

Louisiana Watershed Initiative

Sustainability and resilience through science, engineering and objective decision making

Objective

Develop a common understanding of known flood risks, vulnerabilities and priorities in Region 3.

Building on previous efforts

Region 3 planning and policy professionals worked with LWI to identify these priorities based on their region's flood risk and mitigation needs.

Agenda

1. Region 3 flood risk assessment



LOUISIANA
WATERSHED
INITIATIVE

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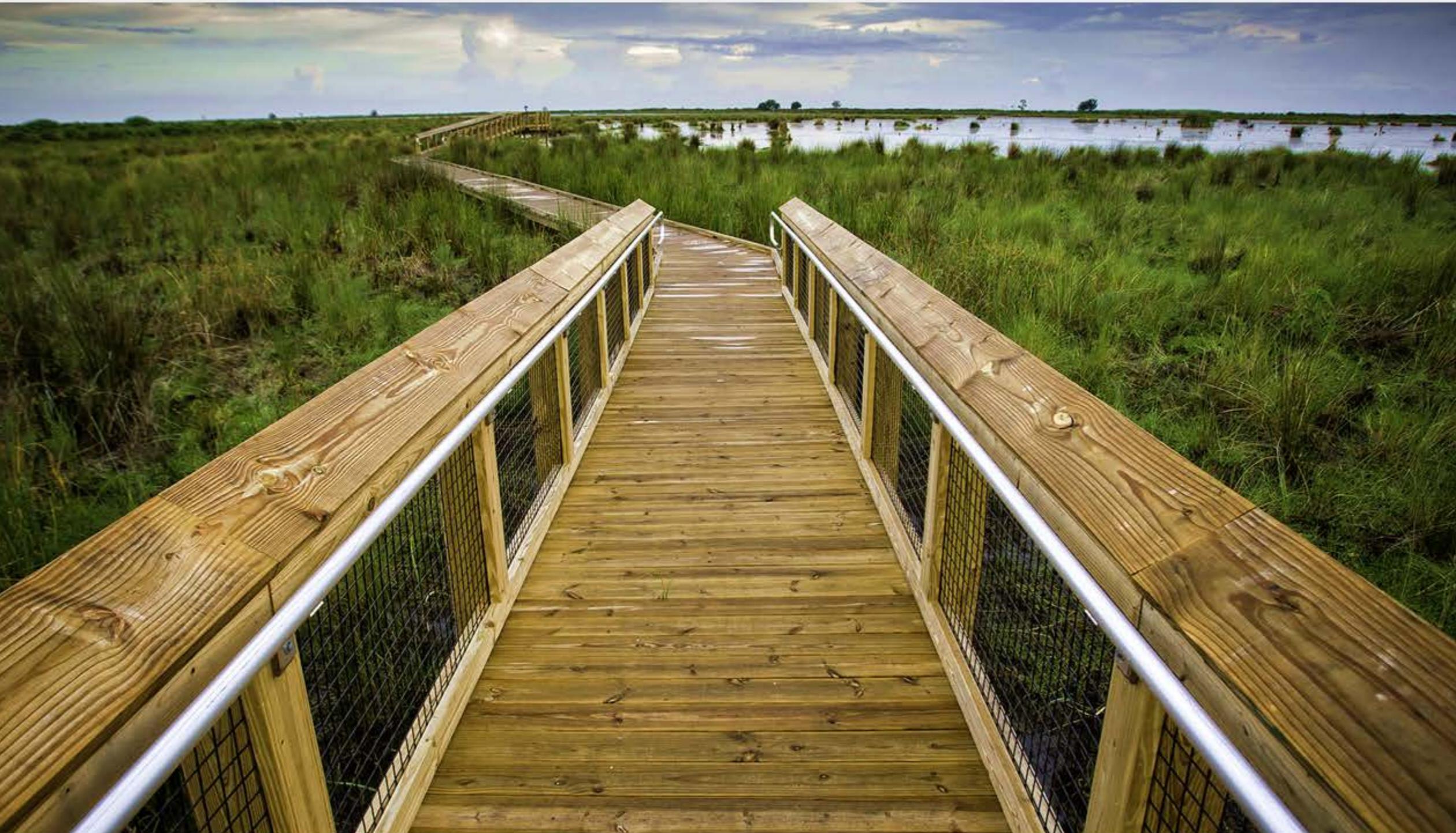
Agenda

1. Region 3 flood risk assessment
2. Break
3. Group mapping exercise
4. Report out
5. Public comment

Flood risk assessment

Each watershed region throughout Louisiana faces unique flood risks. To understand these risks and to prioritize solutions, we must accomplish the following:

1. Build a common vocabulary



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2. Consider various risk factors
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Parishes in Region 3

Working together to address risk at the watershed scale

- Claiborne Parish
- Union Parish
- Morehouse Parish
- West Carroll Parish
- East Carroll Parish
- Lincoln Parish



Flood risk assessment

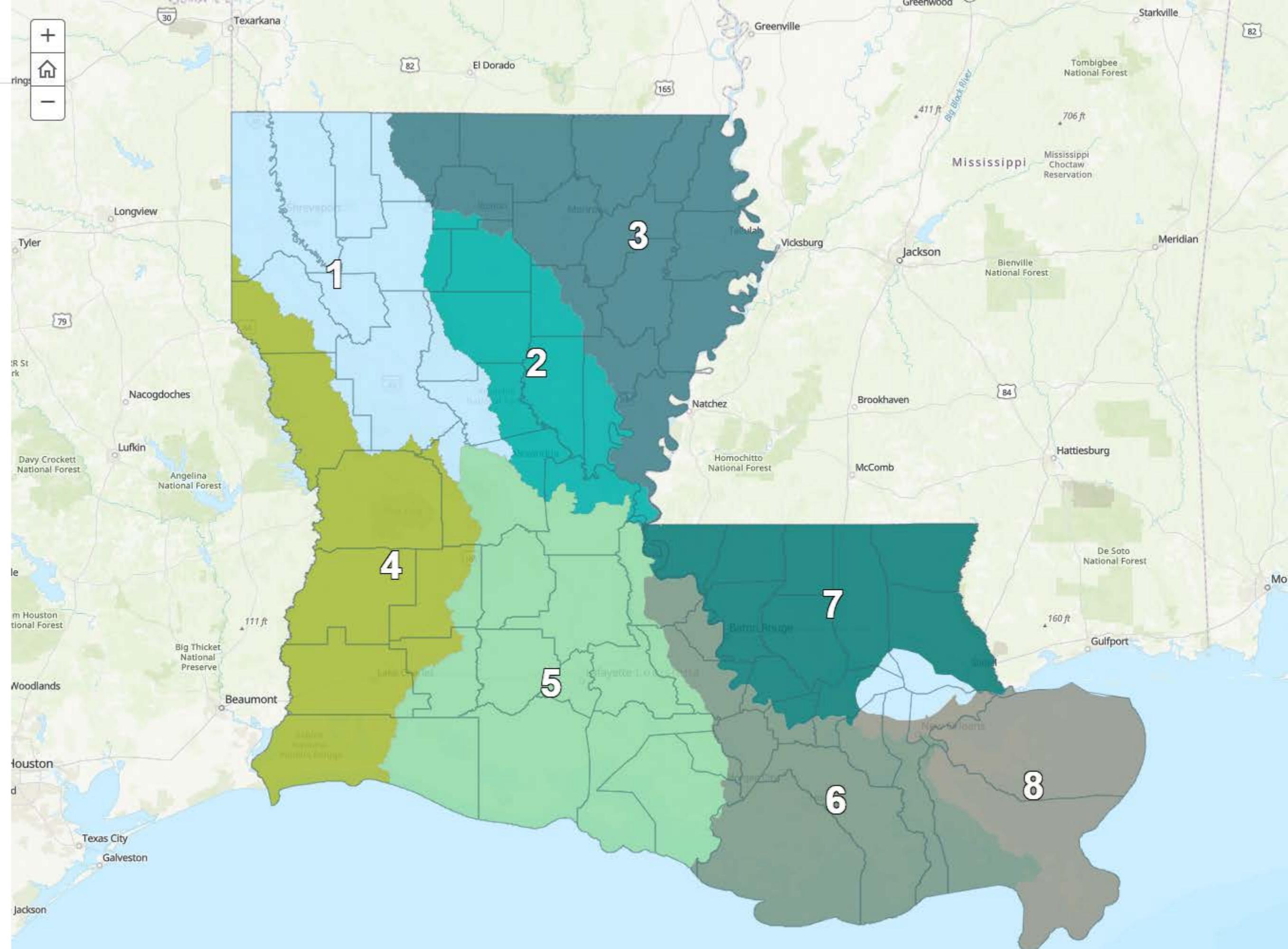
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Parishes in Region 3

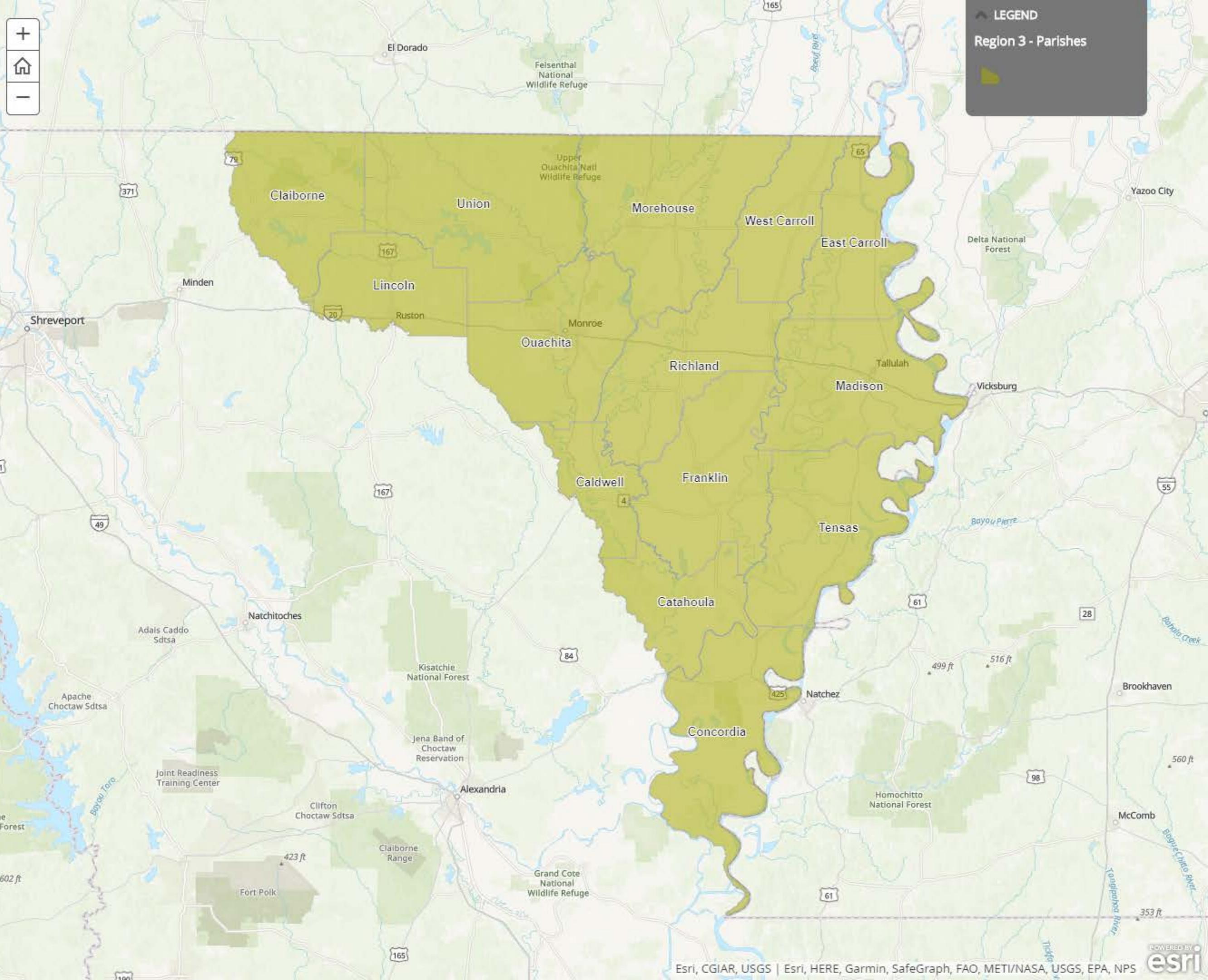
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Region 3 watersheds

Hydrology: a science that deals with the properties, distribution and circulation of water on and below Earth's surface and in the atmosphere

Types of flood risk



Region 3 watersheds

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Types of flood risk

We must consider all types of flood risk to effectively manage flood risk within Region 3 watersheds.

Types of flood risk

- Coastal floods: surge and tidal
- Fluvial floods: river floods
- Pluvial floods: rainfall-induced flash floods and urban flooding
- Backwater flooding

Extreme rainfall or precipitation

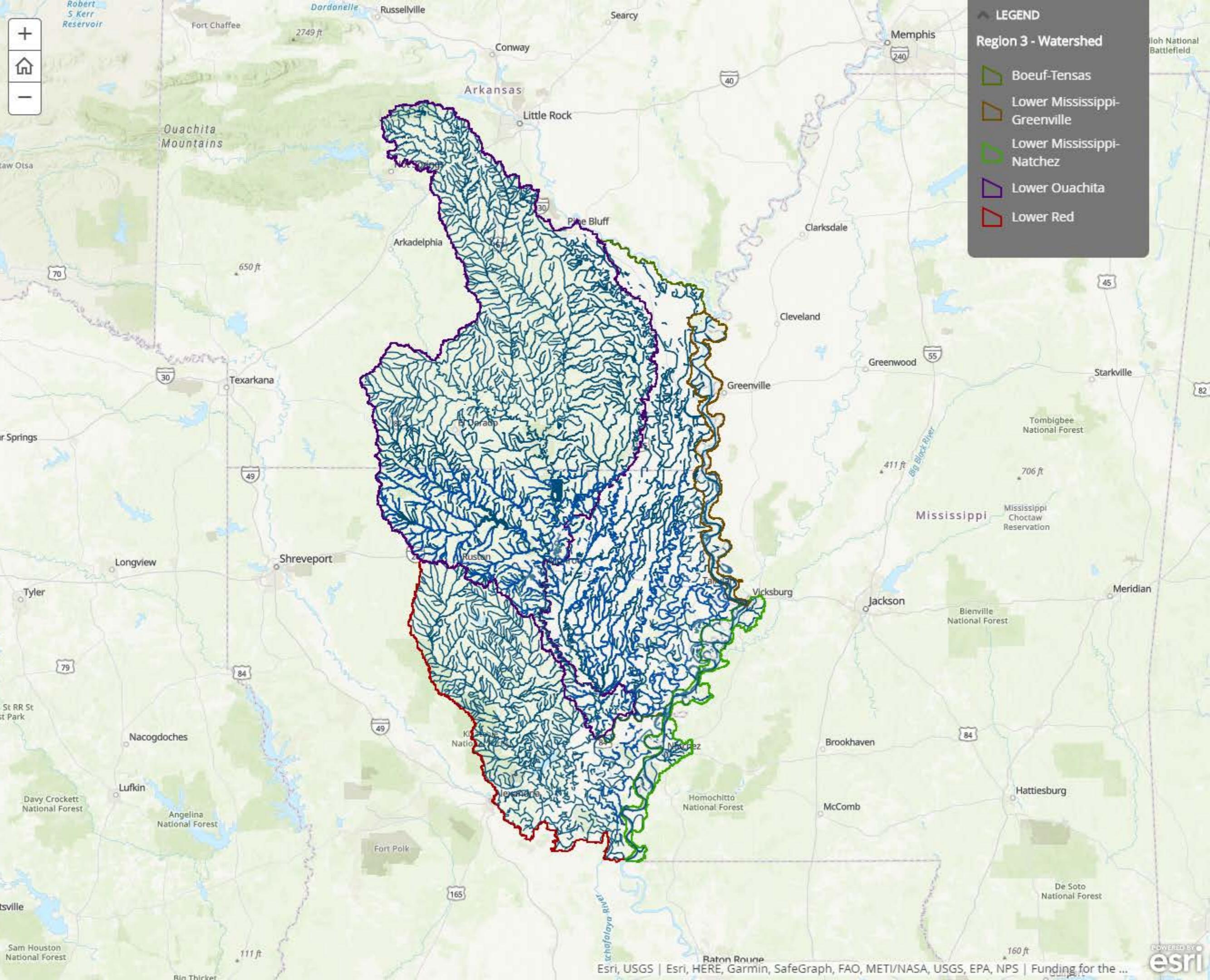
Louisiana has some of the highest rainfall rates in the country on an average statewide basis and often experiences high water levels in its major riverine systems.

Because of our flat landscape and interconnected waterways, the impact of a rainfall event in one part of the state is often felt far beyond the boundaries of where the rain falls.

Region 3 rainfall total

March 7 - 14, 2016

Storm Total Rainfall  2.00



LEGEND

Region 3 - Watershed

- Boeuf-Tensas
- Lower Mississippi-Greenville
- Lower Mississippi-Natchez
- Lower Ouachita
- Lower Red

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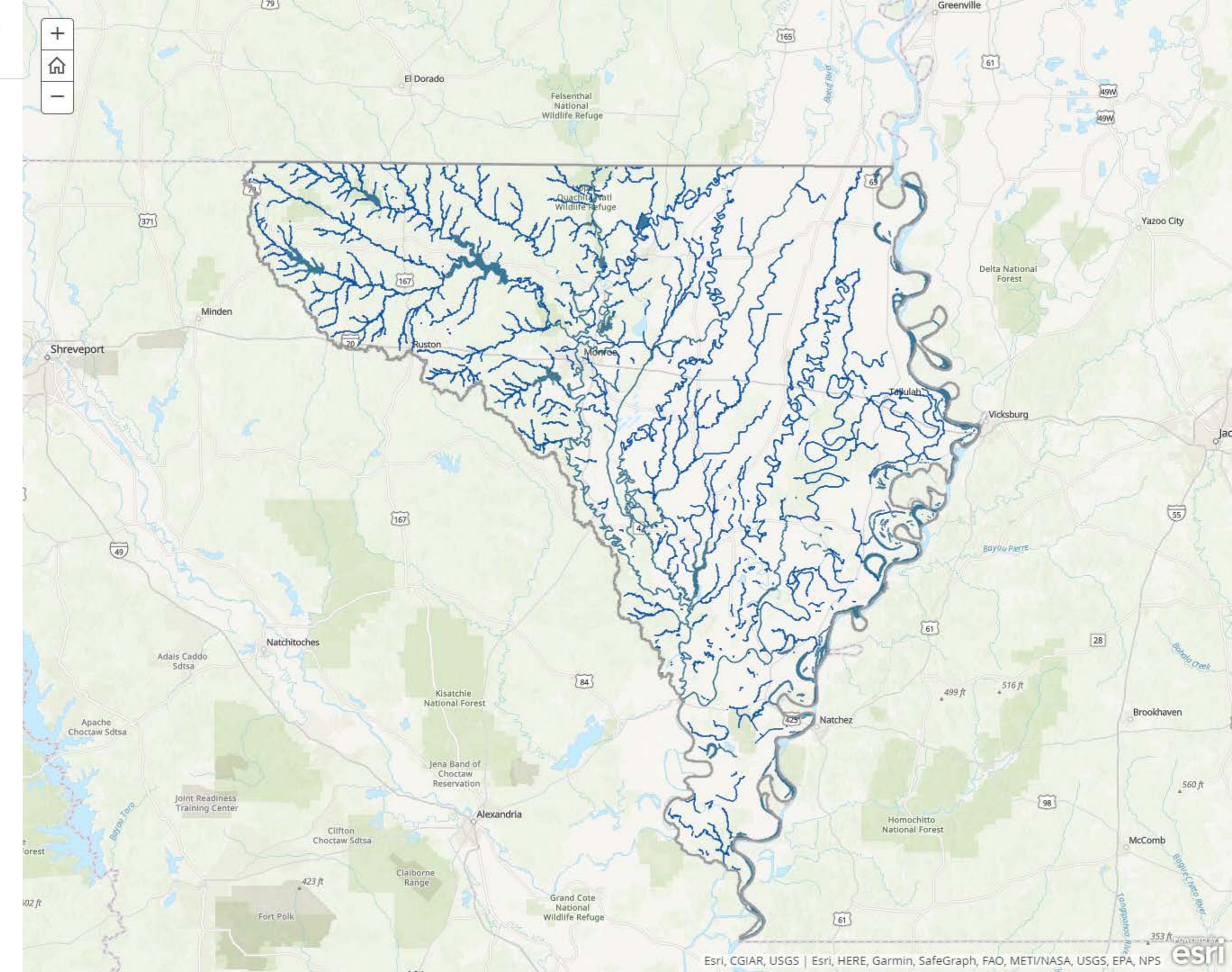
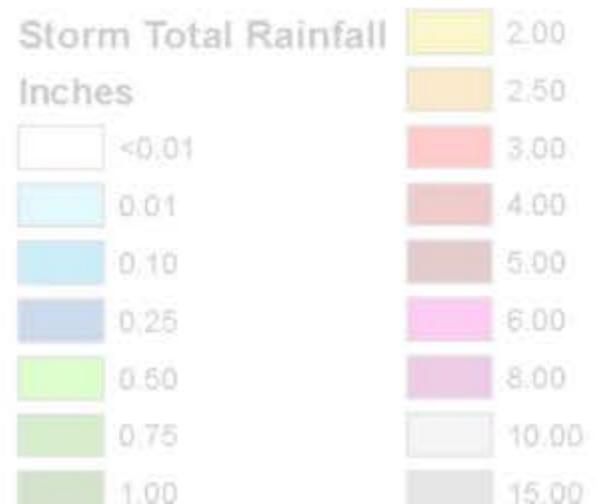
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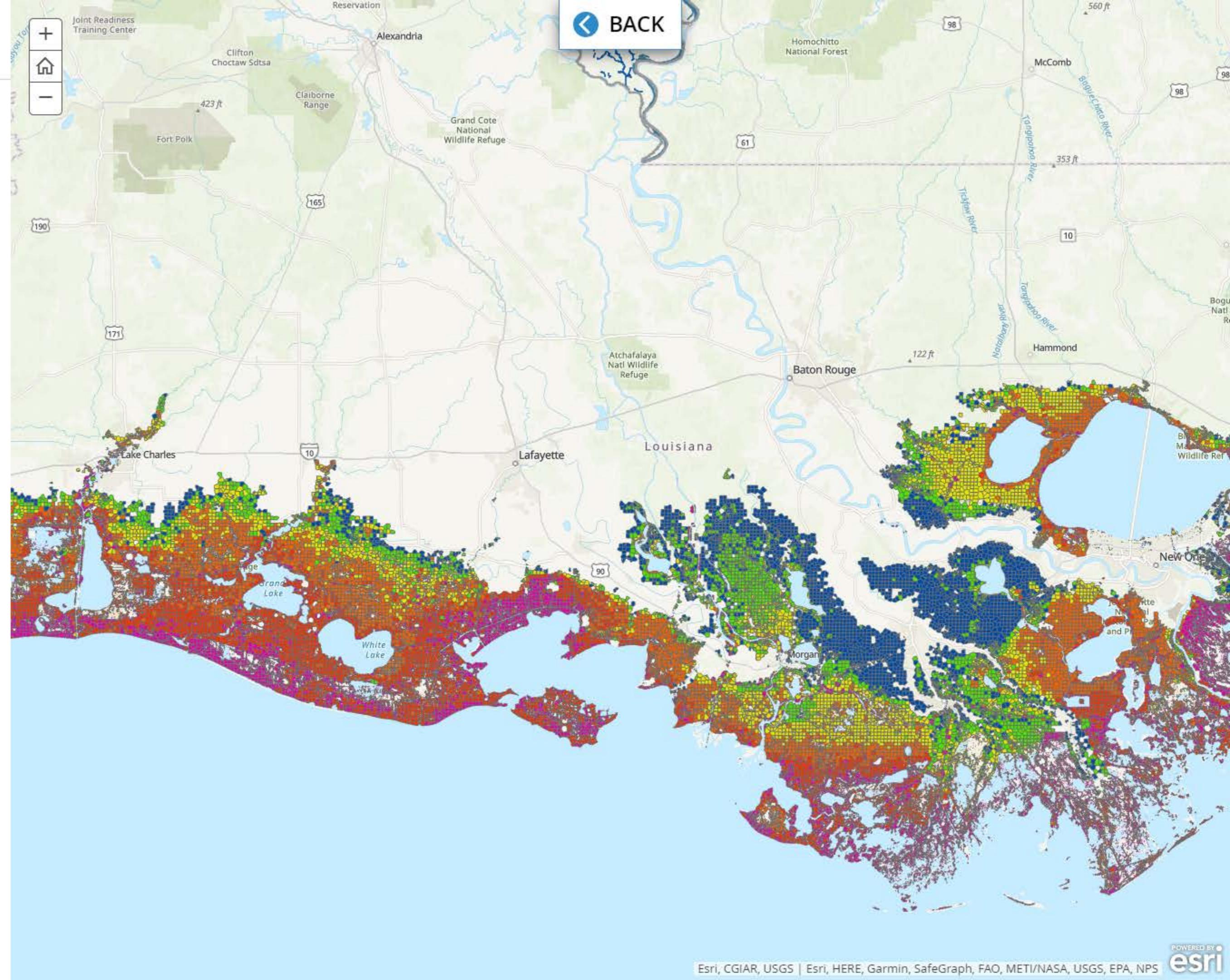
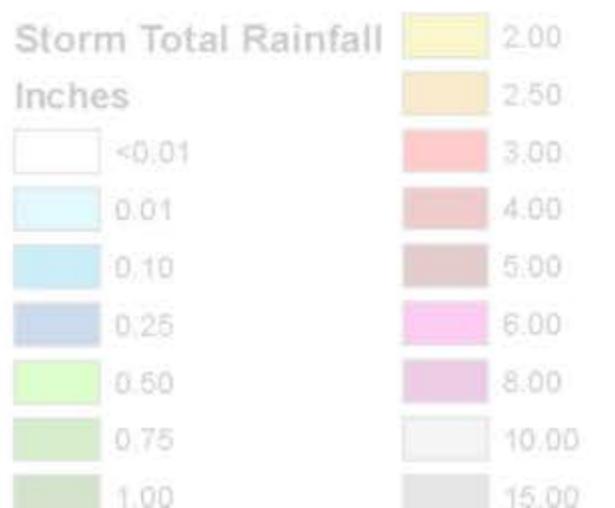
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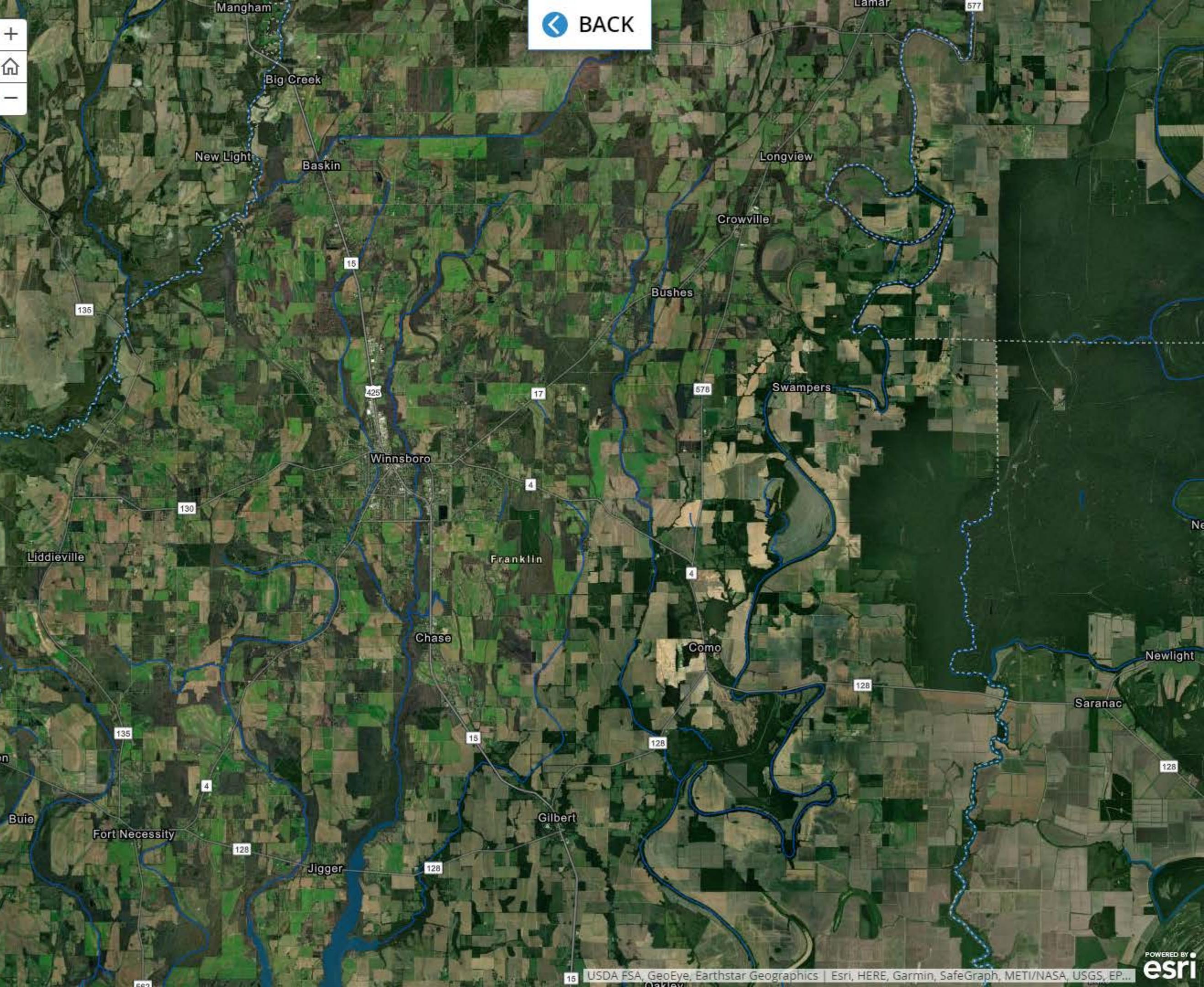
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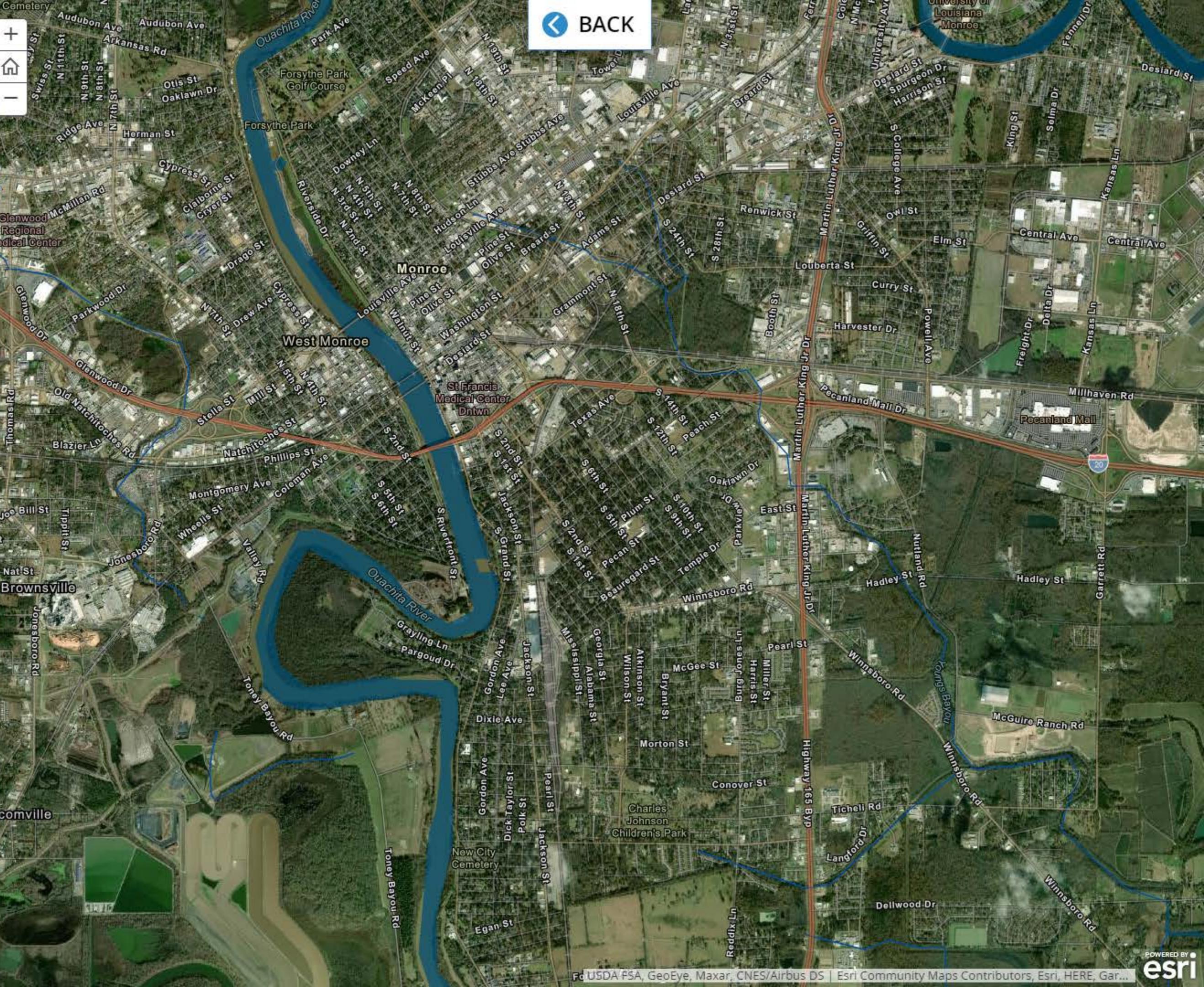
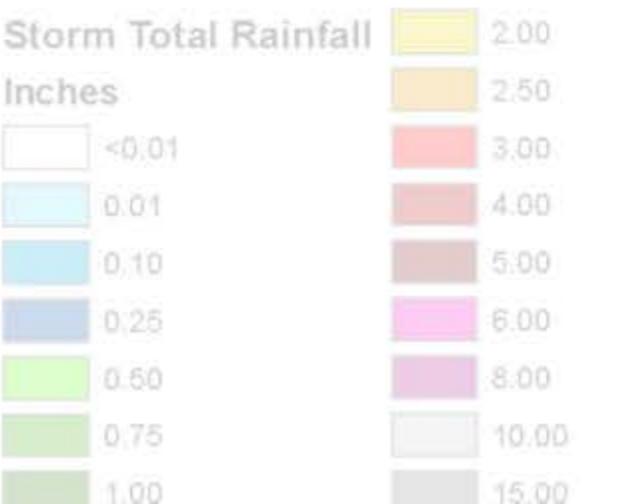
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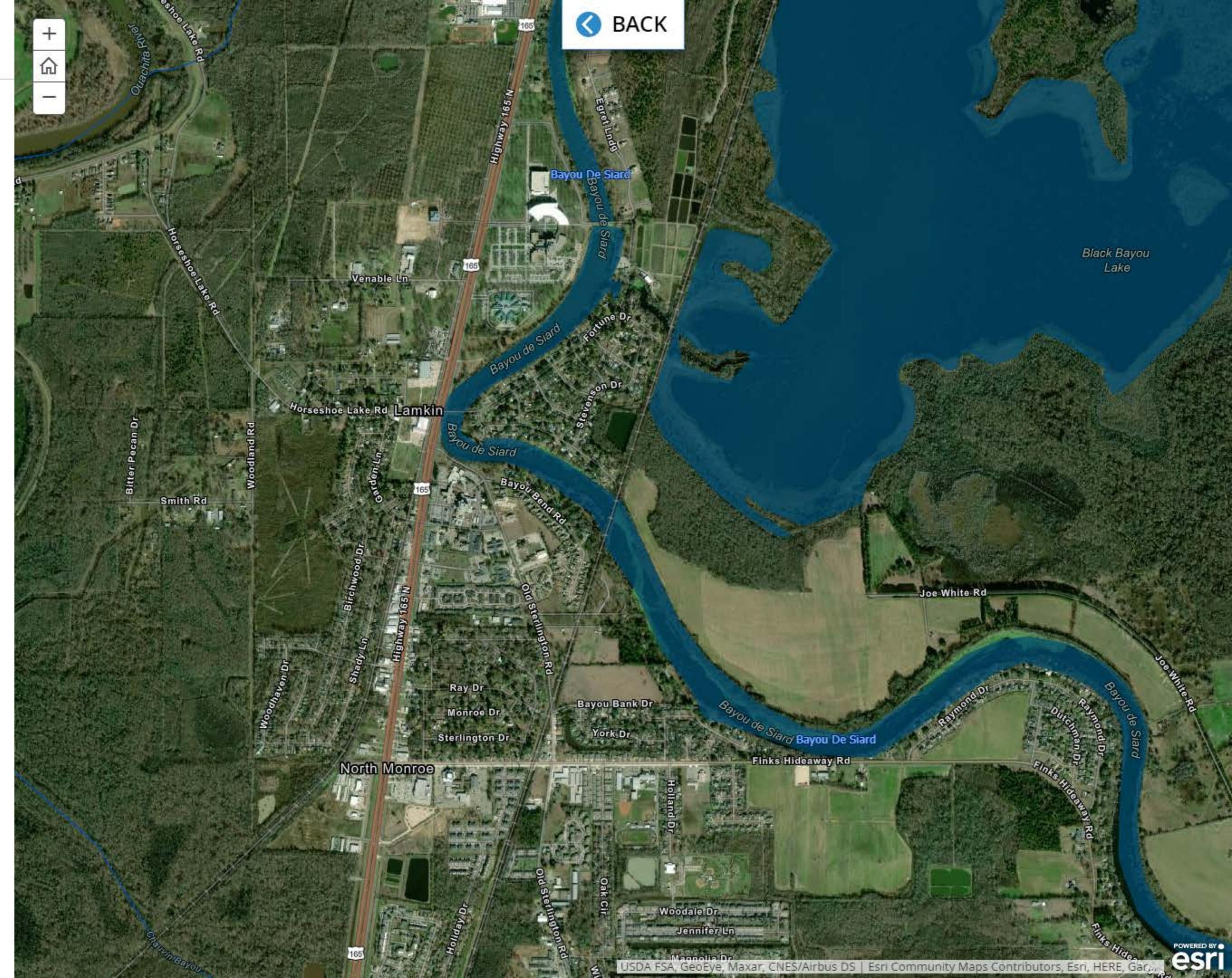
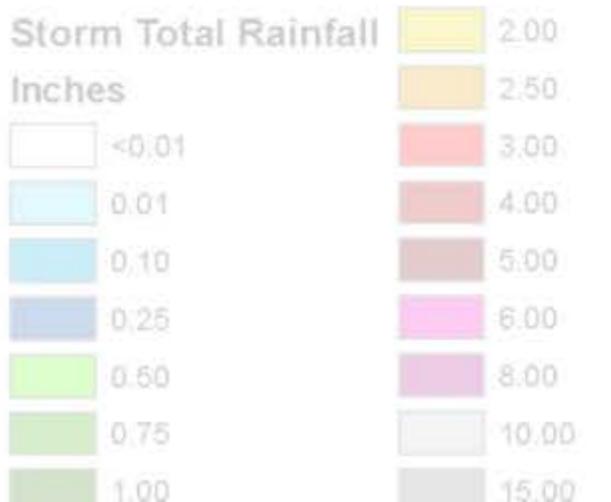
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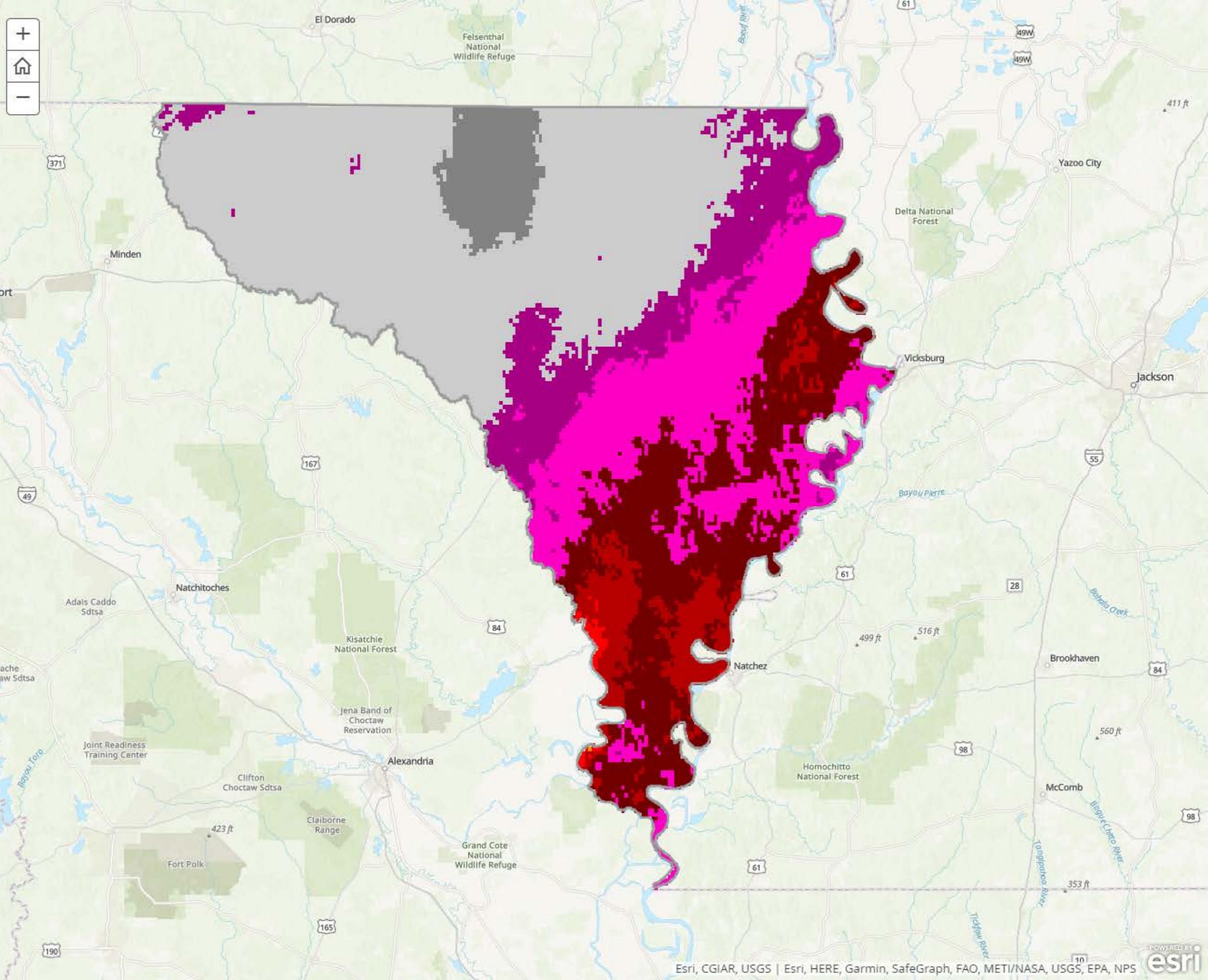
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Fluvial floods

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Pluvial floods

Pluvial, or rainfall-induced, floods result from intense rain that causes surface, flash or urban flooding. These events are independent, not caused by an overflowing body of water.

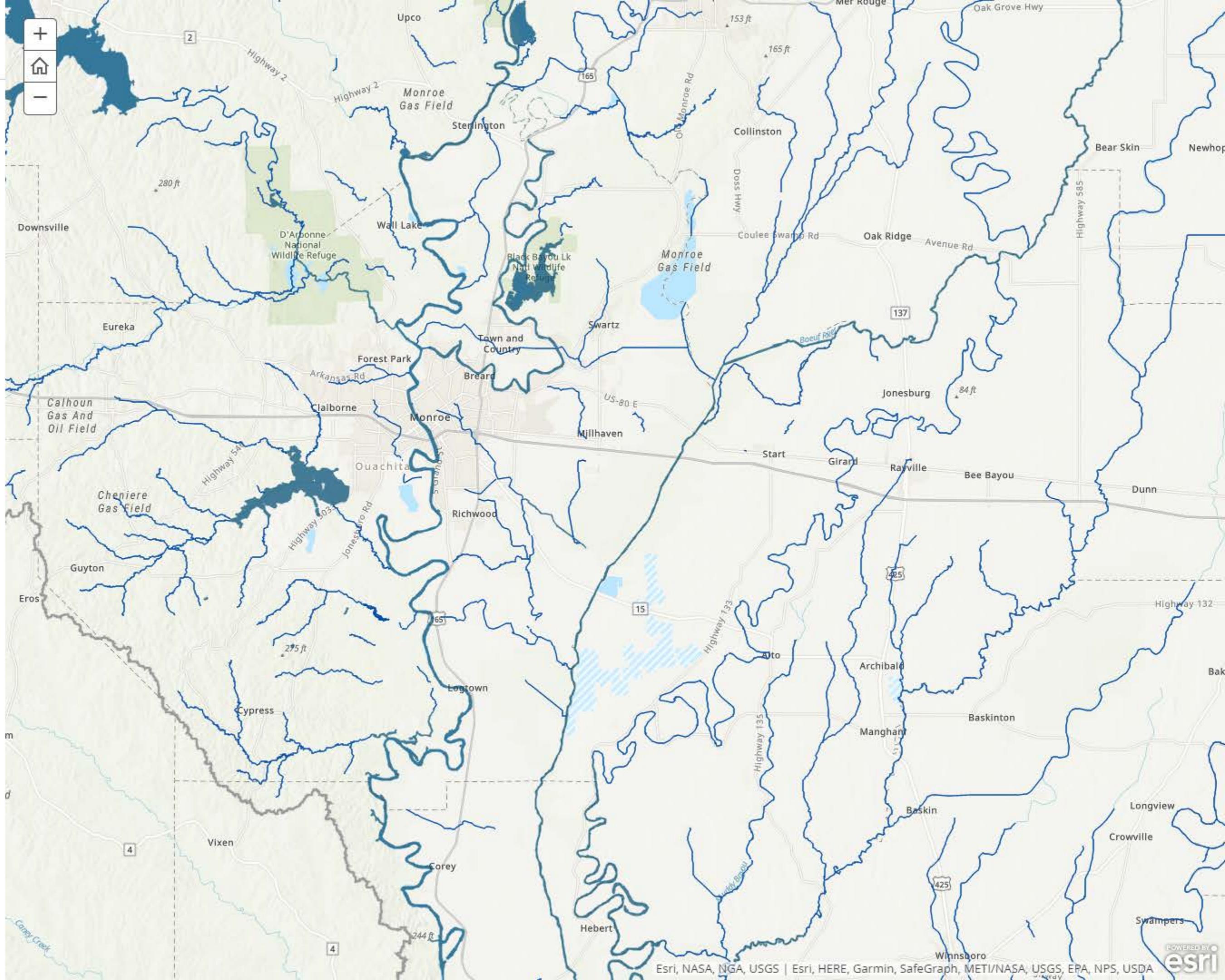
Traditional gaps in understanding flood risk

The Federal Emergency Management Agency is responsible for mapping the nation's hazardous flood areas.

FEMA Special Flood Hazard Areas:

- Provide a basis for flood insurance rates and floodplain management regulations nationwide
- Inform mapped communities about their flood vulnerability
- Impact development of the built environment

Region 3: 40% (estimated) is located in a SFHA and is subject to flooding.



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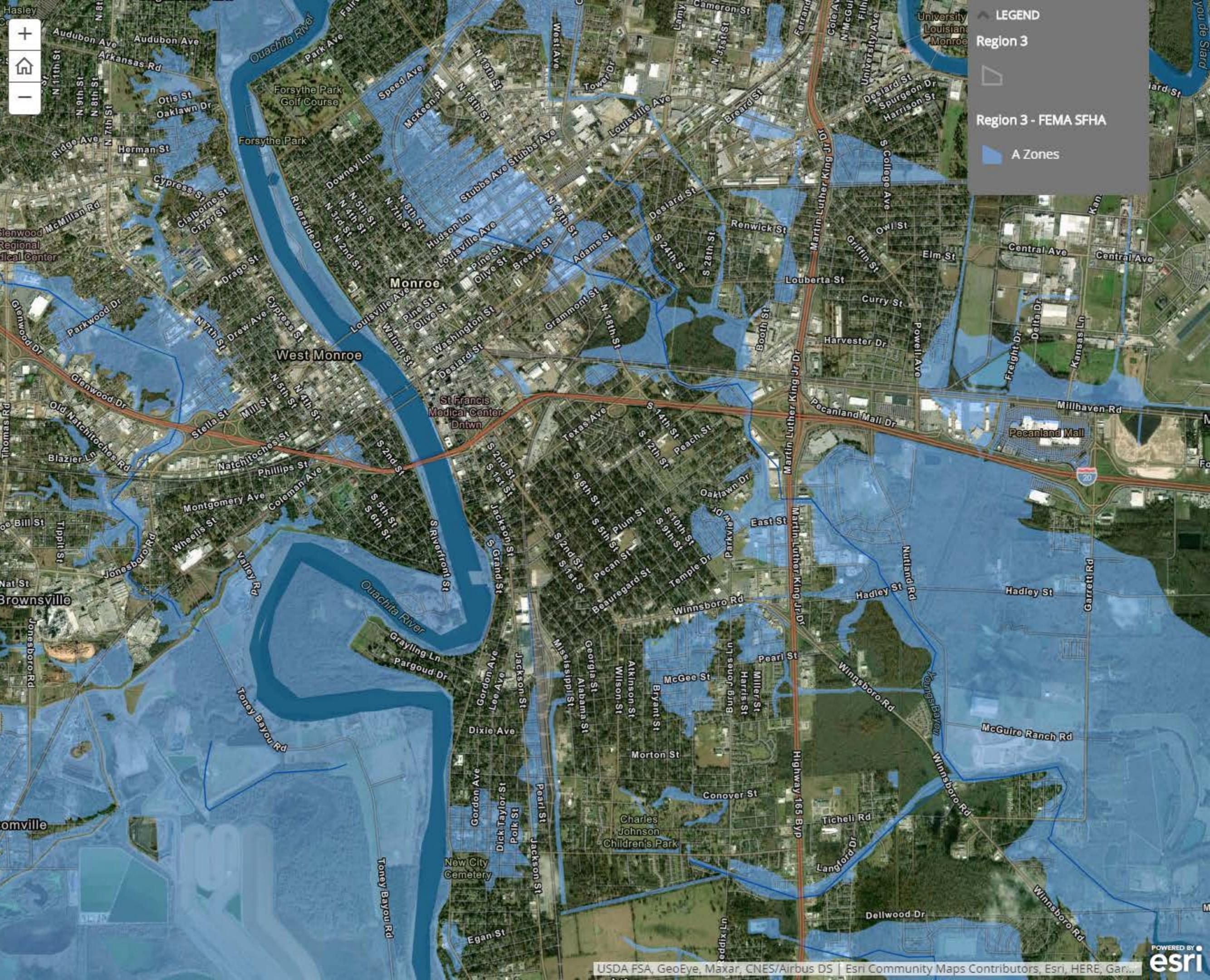
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Traditional gaps in understanding flood risk

A Zones (shown in light blue)

Special Flood Hazard Areas – High Risk

Special Flood Hazard Areas represent the area subject to inundation by a 1% annual chance flood. Structures located within SFHA have a 26% chance of flooding during the life of a



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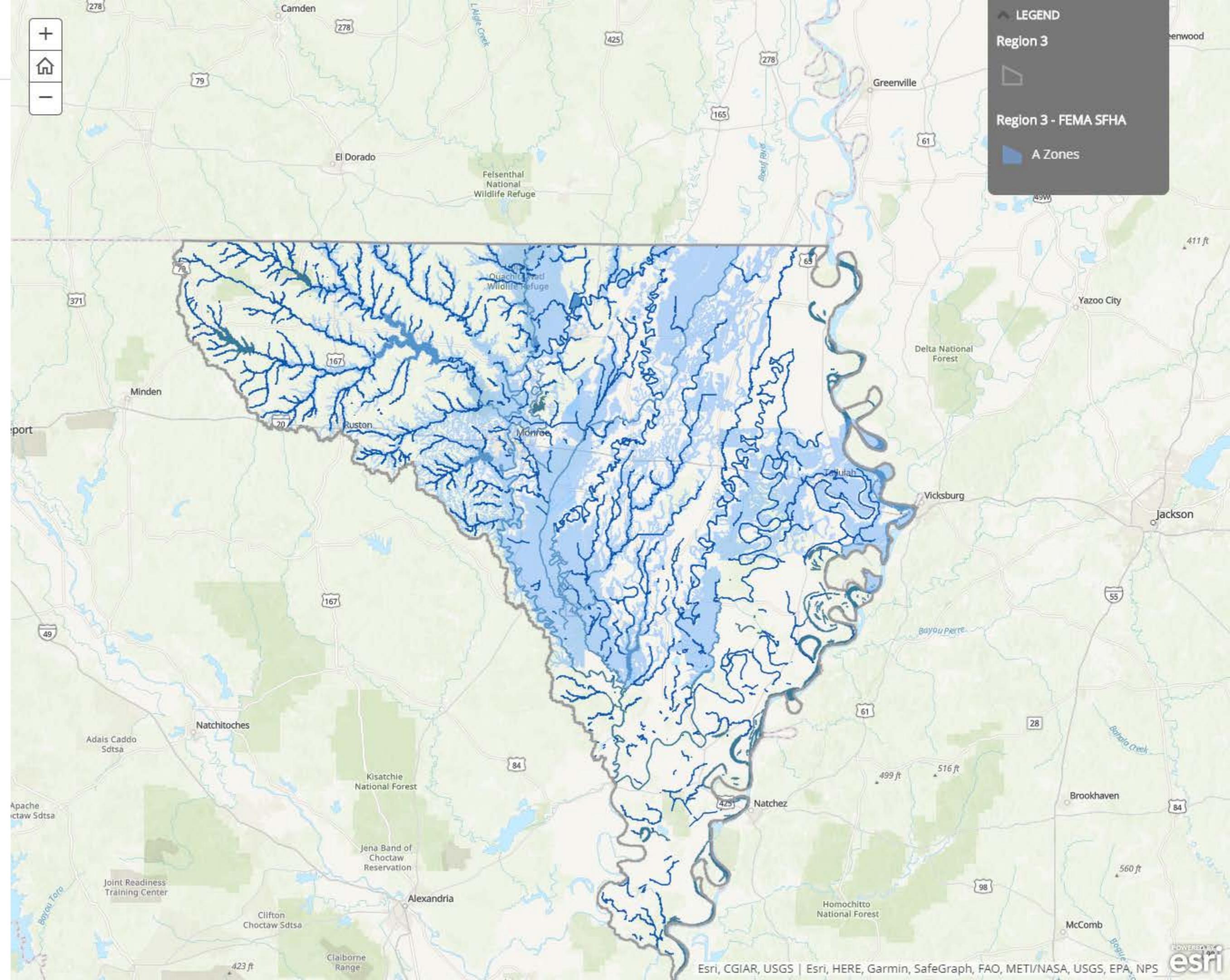
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A ZONES

V Zones (shown in dark blue)

Coastal High Hazard Areas – High Risk

Coastal High Hazard Areas represent the area subject to inundation by a 1% annual chance flood. Federal floodplain



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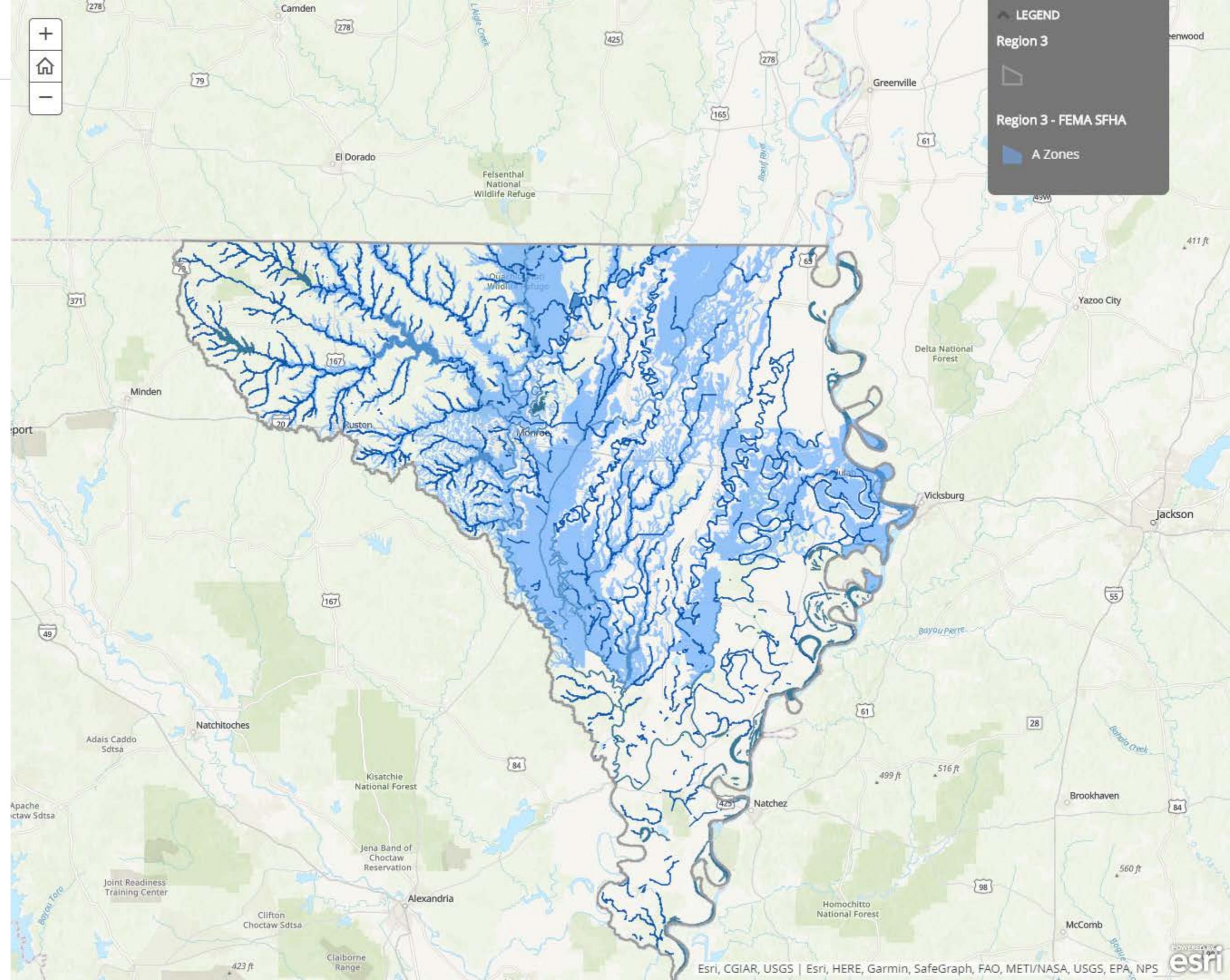
V ZONES

FEMA Repetitive and Severe Repetitive Loss data

A Repetitive Loss structure is an NFIP-insured property that has had at least two paid flood losses of more than \$1,000 each in any 10-year period since 1978.

A Severe Repetitive Loss structure is an NFIP-insured property that meets at least one of the following criteria:

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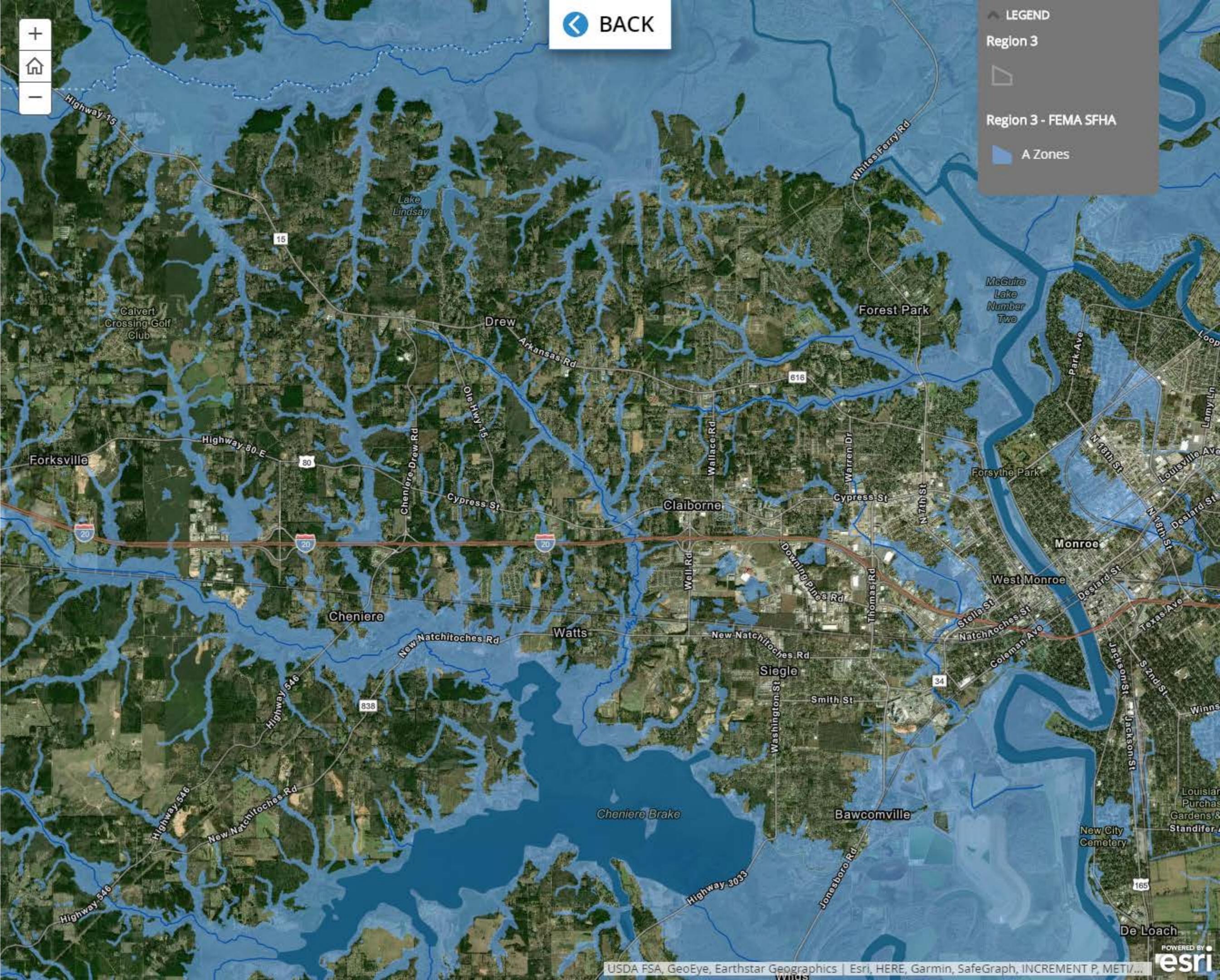
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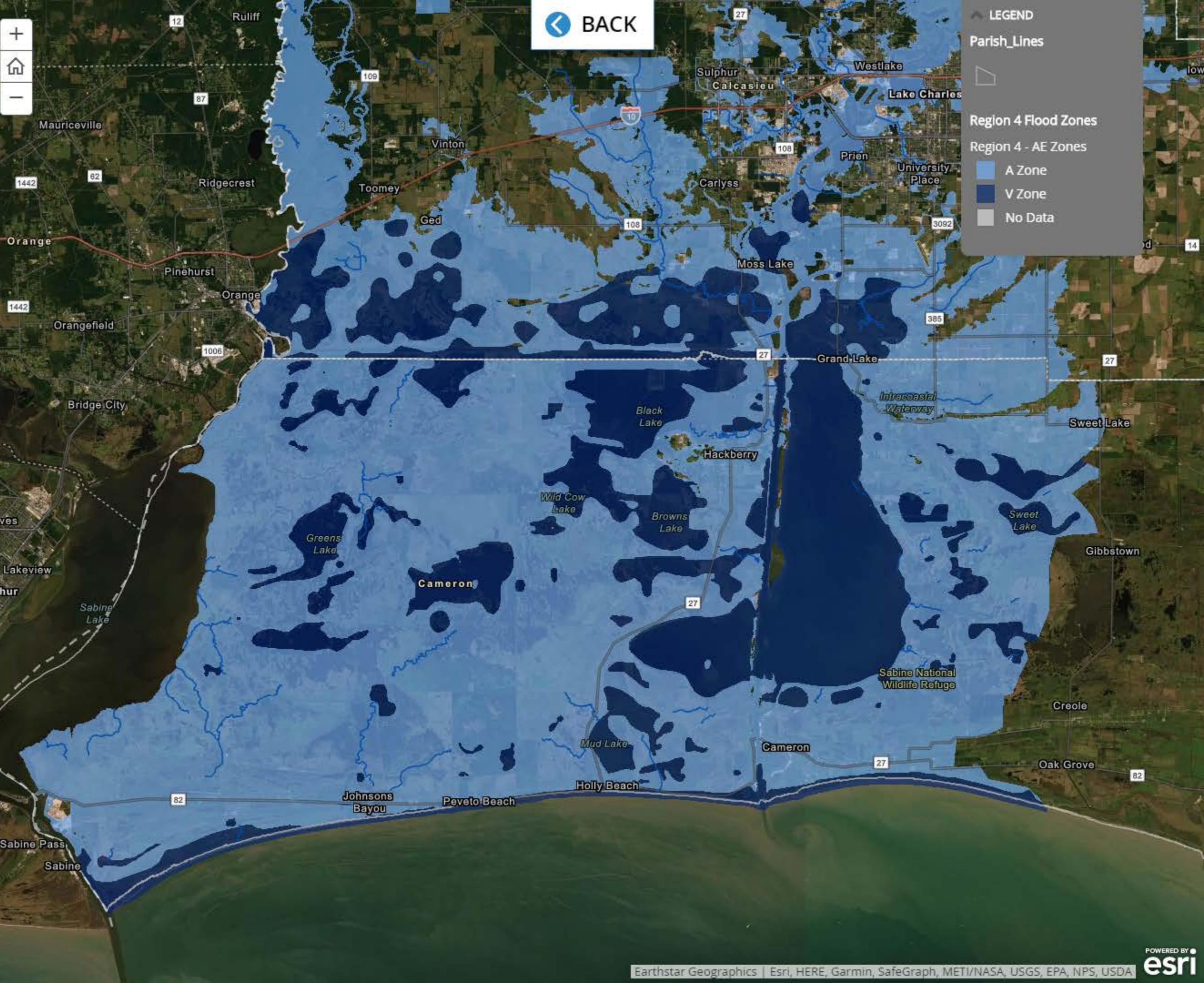
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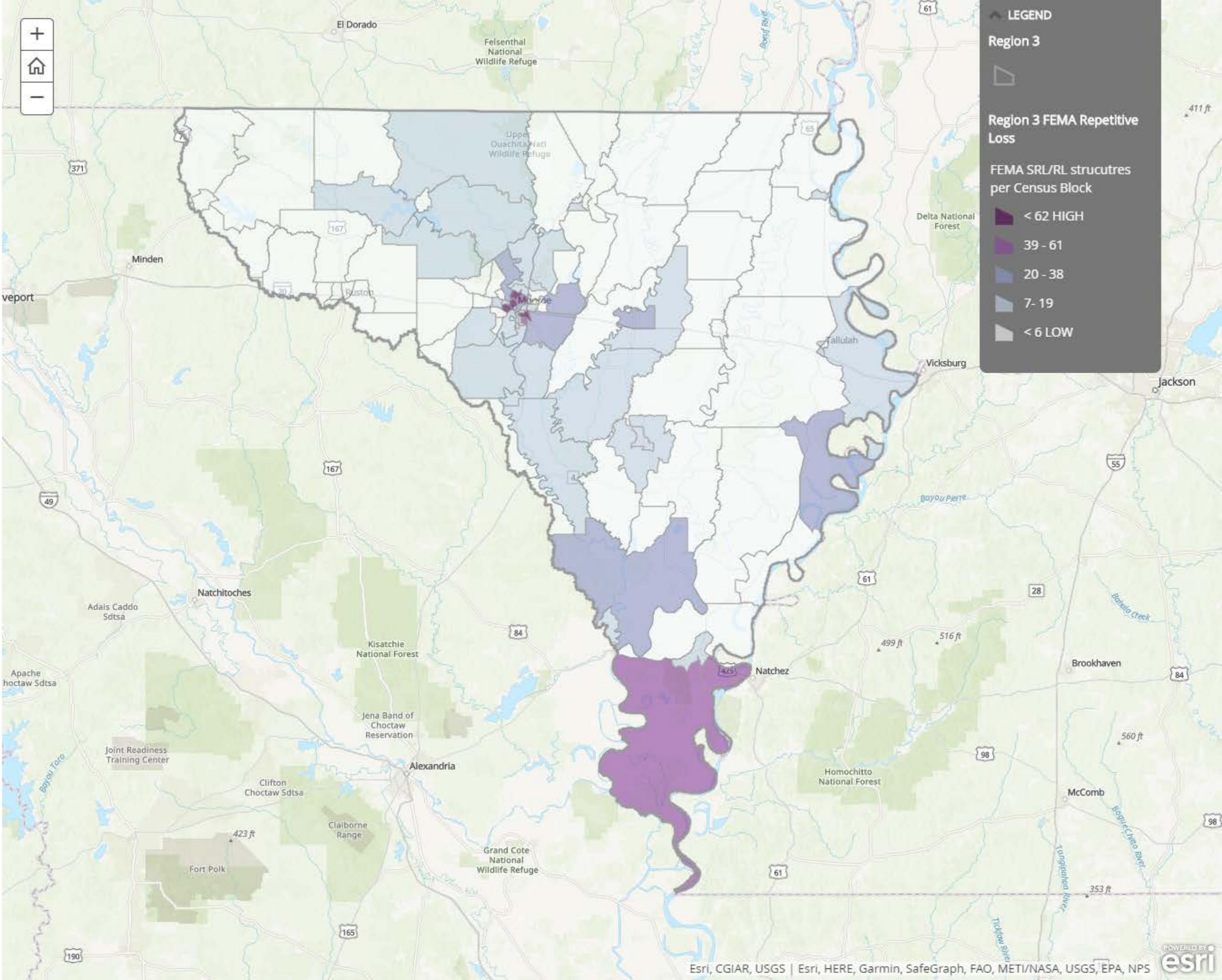


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 - At least two separate claims payments (building payments only) with the cumulative amount of the building portion of such claims exceeding the market value of the building



Case study: March and August 2016 floods

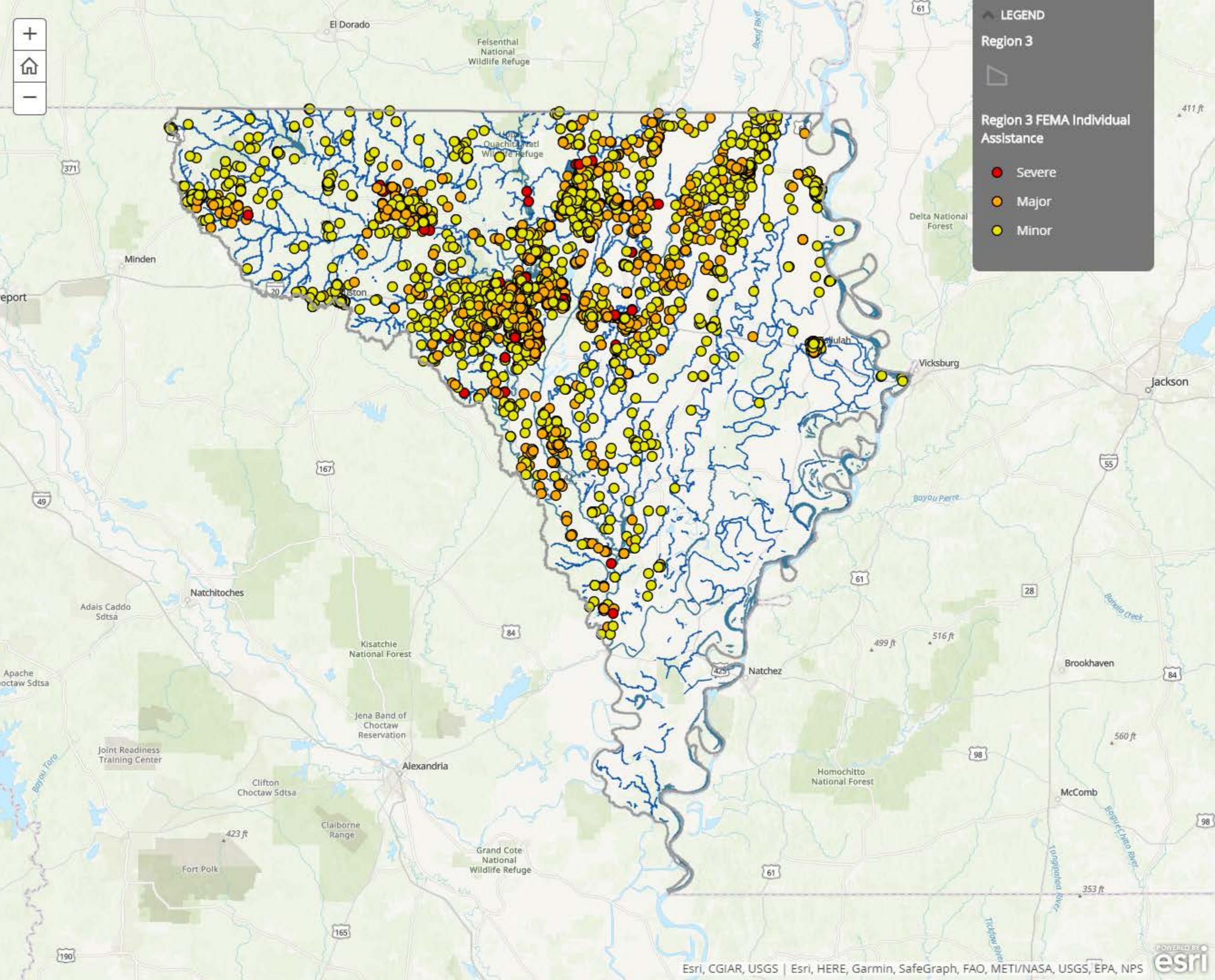
Communities are not required to build structures to withstand the 0.2% chance event, which makes structures inside and outside of SFHA unprepared for these more intense events altogether.

10,620 homes impacted in Region 3

33% of structures impacted located within a SFHA

67% of structures impacted located outside of a SFHA

2016 floods



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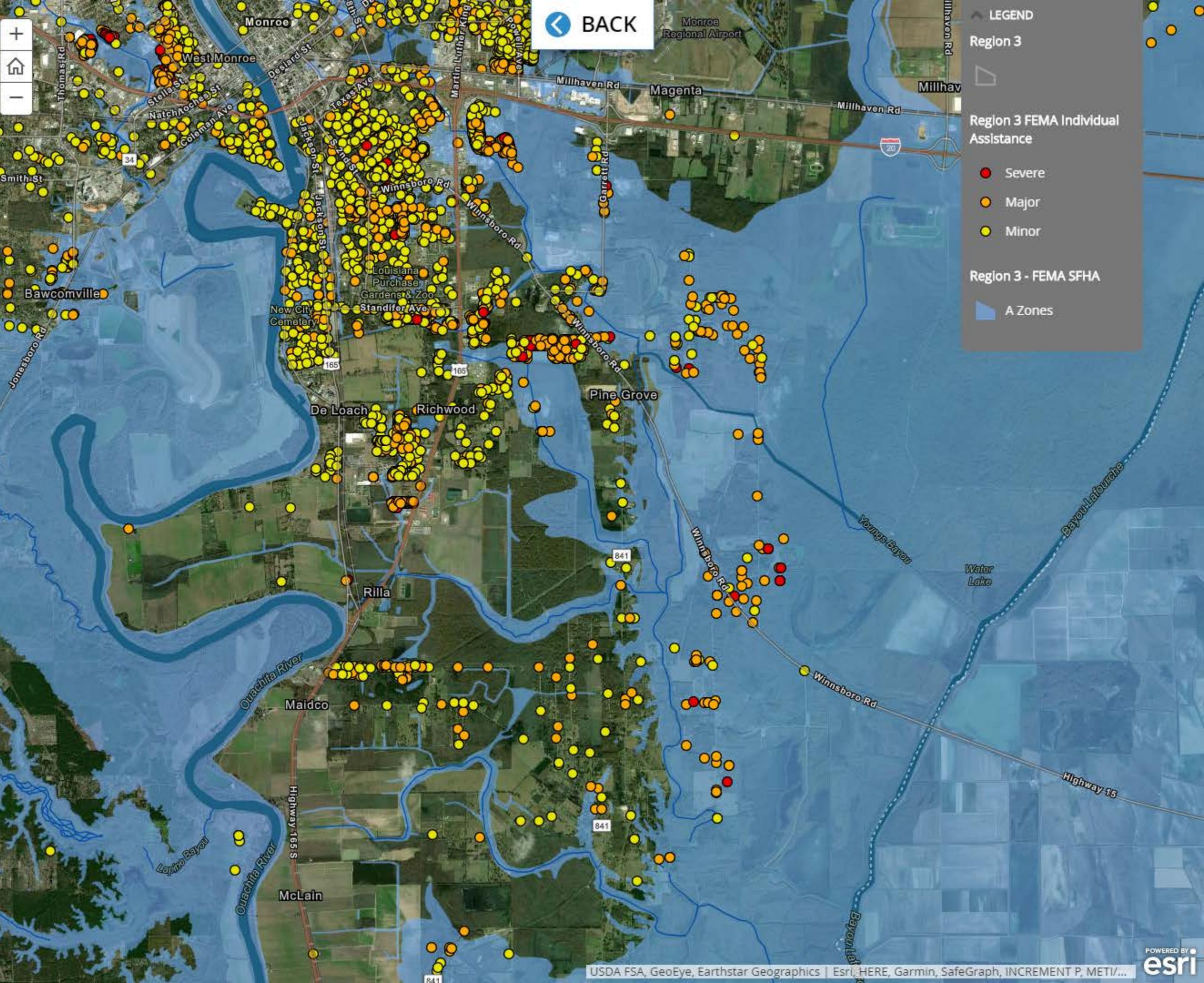
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2016 floods

Best practice: working with nature

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The holding capacity of wetlands helps control floods and prevents waterlogging of crops. Preserving and restoring wetlands together with other water retention efforts can often provide the same level of flood control otherwise provided by expensive dredge operations and levees.



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CDC Social Vulnerability Index

Natural disasters disproportionately impact socially vulnerable populations. Understanding and addressing vulnerability can help mitigate suffering and recovery costs.

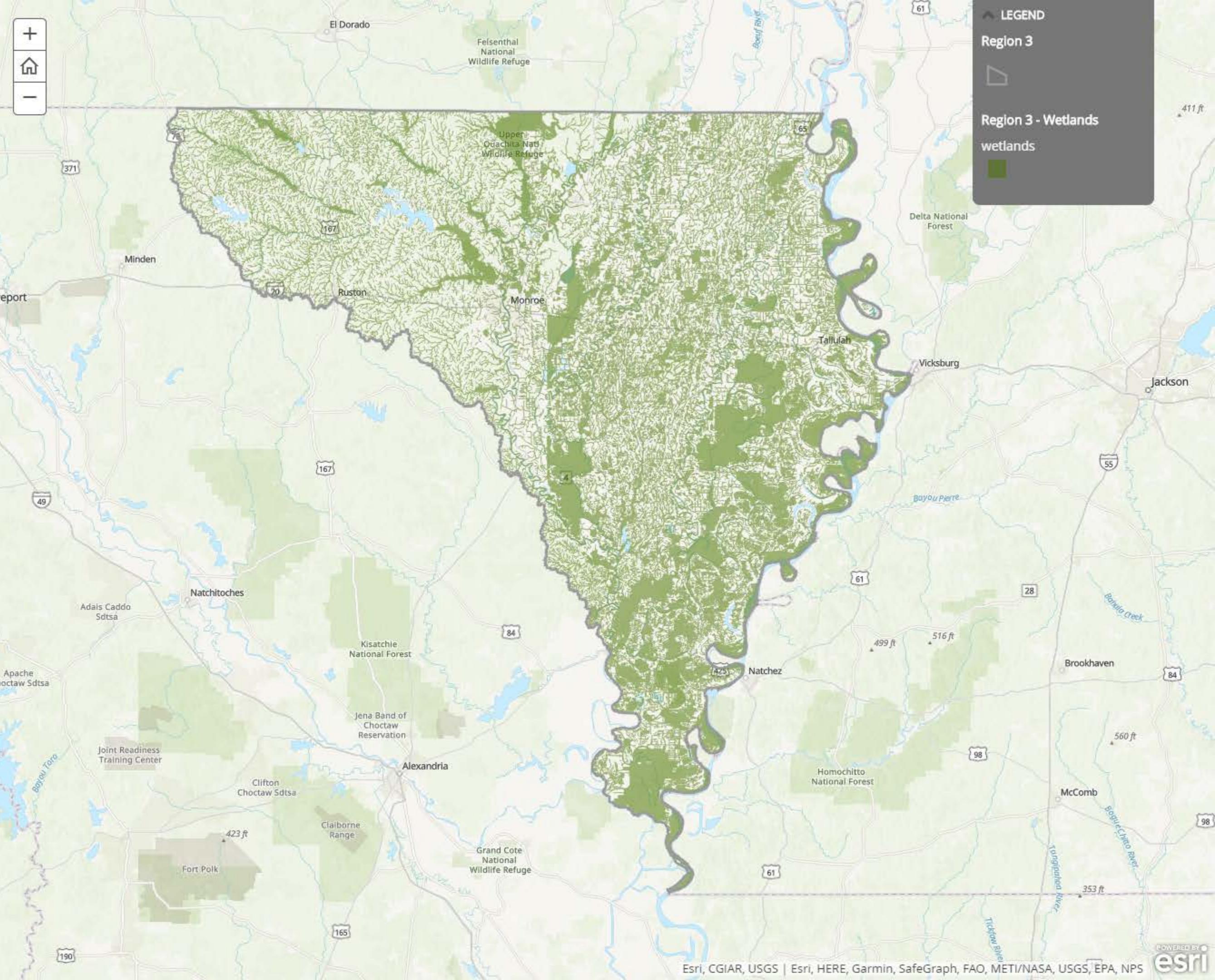
Social vulnerability is based on the following factors:

- Socioeconomic status
- Household composition and disability
- Minority status and language
- Housing and transportation

Monroe area

Break

10-minute break



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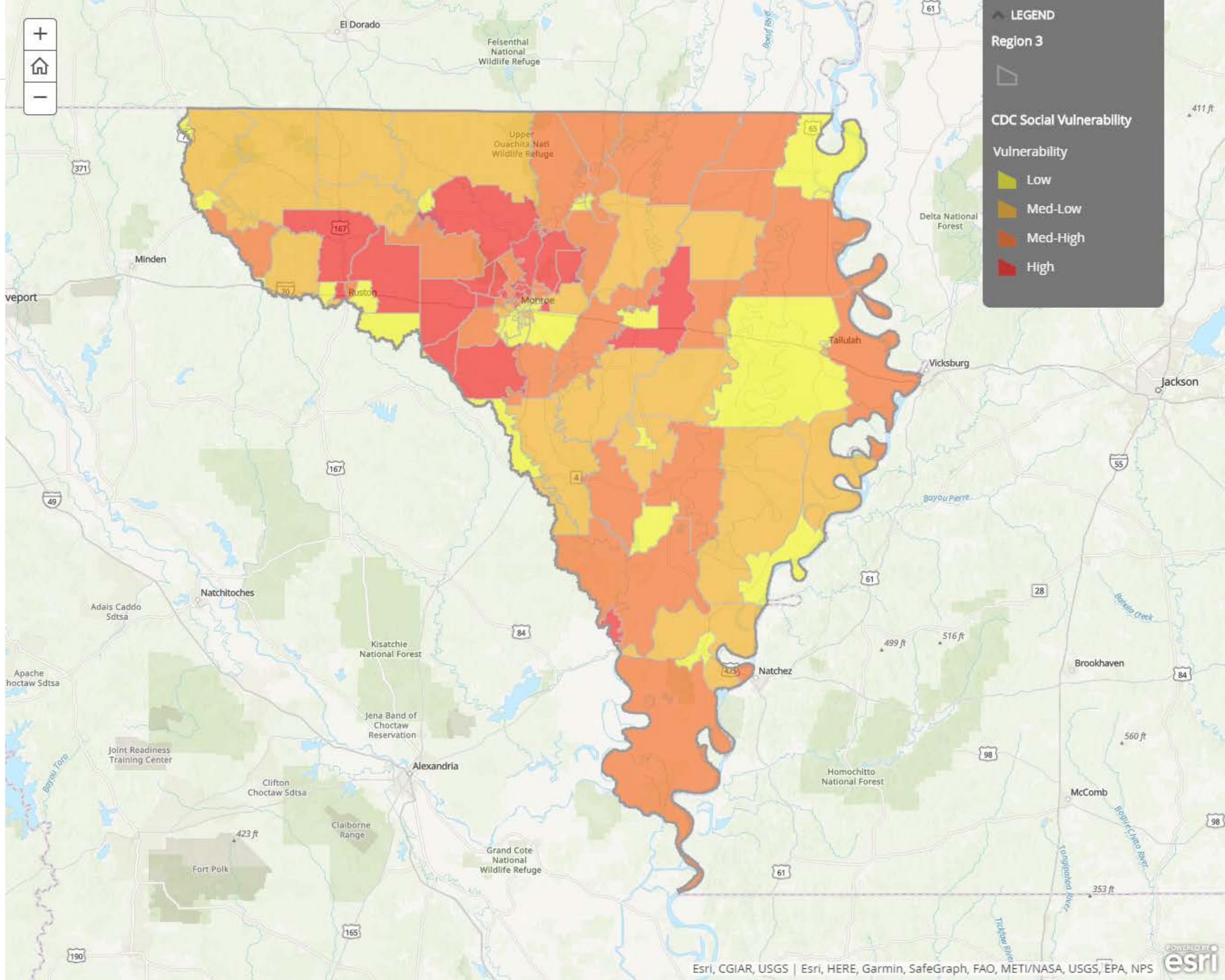
10-minute break

Recap

Putting it all together

- Three types of flood risk
- Special Flood Hazard Areas, A zones and V zones
- FEMA Repetitive Loss
- Impacts of the 2016 floods
- Wetland areas
- Social Vulnerability Index

Mapping exercise



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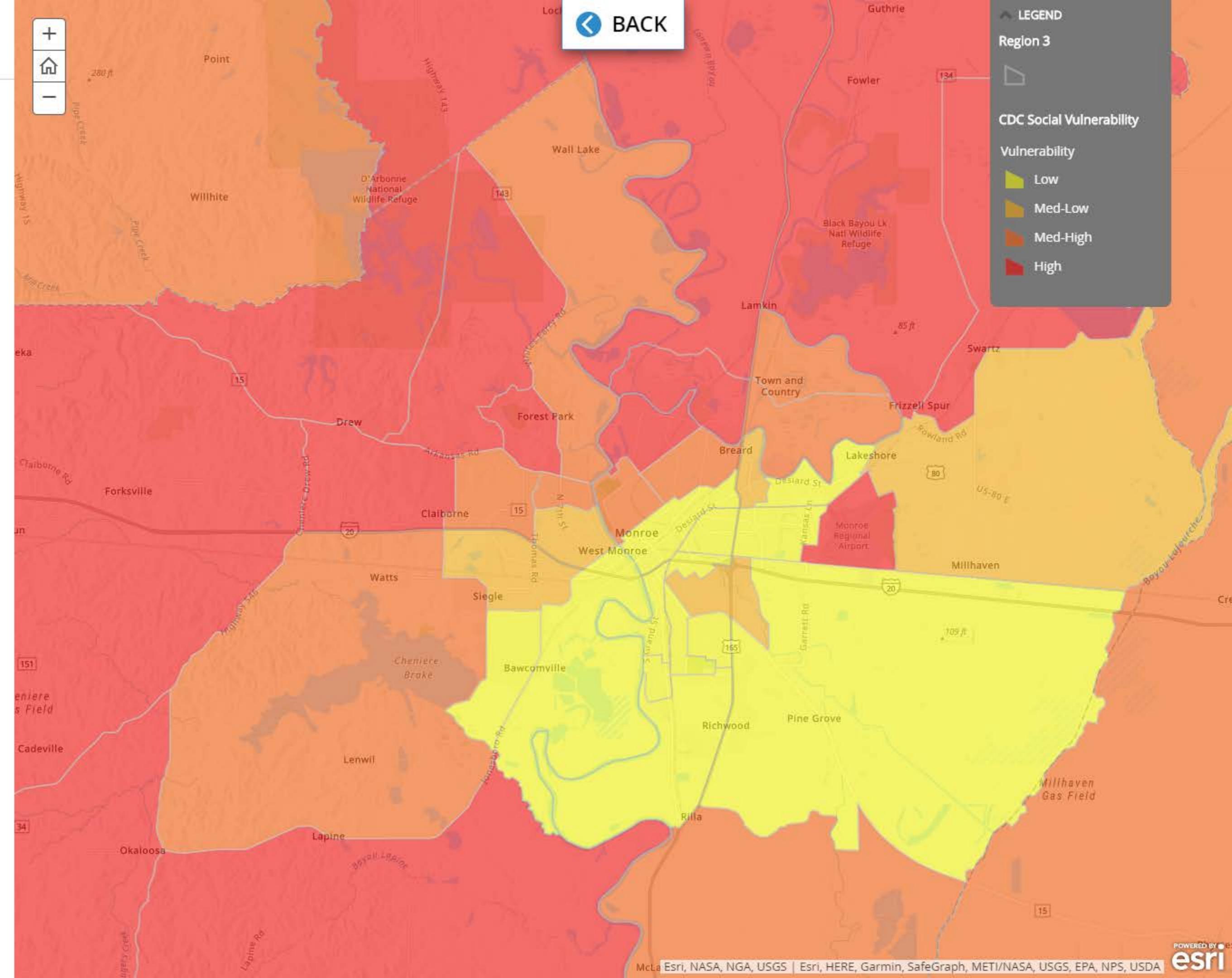
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 BACK

LEGEND

Region 3



CDC Social Vulnerability

Vulnerability

- Low
- Med-Low
- Med-High
- High

Break

10-minute break

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Mapping exercise

Now we will examine risk more closely by combining these datasets and dividing Region 3 into mapping areas. Please locate your packets.

Legend

FEMA Individual Assistance - Damage Category	CDC Social Vulnerability
● Severe	■ High
○ Major	■ Med-High
○ Minor	■ Med-Low
	■ Low



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WATERSHED
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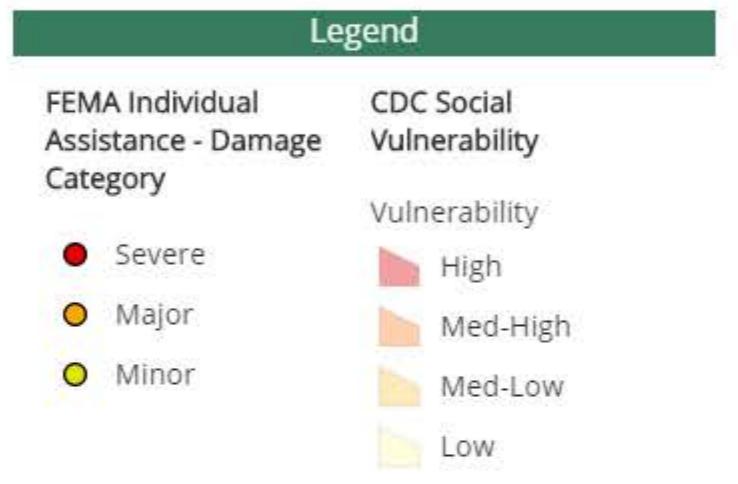
FEMA Individual Assistance - Damage Category	CDC Social Vulnerability
Severe	High
Major	Med-High
Minor	Med-Low
	Low

Let's get started!



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Report out and next steps

LWI will incorporate the feedback gathered today into the story map to further refine our understanding of flood risk in Region 1.



Mapping Exercise
◀ BACK

▶ Switch to
builder mode

A Story Map

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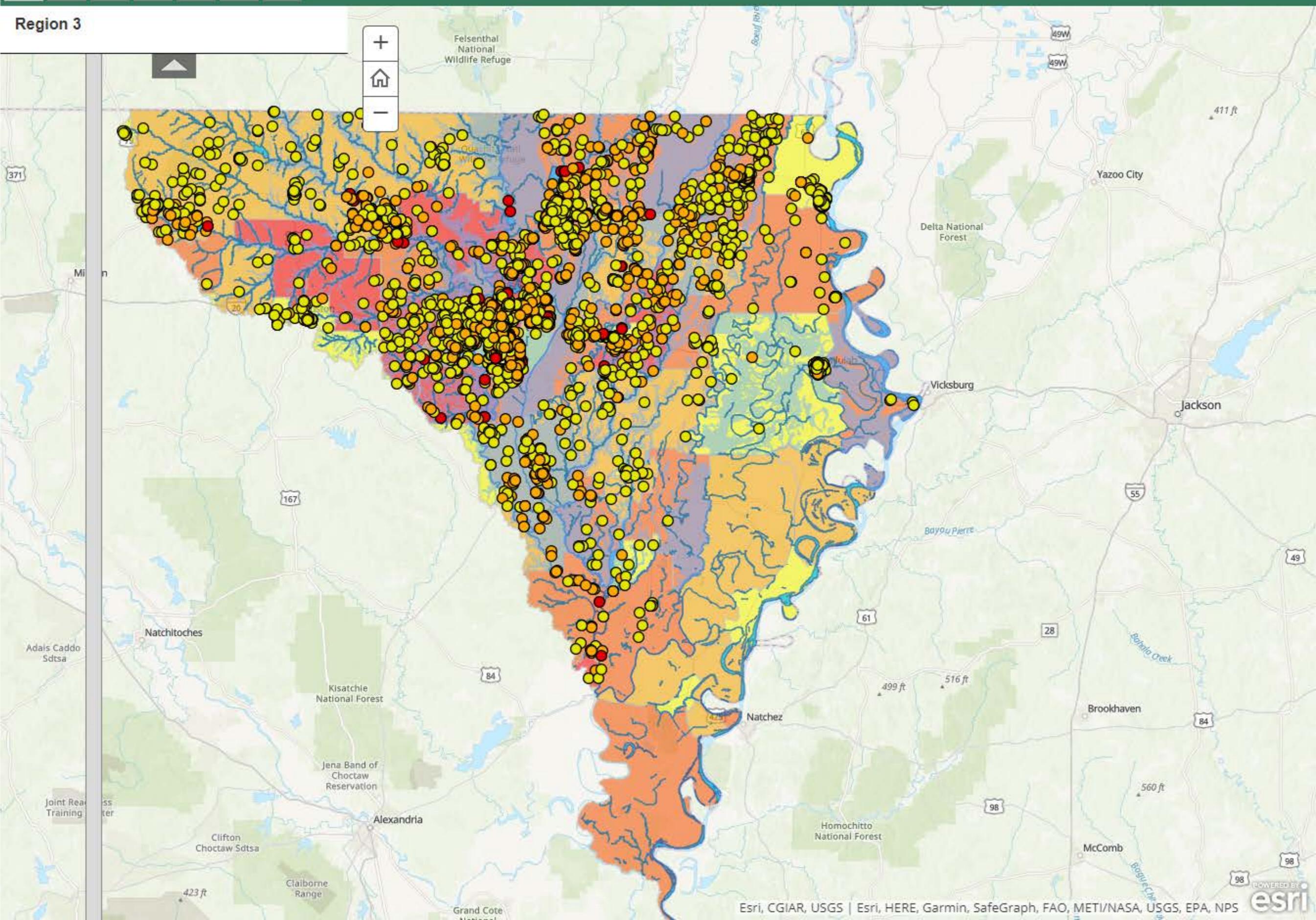
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Severe	Vulnerability
Major	High
Minor	Med-High

Med-Low	Low
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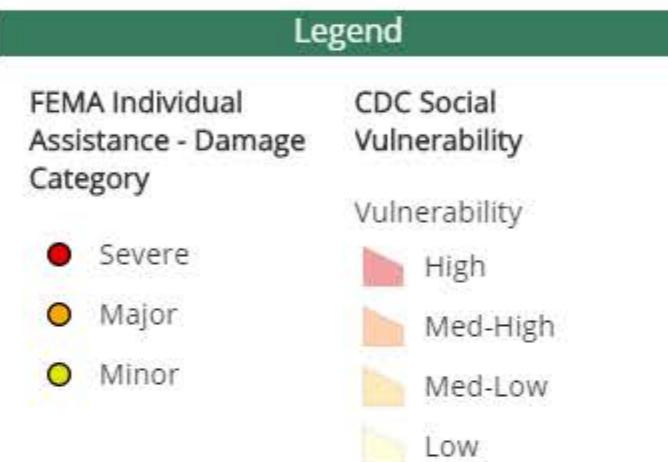
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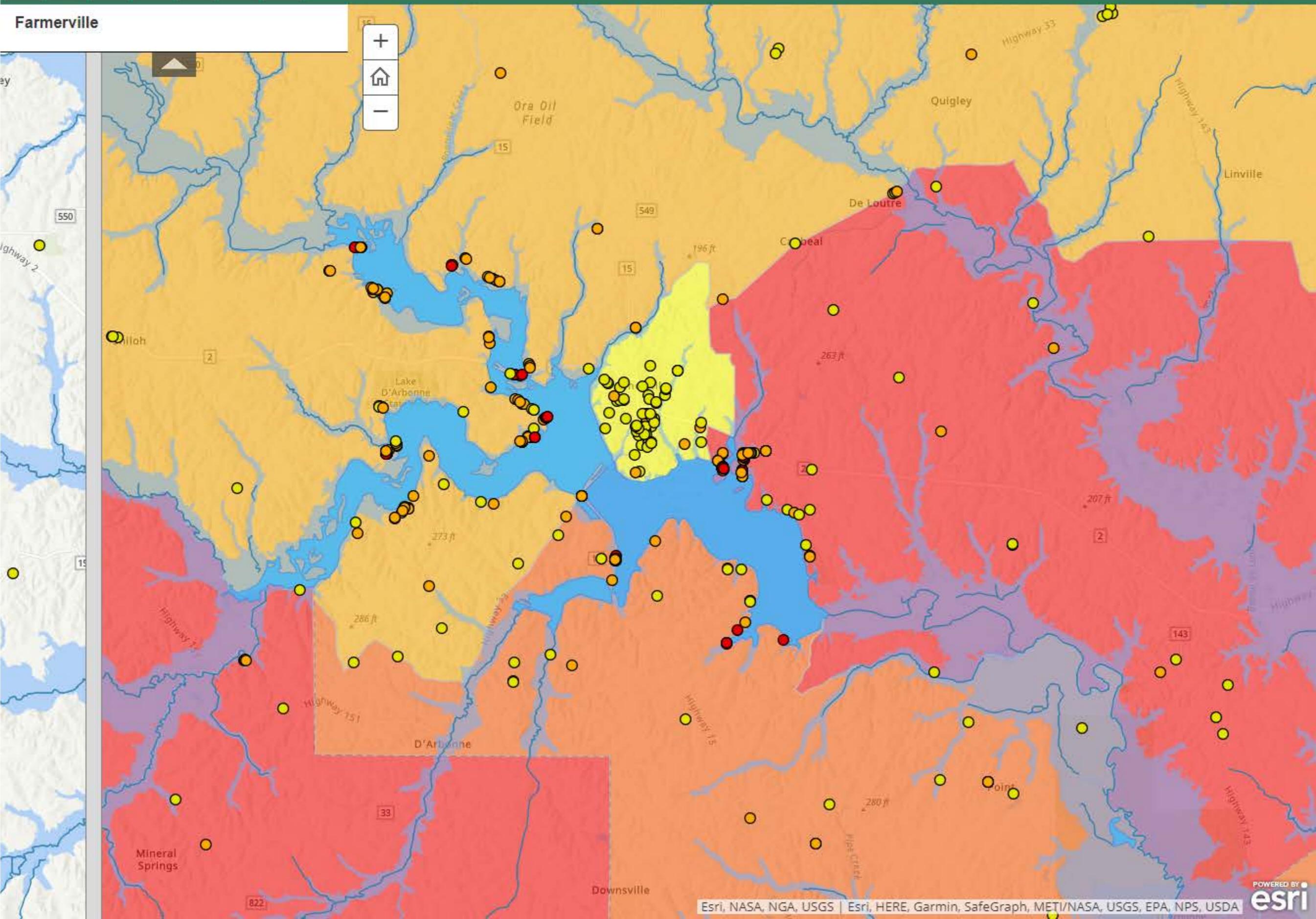
BACK

Switch to builder mode

A Story Map

1 2 3 4 5 6 7

Farmerville



Mapping Exercise

BACK

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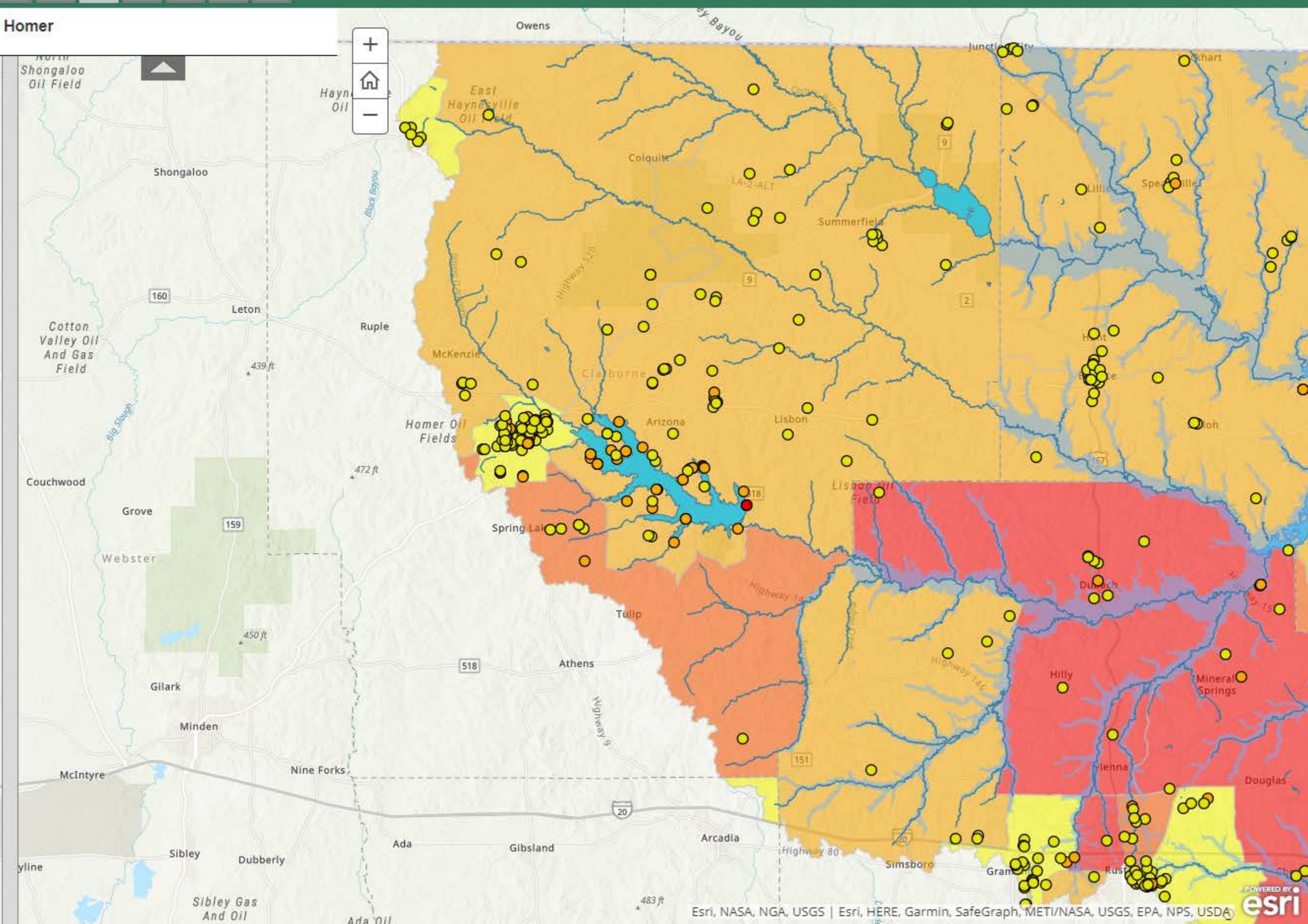
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[1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#)

Homer



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	Med-Low
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Mapping Exercise

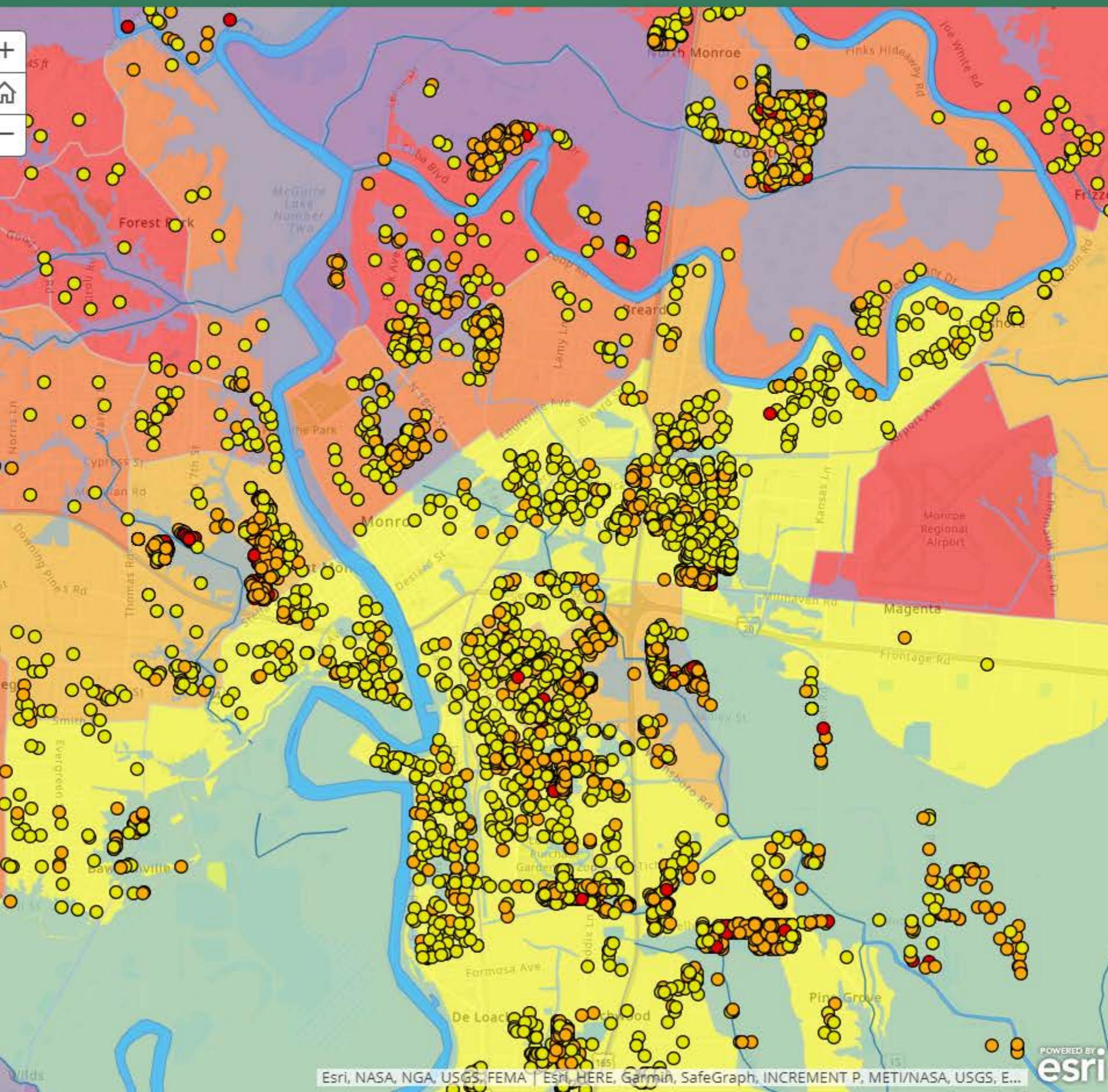
BACK

Switch to
builder mode

A Story Map

1 2 3 4 5 6 7

Monroe/West Monroe



Mapping exercise

Now we will examine risk more closely by combining these datasets and dividing Region 3 into mapping areas. Please locate your packets.

Legend

FEMA Individual Assistance - Damage Category	CDC Social Vulnerability
Severe	High
Major	Med-High
Minor	Med-Low
	Low

Let's get started!

Report out and next steps

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Mapping Exercise

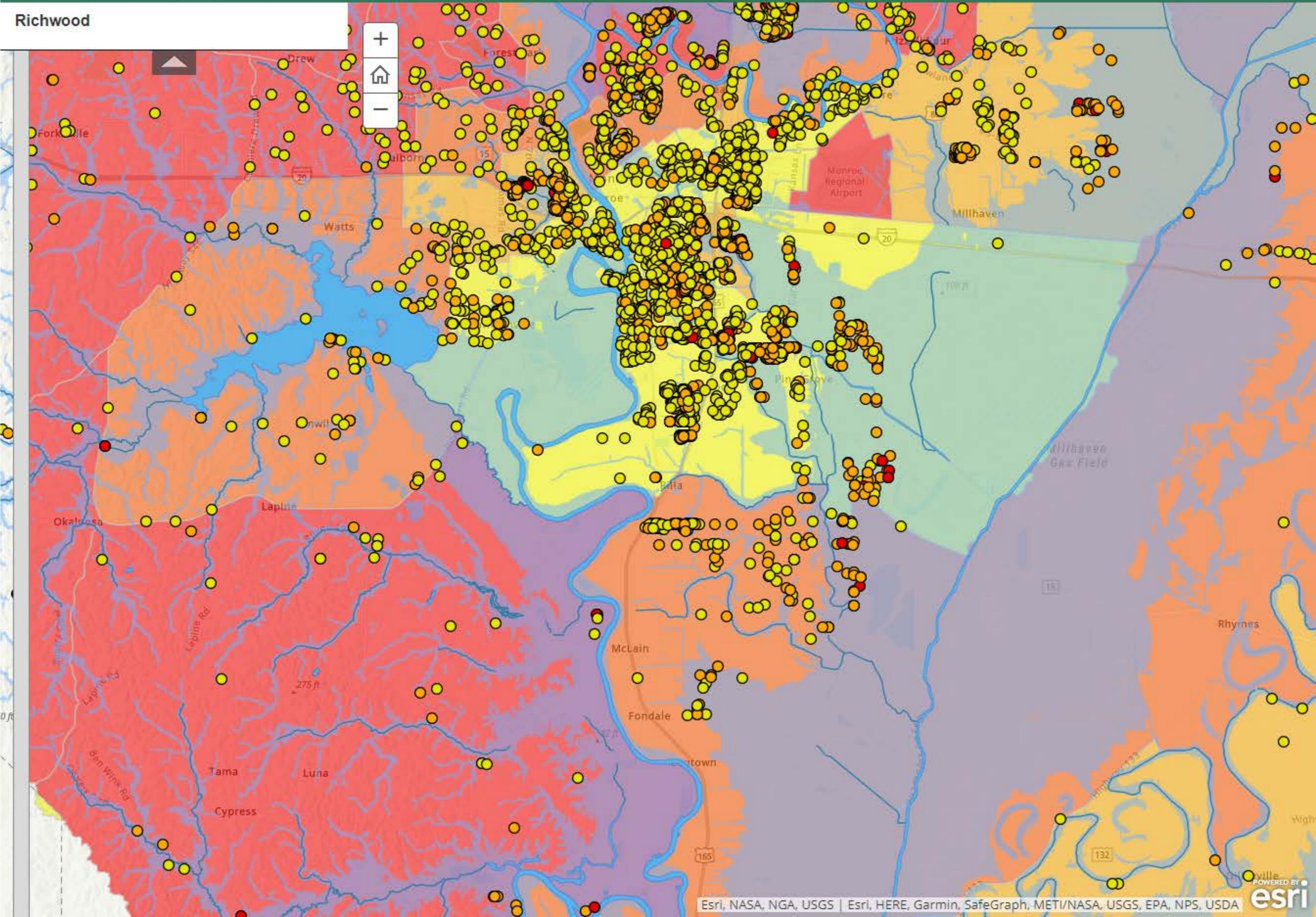
BACK

Switch to builder mode

A Story Map

1 2 3 4 5 6 7

Richwood



Mapping exercise

Now we will examine risk more closely by combining these datasets and dividing Region 3 into mapping areas. Please locate your packets.

Legend

FEMA Individual Assistance - Damage Category	CDC Social Vulnerability
Severe	Vulnerability
Major	High
Minor	Med-High
	Med-Low
	Low

Let's get started!

Report out and next steps

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Mapping Exercise

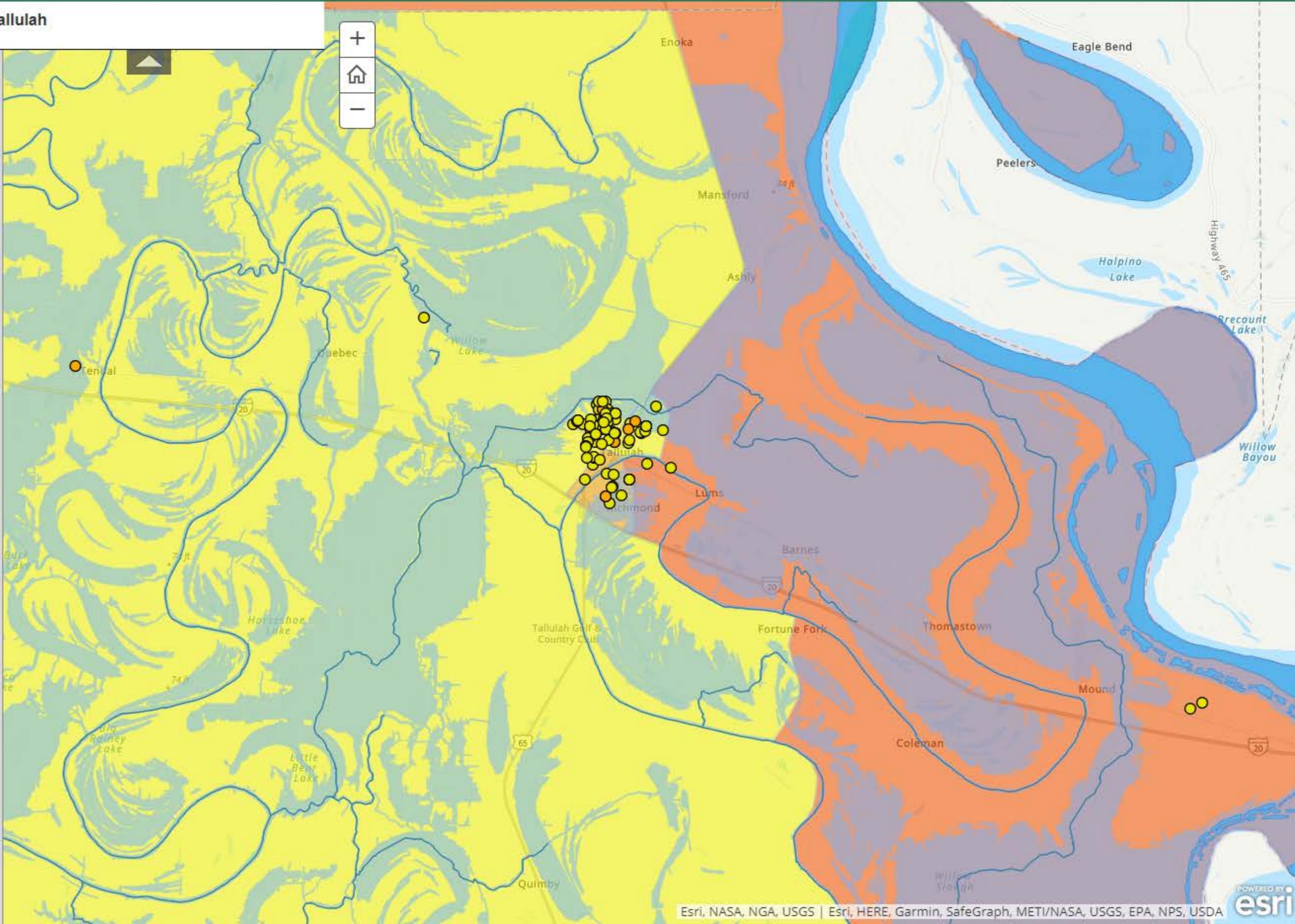
BACK

Switch to builder mode

A Story Map

1 2 3 4 5 6 7

Tallulah



Mapping Exercise

[BACK](#)
 Switch to
builder mode

A Story Map

Mapping exercise

Now we will examine risk more closely by combining these datasets and dividing Region 3 into mapping areas. Please locate your packets.

Legend

FEMA Individual Assistance - Damage Category	CDC Social Vulnerability
Severe	Vulnerability
Major	High
Minor	Med-High
	Med-Low
	Low

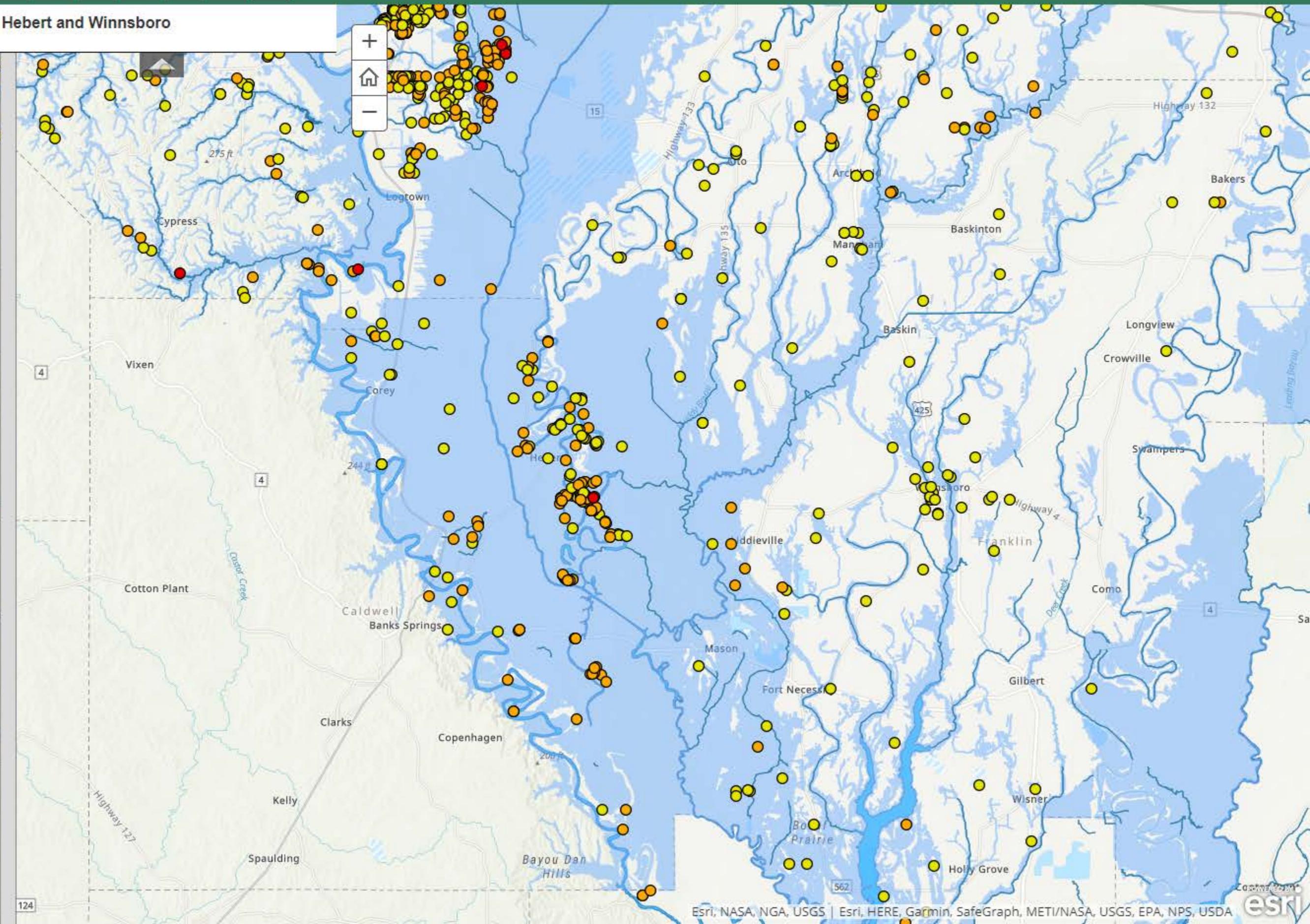
Let's get started!

Report out and next steps

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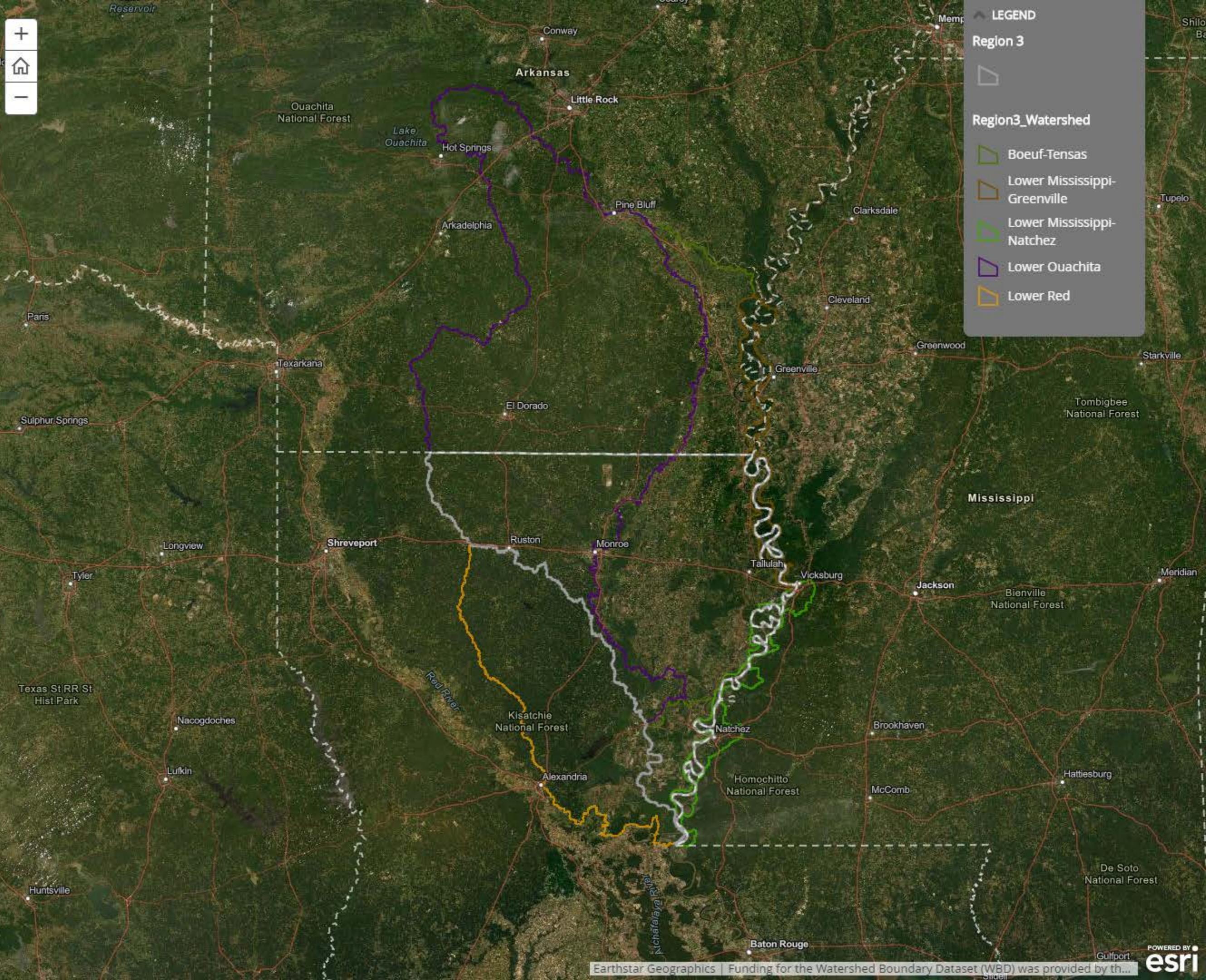
[1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#)

Hebert and Winnboro



Report out and next steps

LWI will incorporate the feedback gathered today into the story map to further refine our understanding of flood risk in Region 3.



Public comment

For additional comments or questions, you can call 504.556.9727 or email watershed@la.gov. The deadline to provide input is Aug. 13.

A recording of this presentation will be available after the meeting on the LWI website.

