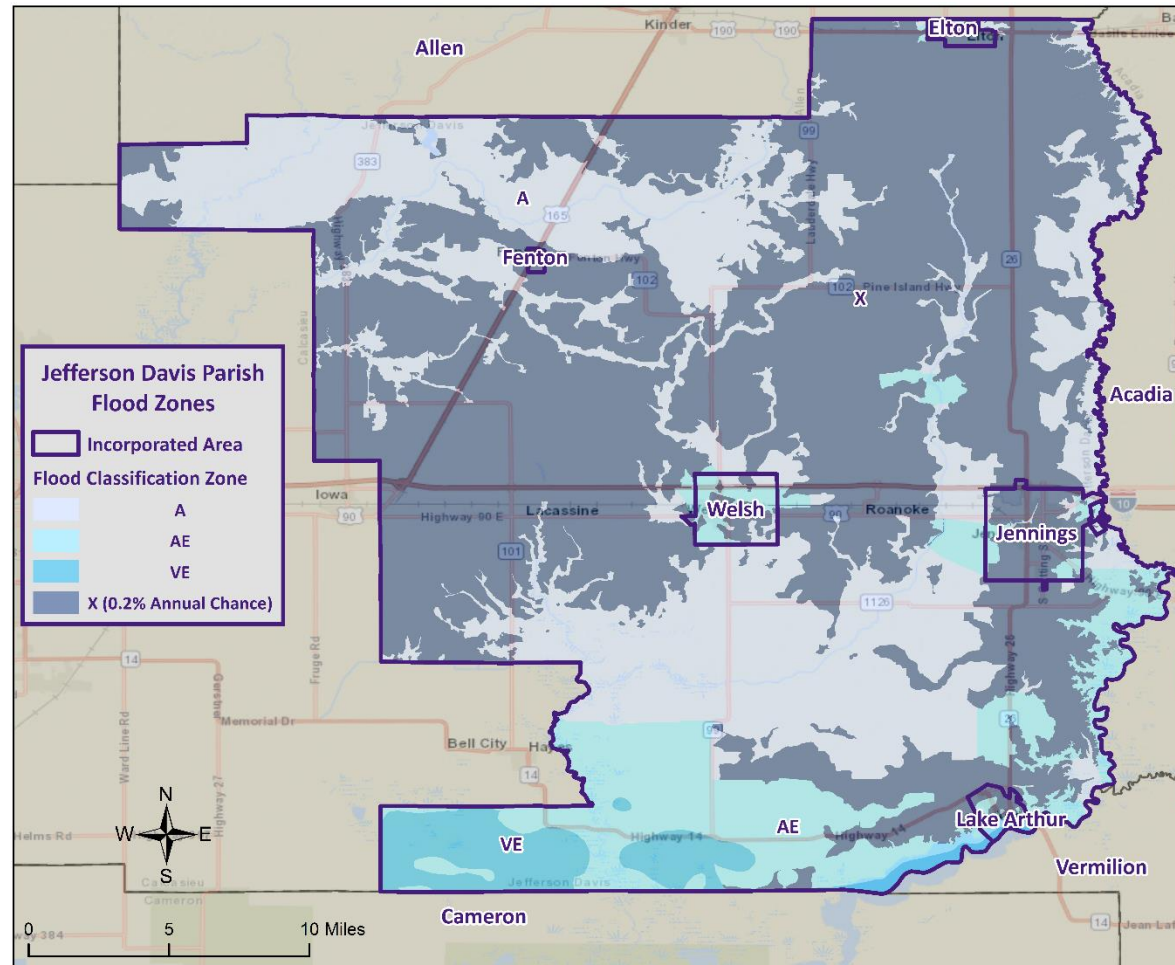
Floodway Diagram



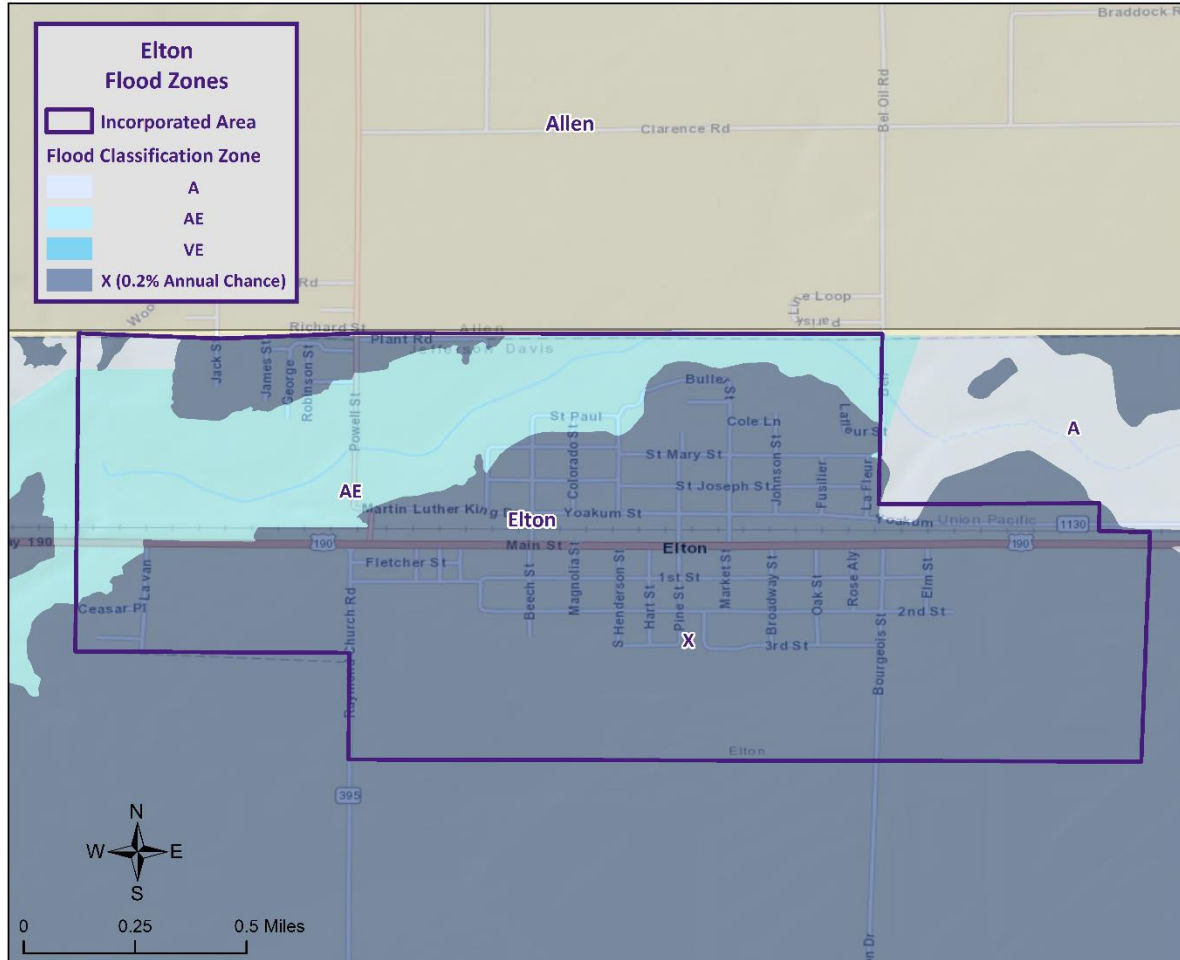
Digital Elevation Model



Jefferson Davis Parish Flood Map



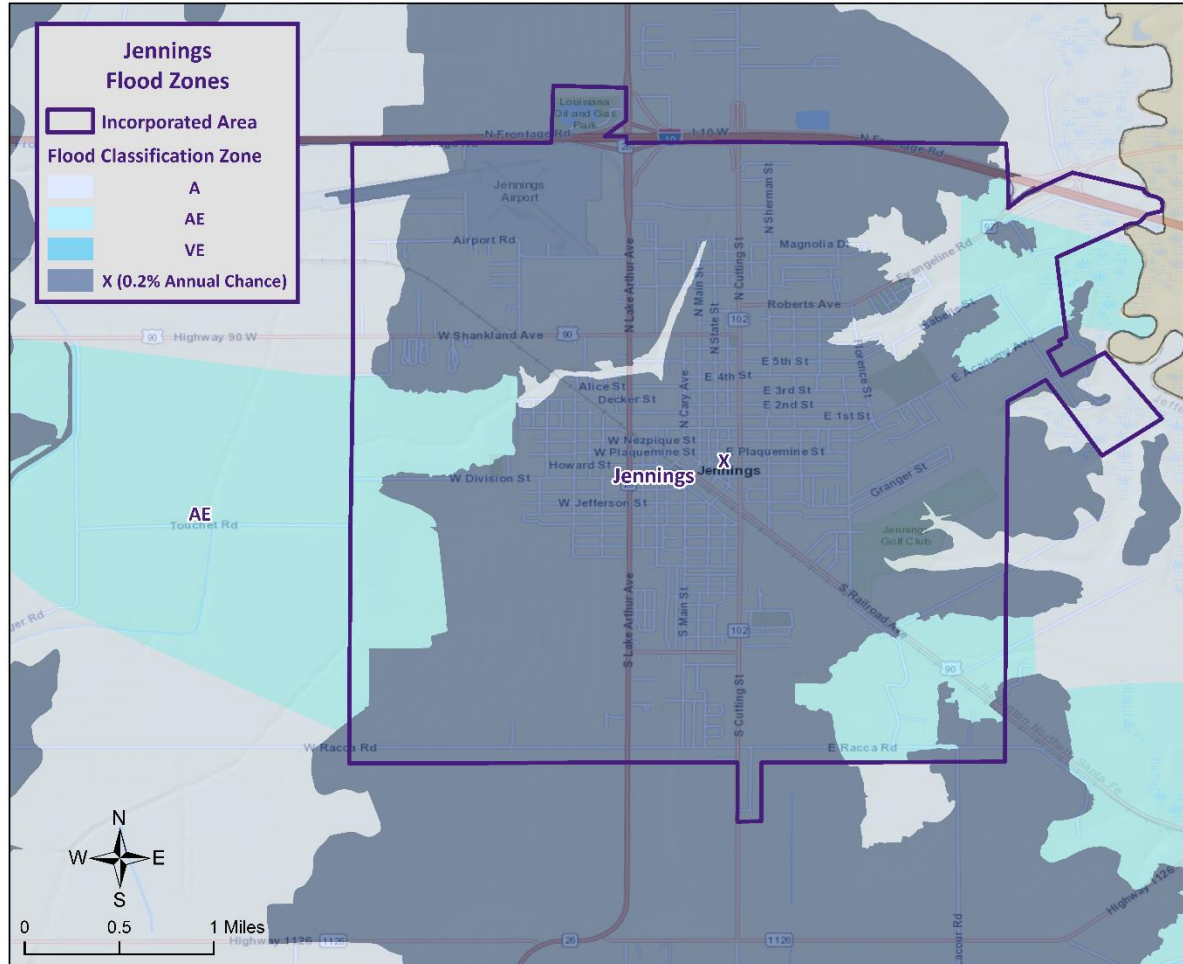
Flood Map: Elton



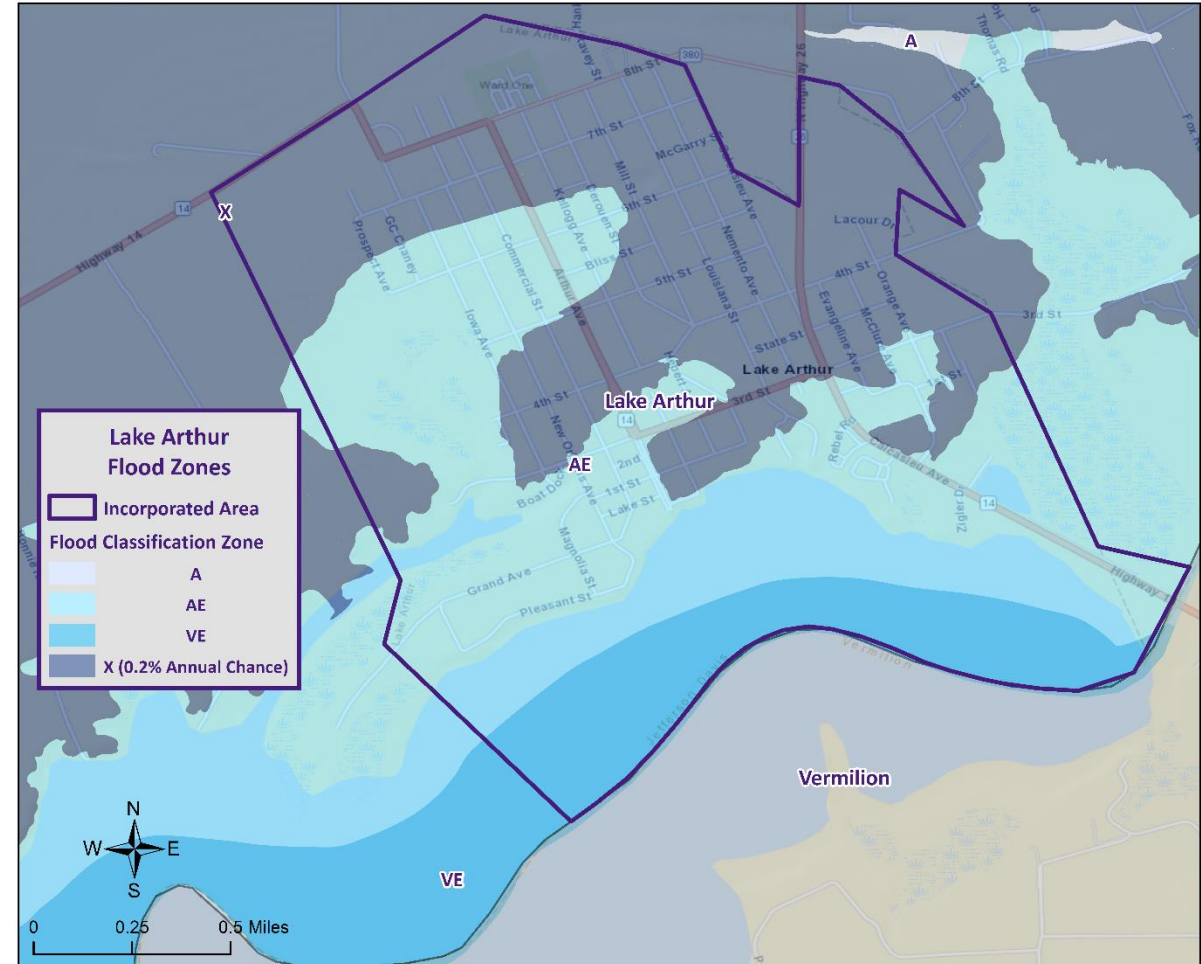
Flood Map: Fenton



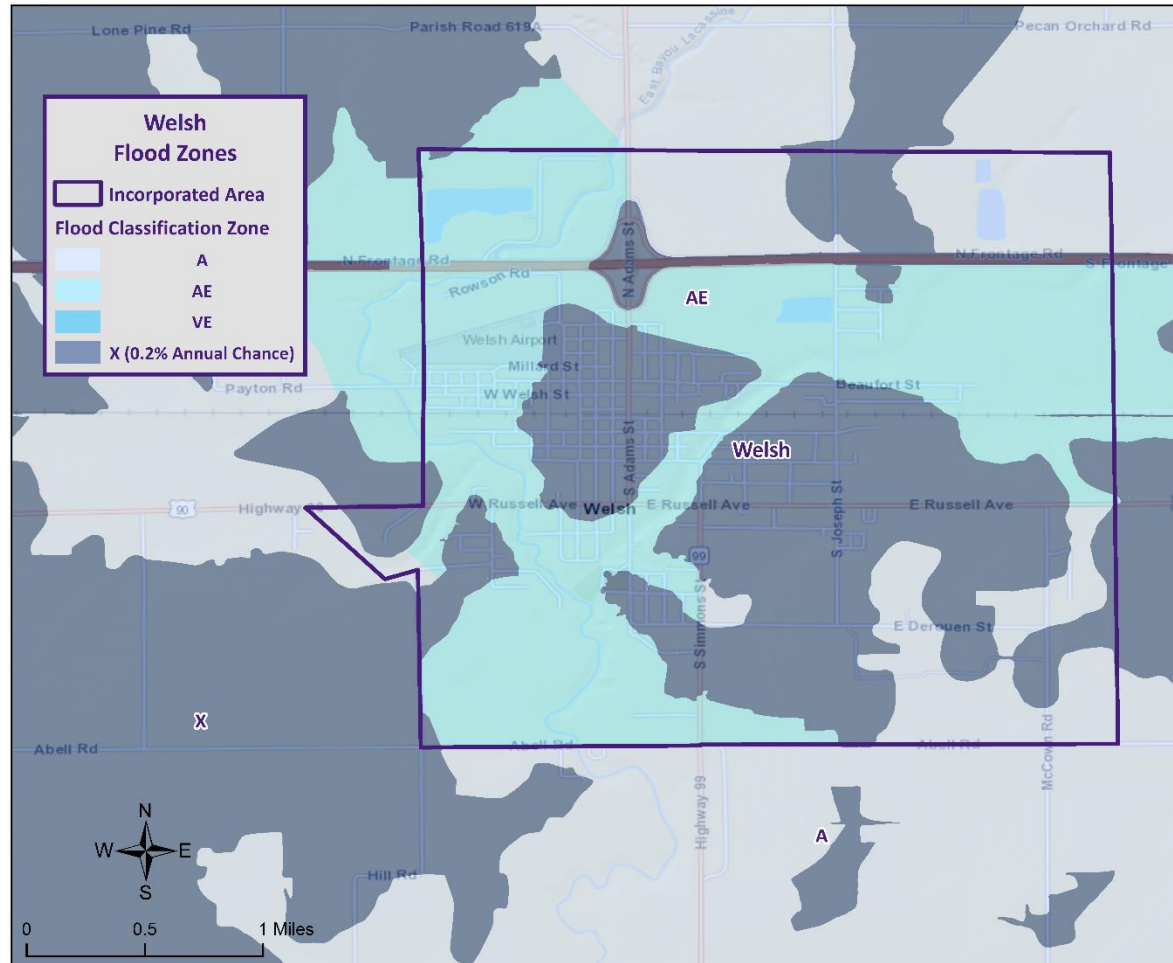
Flood Map: Jennings



Flood Map: Lake Arthur



Flood Map: Welsh

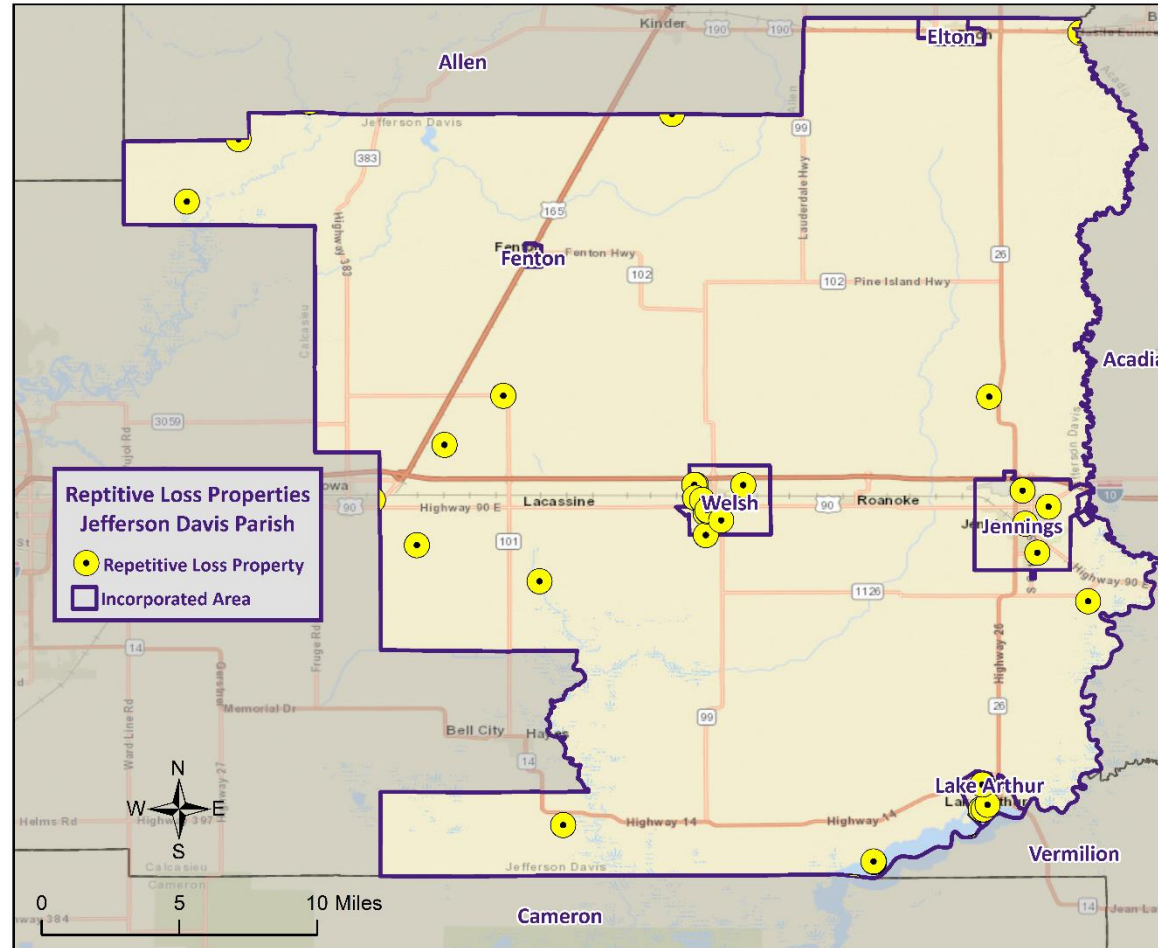


Flooding



- 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



An aerial photograph of a wide river, likely the Mississippi River, with a city skyline visible in the distance. A long, low-lying barge is positioned in the river. To the right, a green levee runs along the riverbank, with a path and some trees visible. The sky is blue with scattered clouds.

Levee Failure

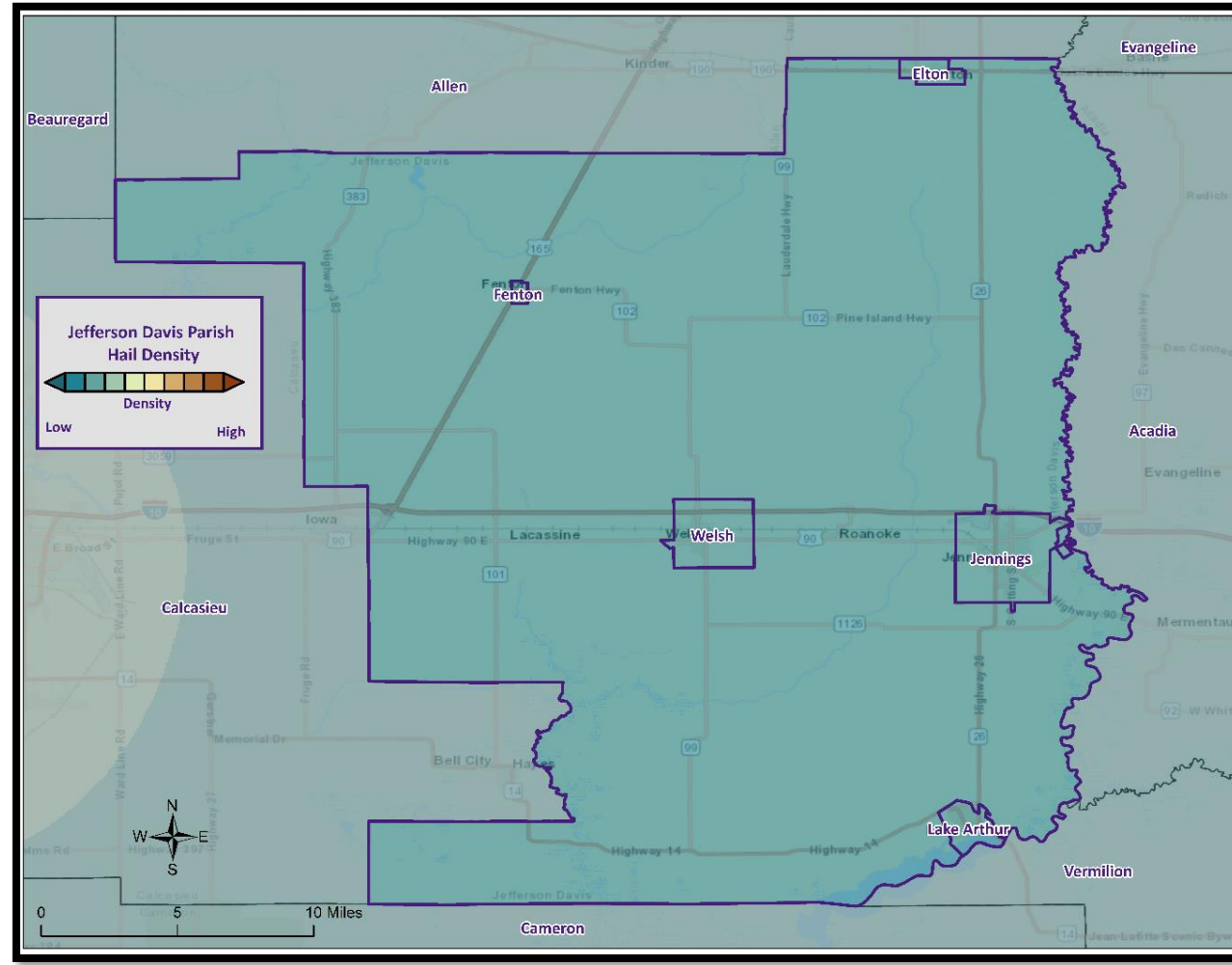
- Levees are flood control barriers constructed of earth, concrete, or other materials that protect significant areas of residential, commercial, or industrial development.
- Levee failure involves the overtopping, breach, or collapse of the levee.



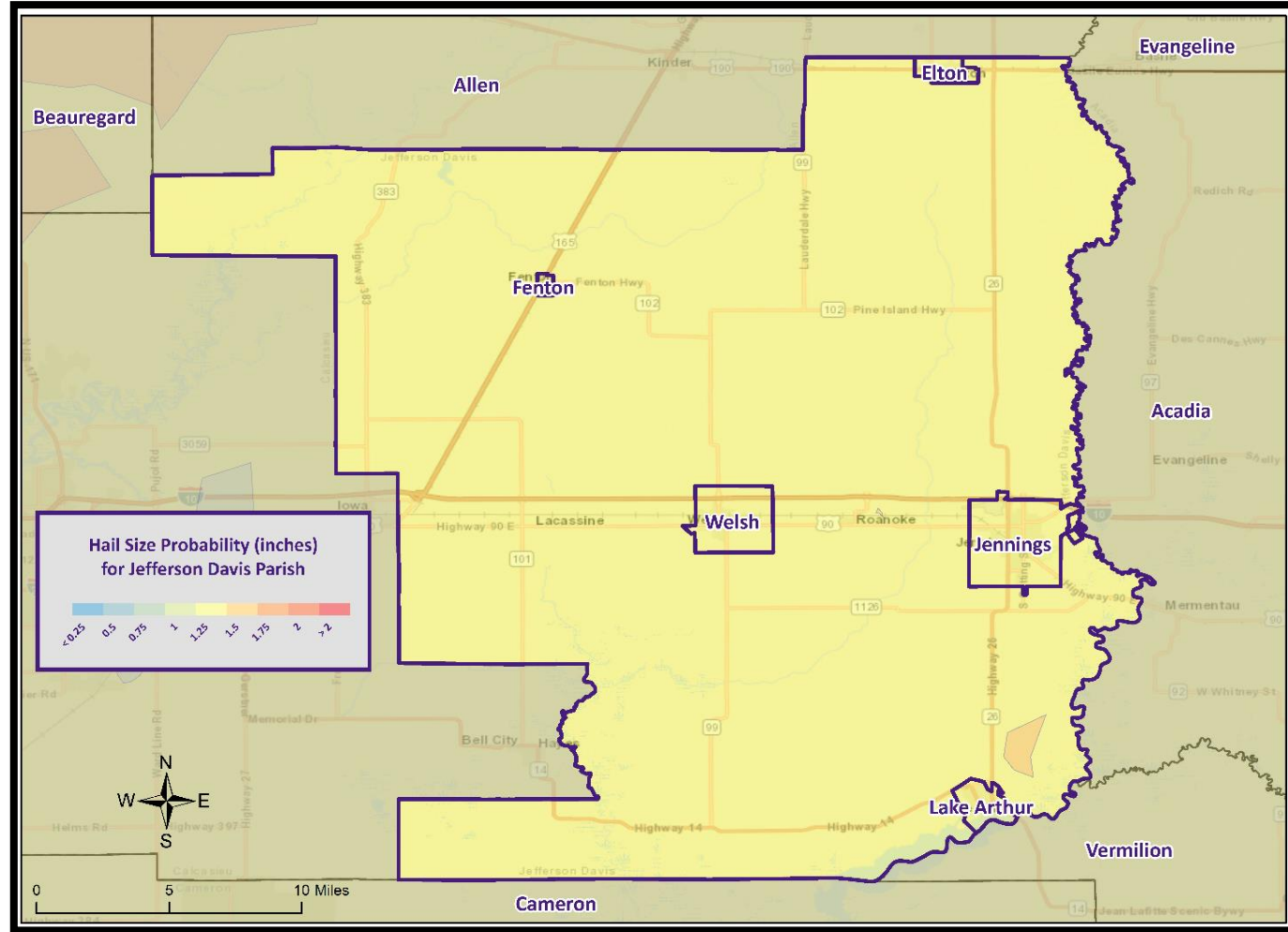
Thunderstorms

- 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 shear causes a deviation in their course at a right angle to the wind shear direction.

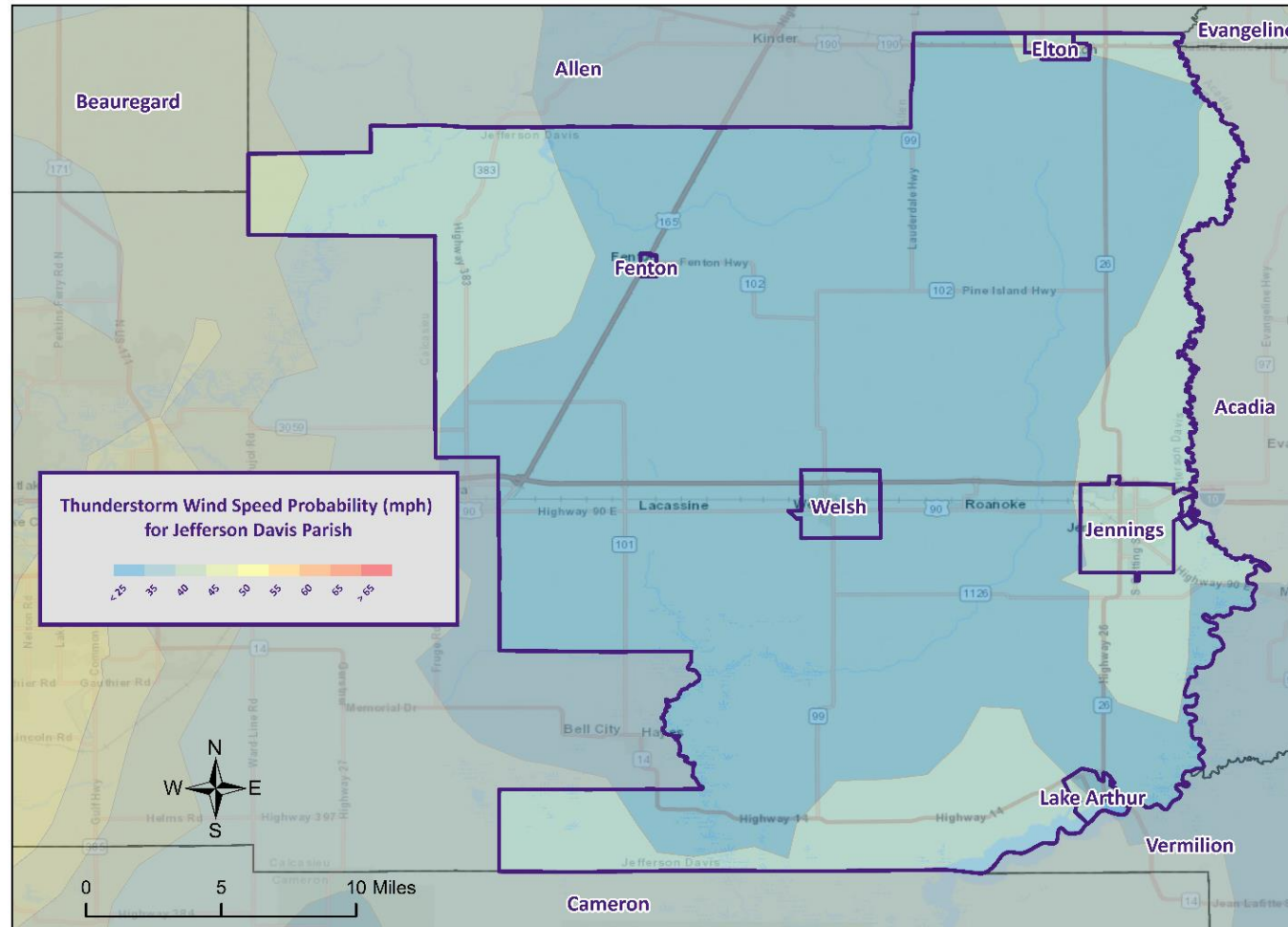
Density of Prior Hailstorms



Maximum Hail Size Probability



Maximum Wind Speed Probability

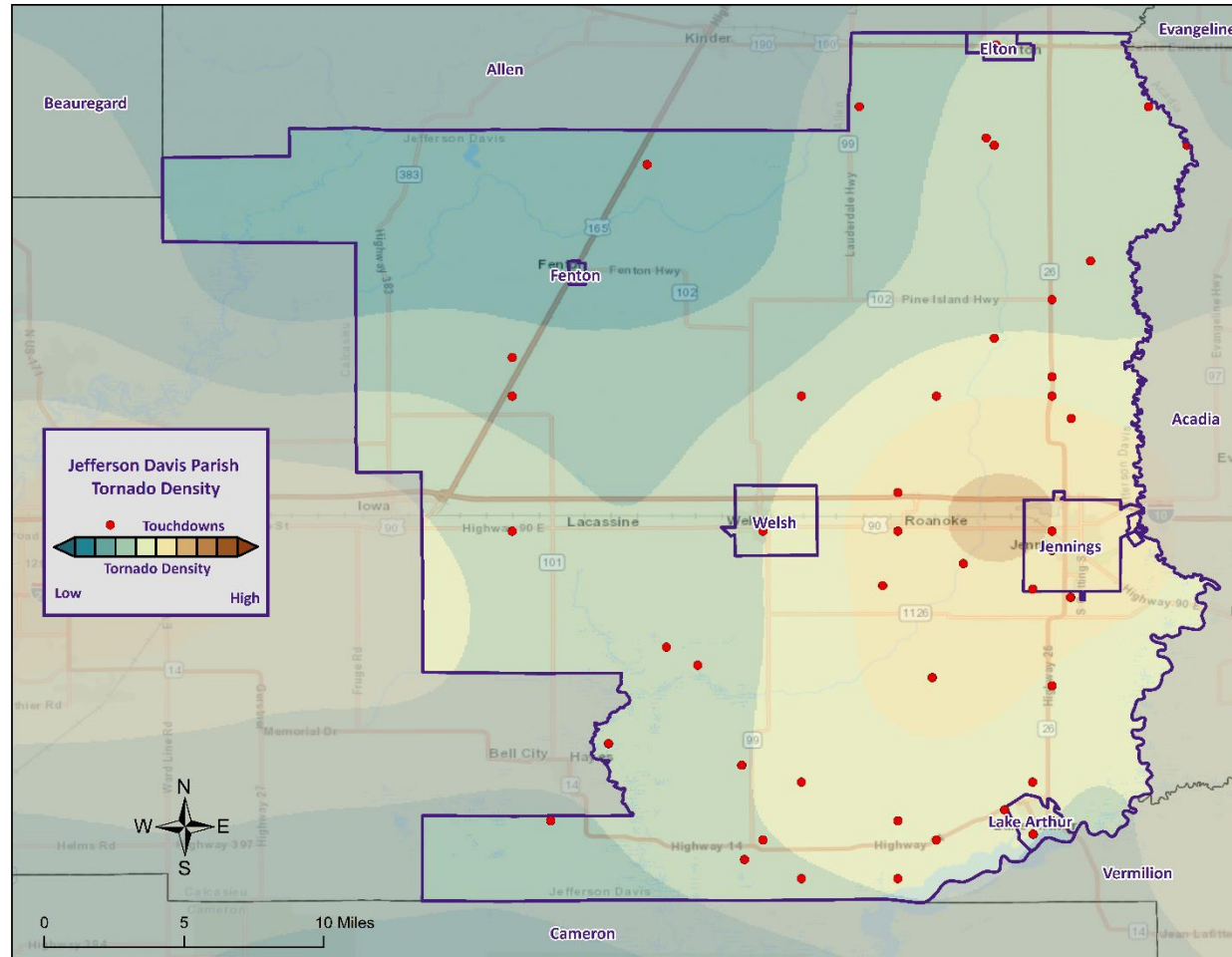


Tornadoes

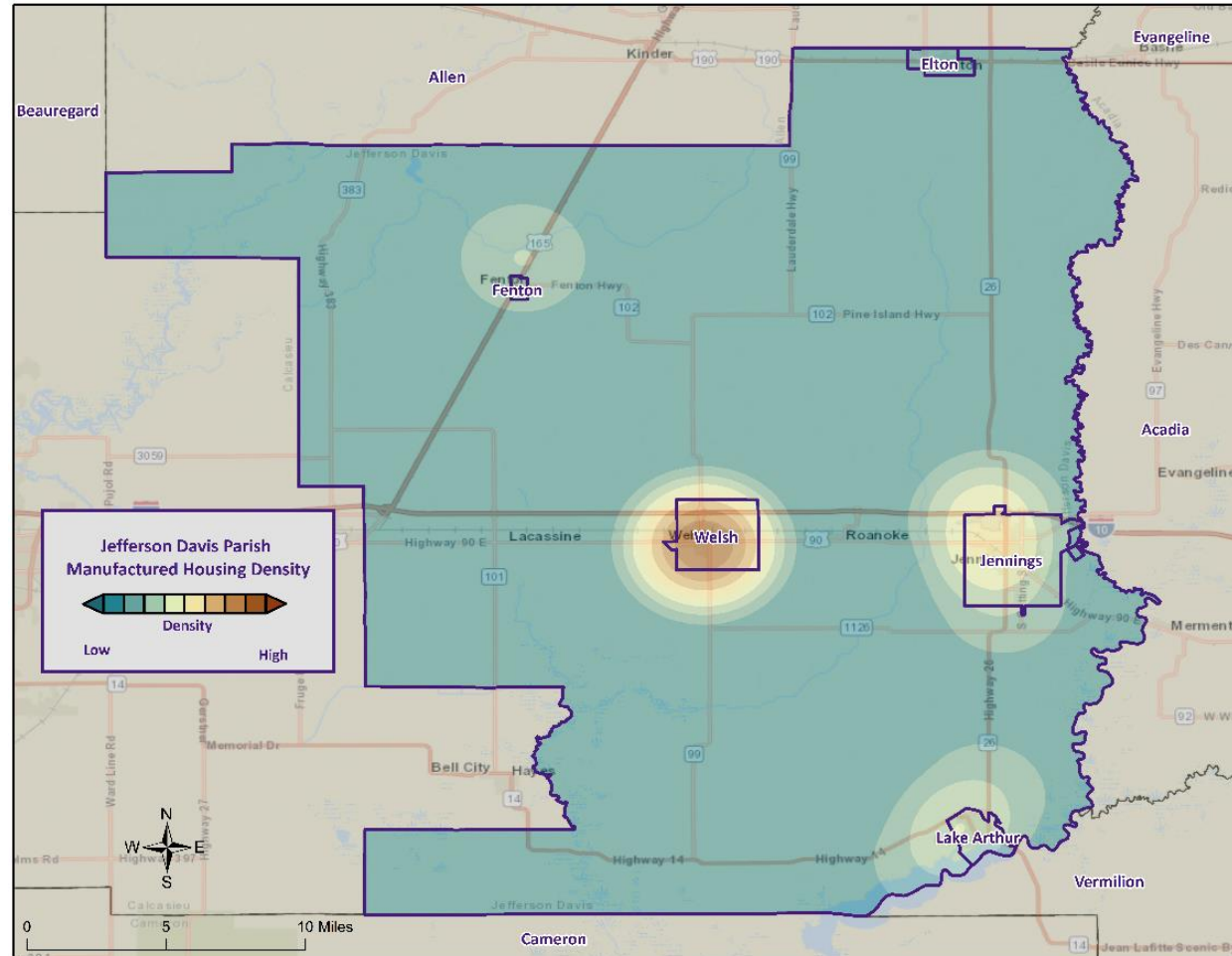
- Tornadoes (also called twisters and cyclones) are rapidly rotating funnels of wind extending between storm clouds and the ground.
- Tornadoes are the most severe storms for their size, and 70% of the world's reported tornadoes occur within the continental United States.

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

Tornado Location



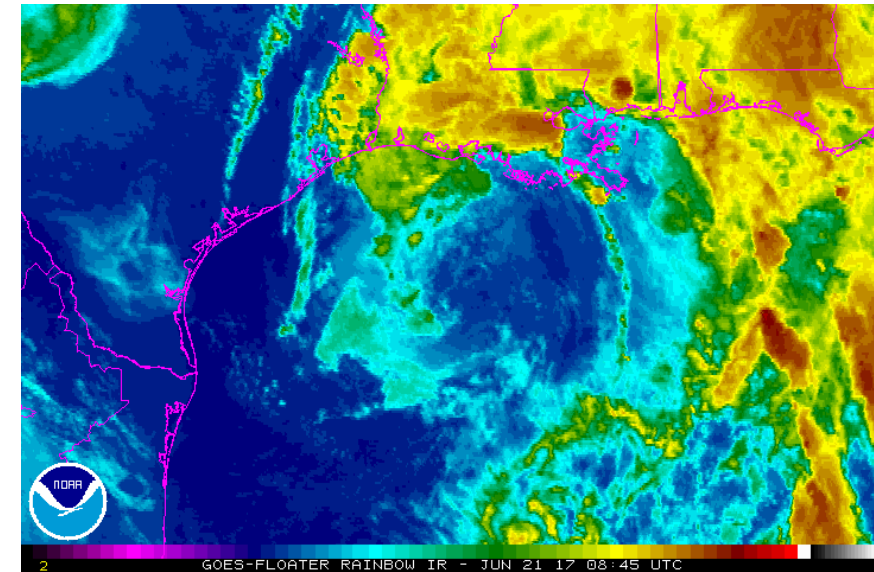
Manufactured Homes Density

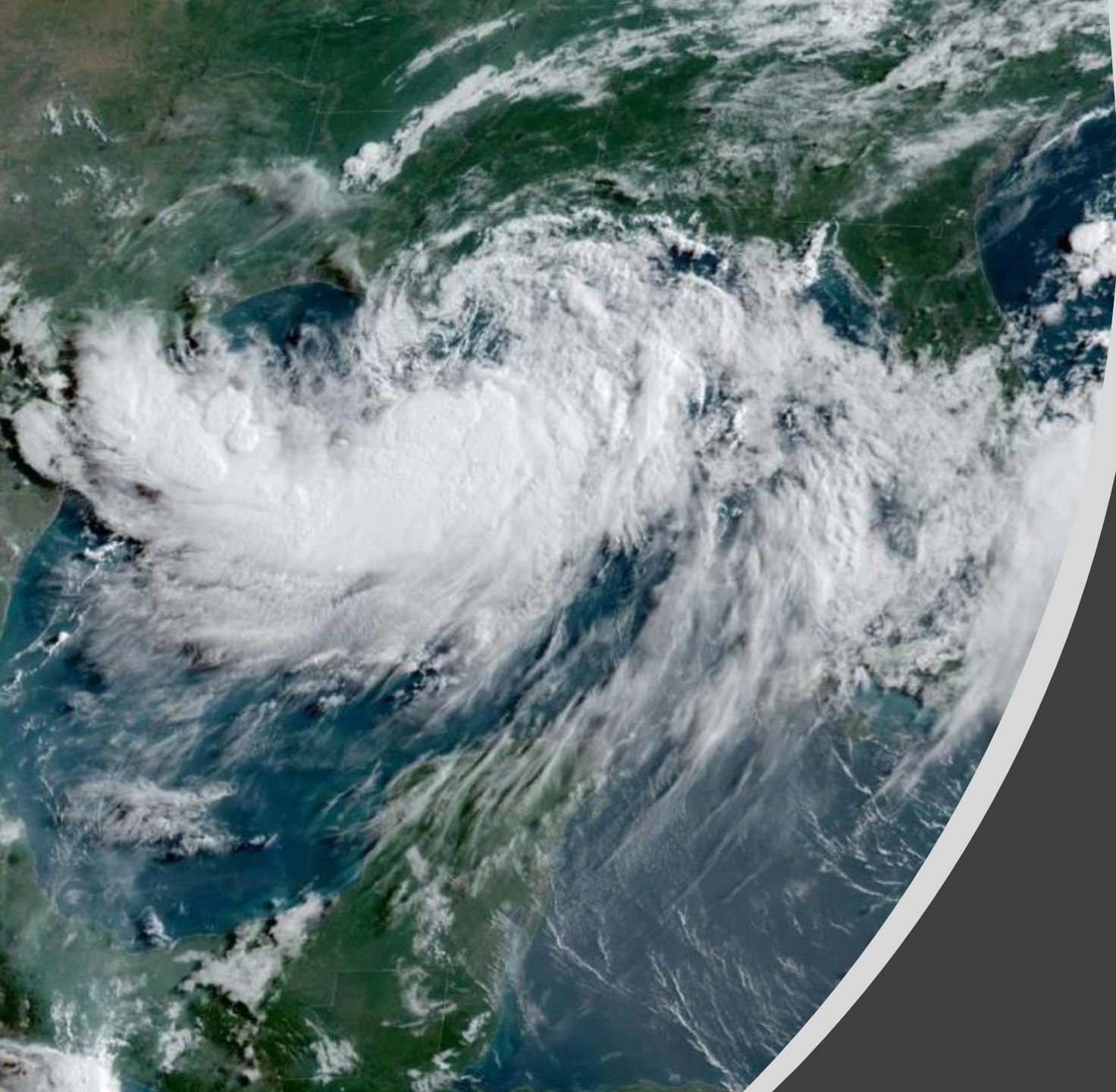


Tropical Cyclones

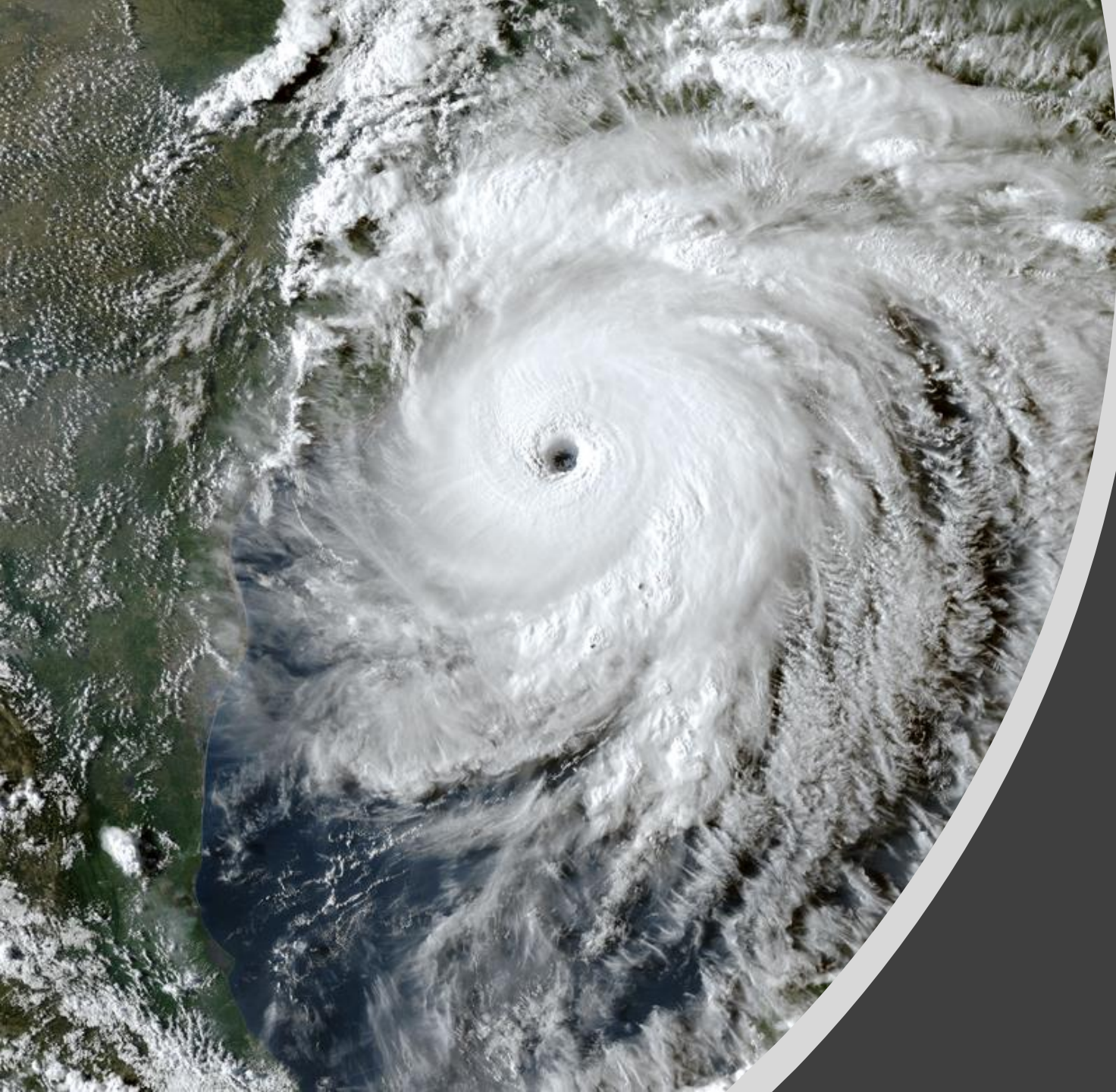
- Tropical cyclones are defined spinning, low-pressure air masses that draw surface air into their centers and attain strength ranging from weak tropical waves to the most intense hurricanes

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 Barry

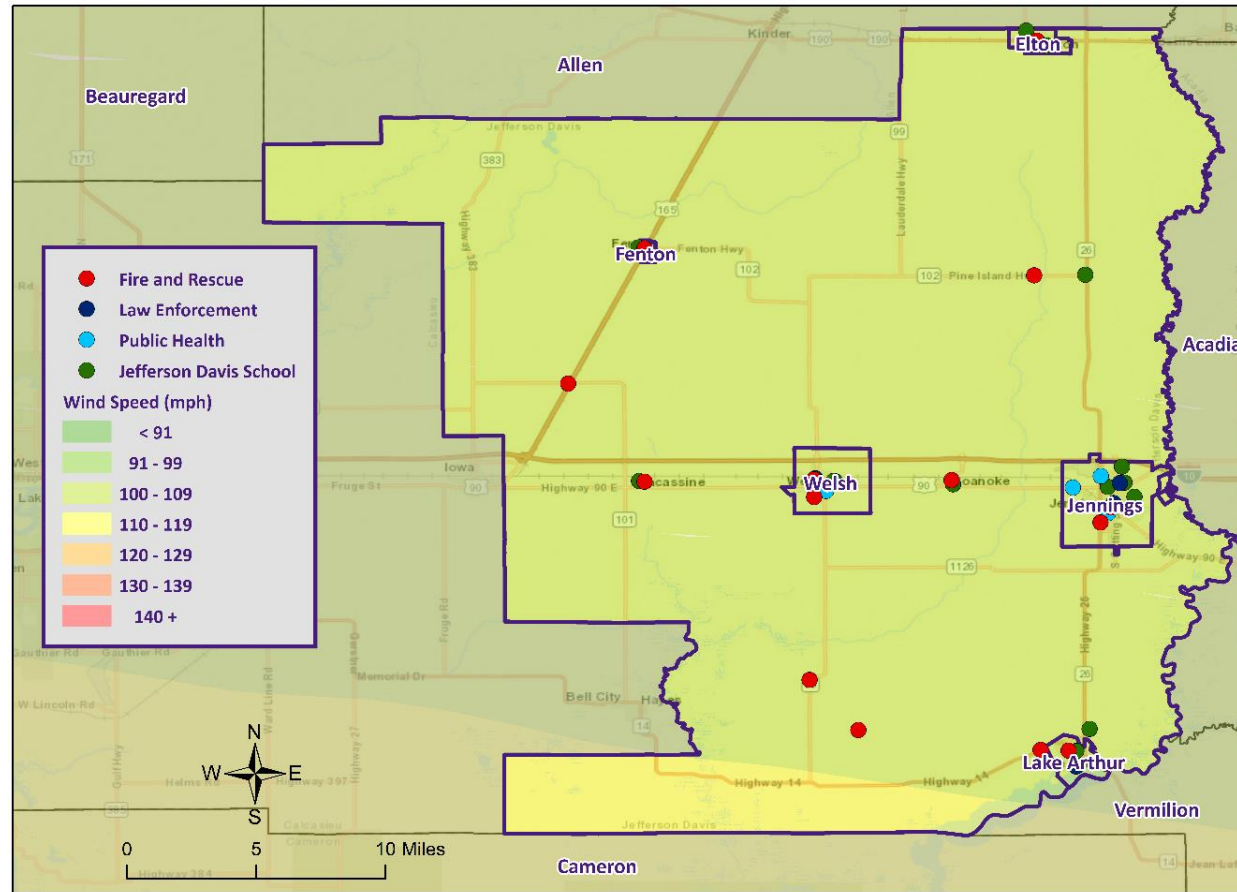


Hurricane Laura



Hurricane Delta

Wind Speed Impacts on Critical Infrastructure

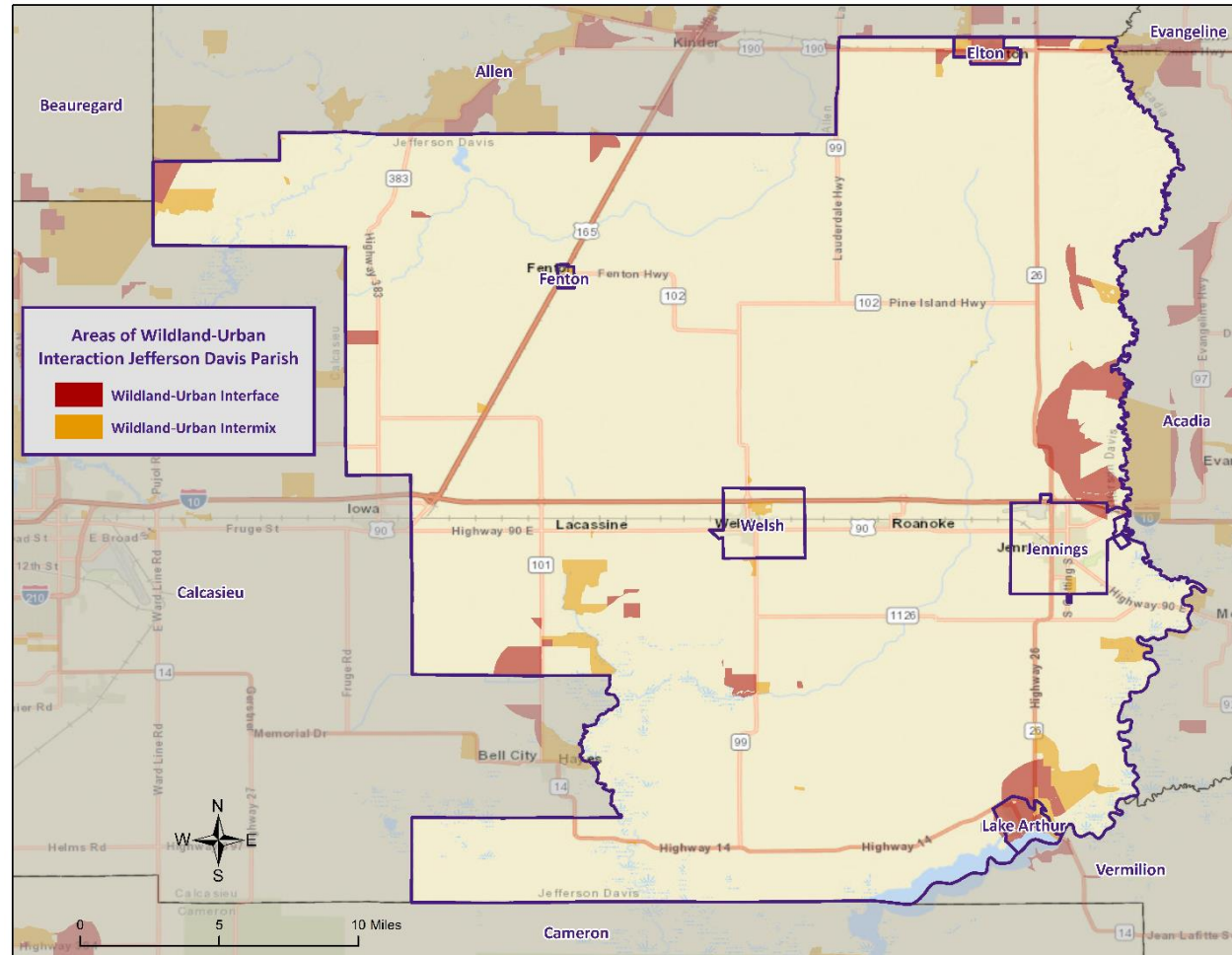




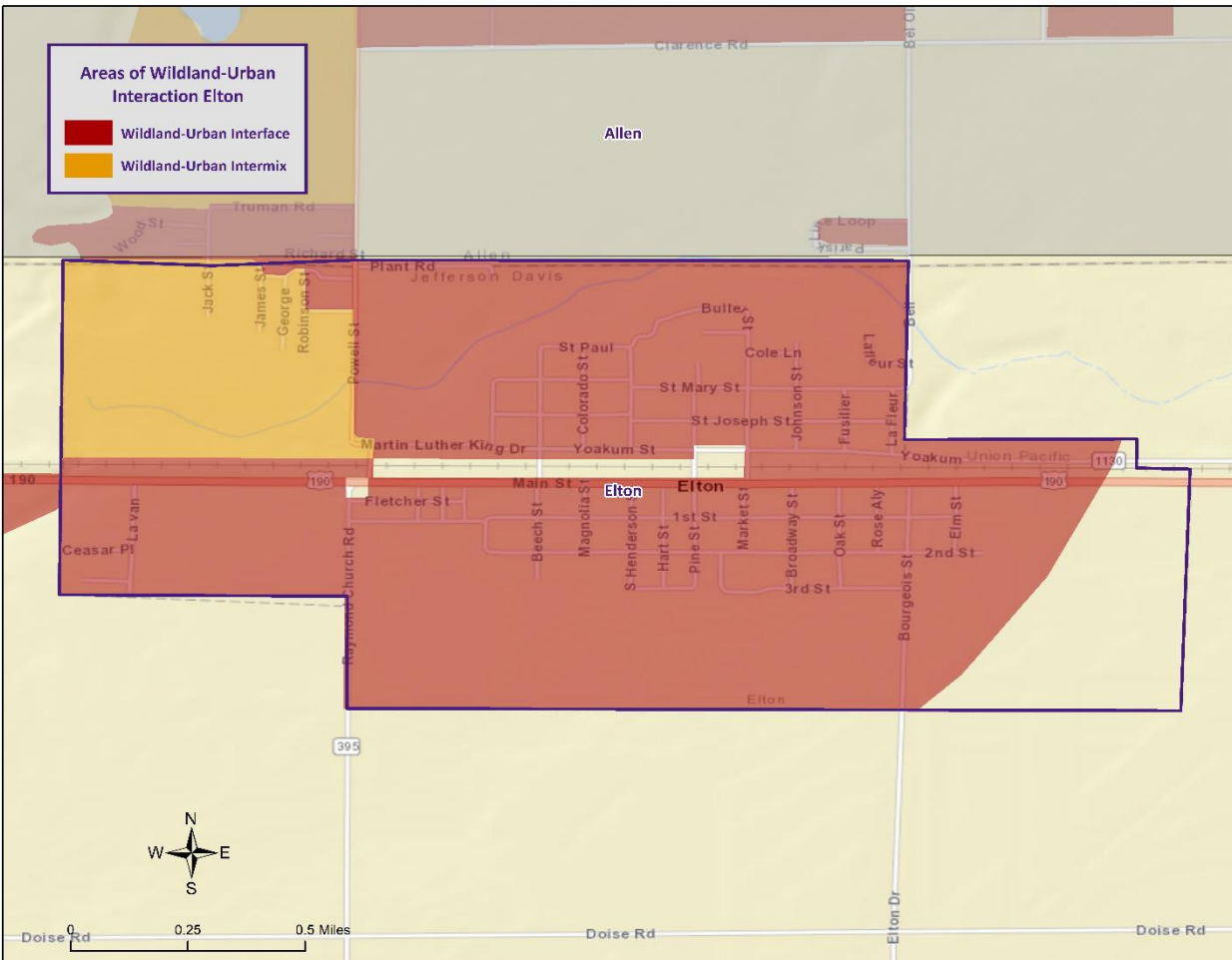
Wildfires

- 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.

Jefferson Davis Wildland-Urban Interaction



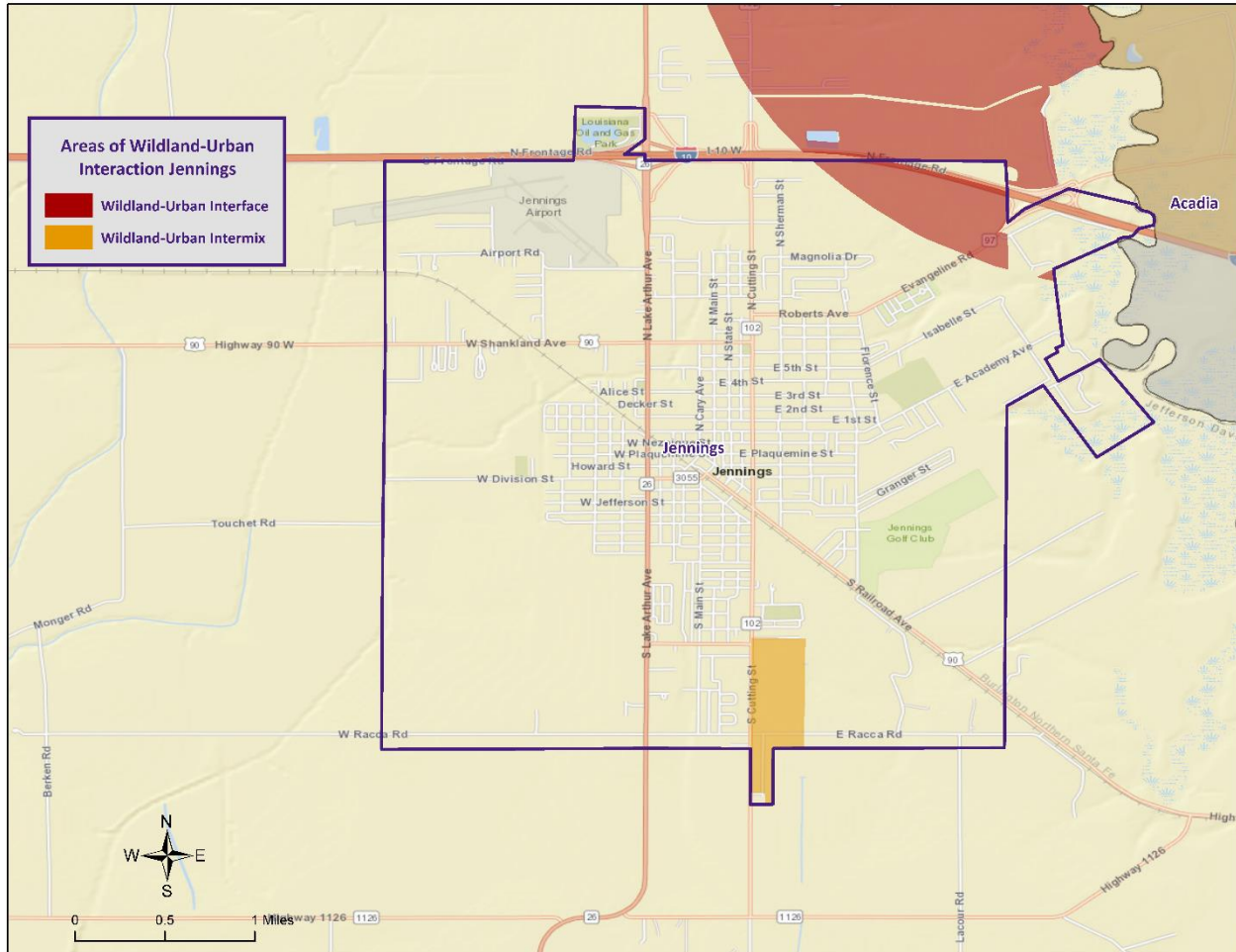
WUI: Elton



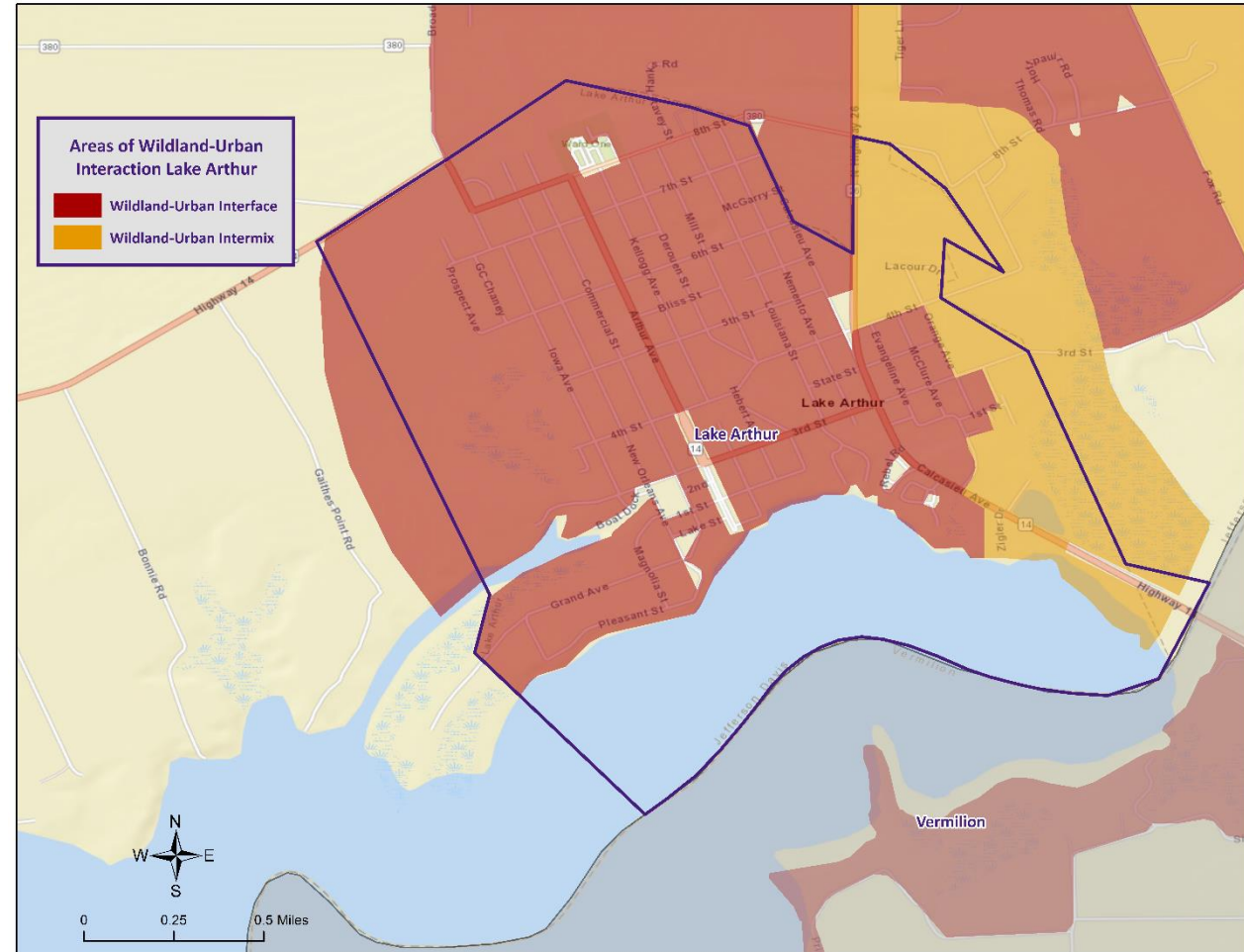
WUI: Fenton



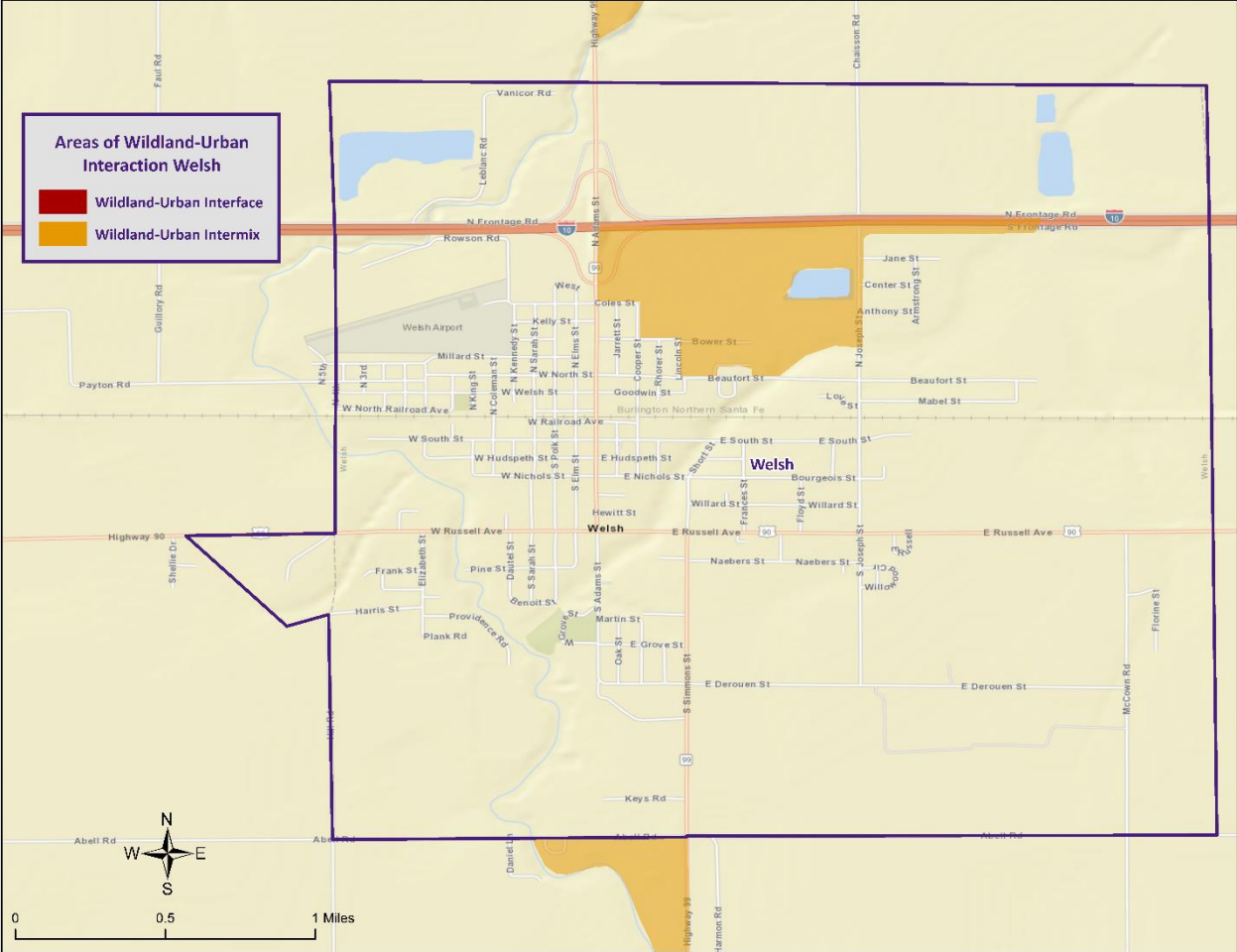
WUI: Jennings



WUI: Lake Arthur



WUI: Welsh



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.



Parish Mitigation Goals

- Reduce exposure to damage from flooding
- Ensure the delivery of critical services to the residents of the parish communities before, during, and after a hazard event
- Guide development to reduce the exposure of new and existing improvements to hazard events
- Enhance structures and infrastructure to reduce the impact of hazard events
- Increase public awareness and support of hazard mitigation



Parish Hazard Mitigation Project Update

Jefferson Davis OHSEP/
Jefferson Davis Government Discussion

Public Outreach Activity #1

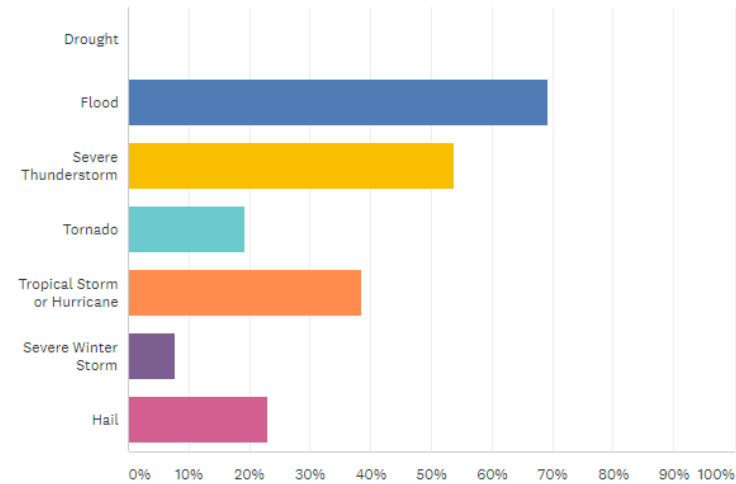
Hazard Mitigation Public Opinion Survey

https://lsu.qualtrics.com/jfe/form/SV_5iGOn3vitR4ZOiq



Which of these natural disasters have you or someone in your household experienced in the past five years? (Check all that apply)

Answered: 26 Skipped: 1



Public Outreach Activity #2

Please fill out an incident questionnaire!



JEFFERSON DAVIS PARISH PUBLIC MEETING	
PUBLIC ACTIVITY: INCIDENT/ ISSUE QUESTIONNAIRE	4. INTENSITY
1. HAZARD TYPE(S):	A. DEPTH (FLOODING) OR SIZE (HAIL ETC.):
A. DROUGHT B. FLOODING C. LEVEE FAILURE D. THUNDERSTORMS E. TORNADOES F. TROPICAL CYCLONES G. WILDFIRES H. WINTER WEATHER	B. WIND STRENGTH:
F. OTHER:	5. RE-OCCURRING OR ONE-TIME
	A. IF RE-OCCURRING, HOW OFTEN?
2. DESCRIBE INCIDENT OR ISSUE:	6. WHAT TYPE OF INTERRUPTIONS DOES/DID THE INCIDENT OR ISSUE CAUSE? (BUSINESS CLOSURE, DAMAGE, EVACUATION, ETC.)
3. LOCATION:	7. HOW LONG WAS THE INTERRUPTION (HOURS, DAYS, WEEKS, ETC.)?
A. CITY:	
B. ADDRESS OR AREA:	8. HOW COULD THIS PROBLEM OR IMPACT BE PREVENTED, FIXED OR ALLEVIATED?
C. LOCALIZED OR DISPERSED:	



SDMI Hazard Mitigation Website

- Repository for materials used during update process
- <https://hmplans.sdmi.lsu.edu/Home/Parish/jefferson-davis>

The screenshot displays the SDMI Hazard Mitigation Website for Jefferson Davis Parish. The header includes the LSU logo and the text "Stephenson Disaster Management Institute". A navigation bar contains links for "Intro", "Events", "FEMA Resources", "Parish Plans", and "Settings". The main content area is titled "Jefferson Davis Parish" and shows a "PLAN DUE DATE: MARCH 25 2023". A "DEVELOPMENT STATUS" section features a progress bar with stages: PLAN DEVELOPMENT, PLAN REVIEW, PLAN ADOPTION, and COMPLETED. Below this, a "RISK ASSESSMENT & PUBLIC" section lists participating jurisdictions: Village of Elton, Village of Fenton, Jefferson Davis Parish, unincorporated areas, City of Jennings, and Town of Lake Arthur. A calendar of events is shown for December 8, 2023 (Kickoff Presentation), December 21, 2023 (Initial Planning Committee Meeting), January 25, 2023 (Mitigation Action Workshop), and March 2, 2023 (Public Meeting Meeting). A "PREVIOUS PLANS" section for 2016 includes links to download the Kick-off Presentation, Public Meeting Presentation, and the Jefferson Davis HM Plan. A "Survey" section at the bottom has a button to "Access Survey".

Contact Us

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