Washington Parish Hazard Mitigation Plan Update Public Meeting

June 24, 2015

Franklinton, LA

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Stephenson National Center for Security Research and Training

Agenda

- Hazard Mitigation Planning Process – SDMI Staff
- Risk Assessment – SDMI Staff
- Update on Previous/Current Mitigation Projects – Washington Parish OHSEP
- Public Outreach Activities – SDMI Staff/Washington Parish OHSEP

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Hazard Mitigation

- 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)

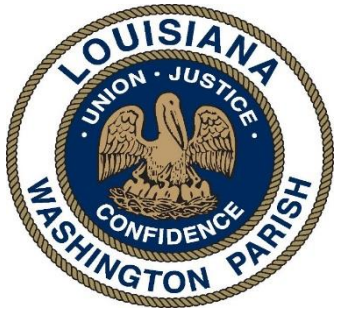
Section 322 of the Act specifically addresses mitigation planning and requires state and local governments to prepare multi-hazard migration plans as a precondition for receiving FEMA mitigation project grants.

- 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 Washington 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 as part of the Hazard Mitigation Steering Committee:
  - Washington Unincorporated
  - Town of Bogalusa
  - Town of Franklinton
  - Village of Angie
  - Village of Varnado



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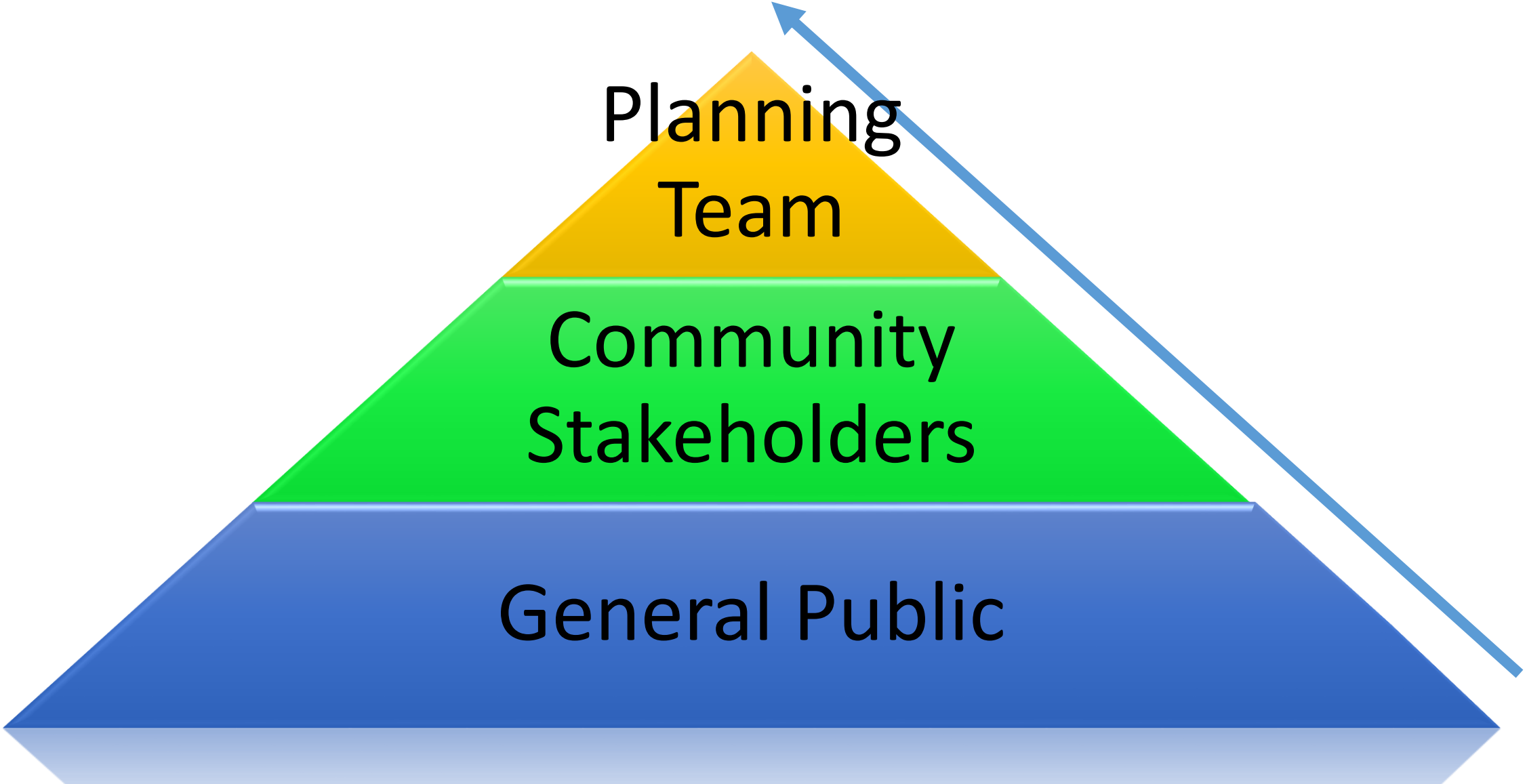
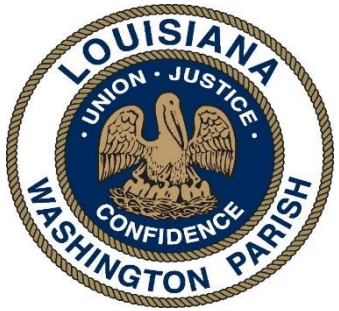
Collaborative Planning Approach



Planning Development



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New Plan Layout

- Section 1: Introduction
  - Updated demographics
  - Economics
  - Update parish/jurisdiction descriptions
- Section 2: Hazard Identification and Parishwide Risk Assessment
- Section 3: Capability Assessment
- Section 4: Mitigation Strategies
  - New actions
  - Action updates

  Survey results

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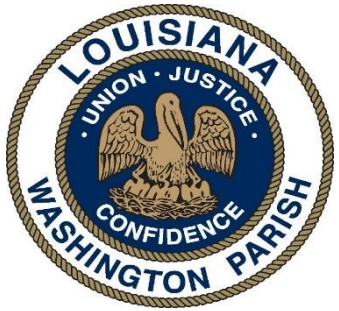
New Plan Layout

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



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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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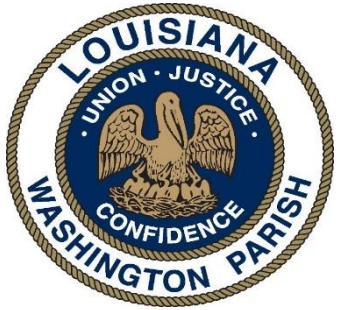
Hazard Identification and Risk Assessment

- Tropical Cyclones
- Flooding
- Tornadoes
- Wildfires



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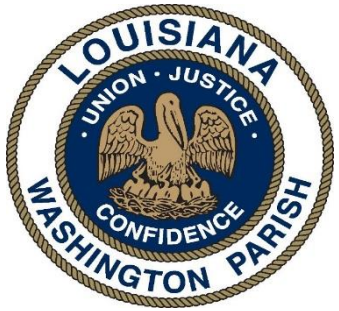
Risk Assessment: Hazard Identification

- 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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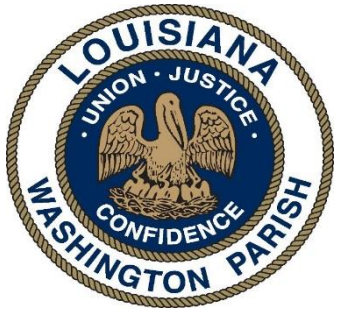
Risk Assessment: Analyze Risk and Summarize Vulnerability

- 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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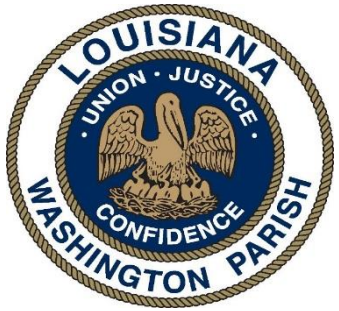
Risk Assessment: Hazards Identified

- These natural hazards were selected based on an assessment of the overall impact (geographic extent, magnitude, probability, and exacerbating or mitigating conditions) affecting Washington Parish;
- The hazards that pose the greatest potential for a negative impact are:

  -Tropical Cyclone, Flooding, Tornadoes, Wildfire



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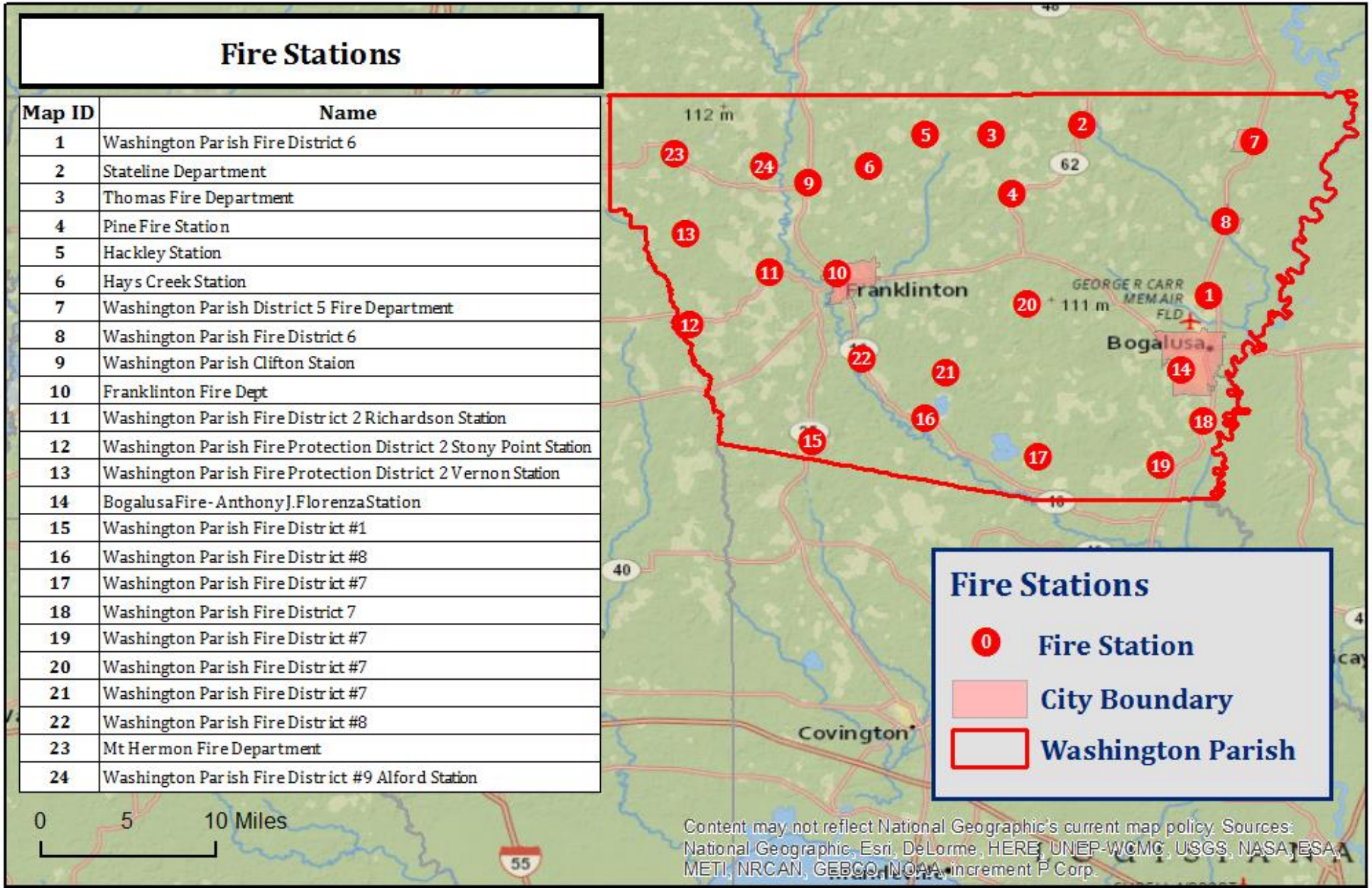
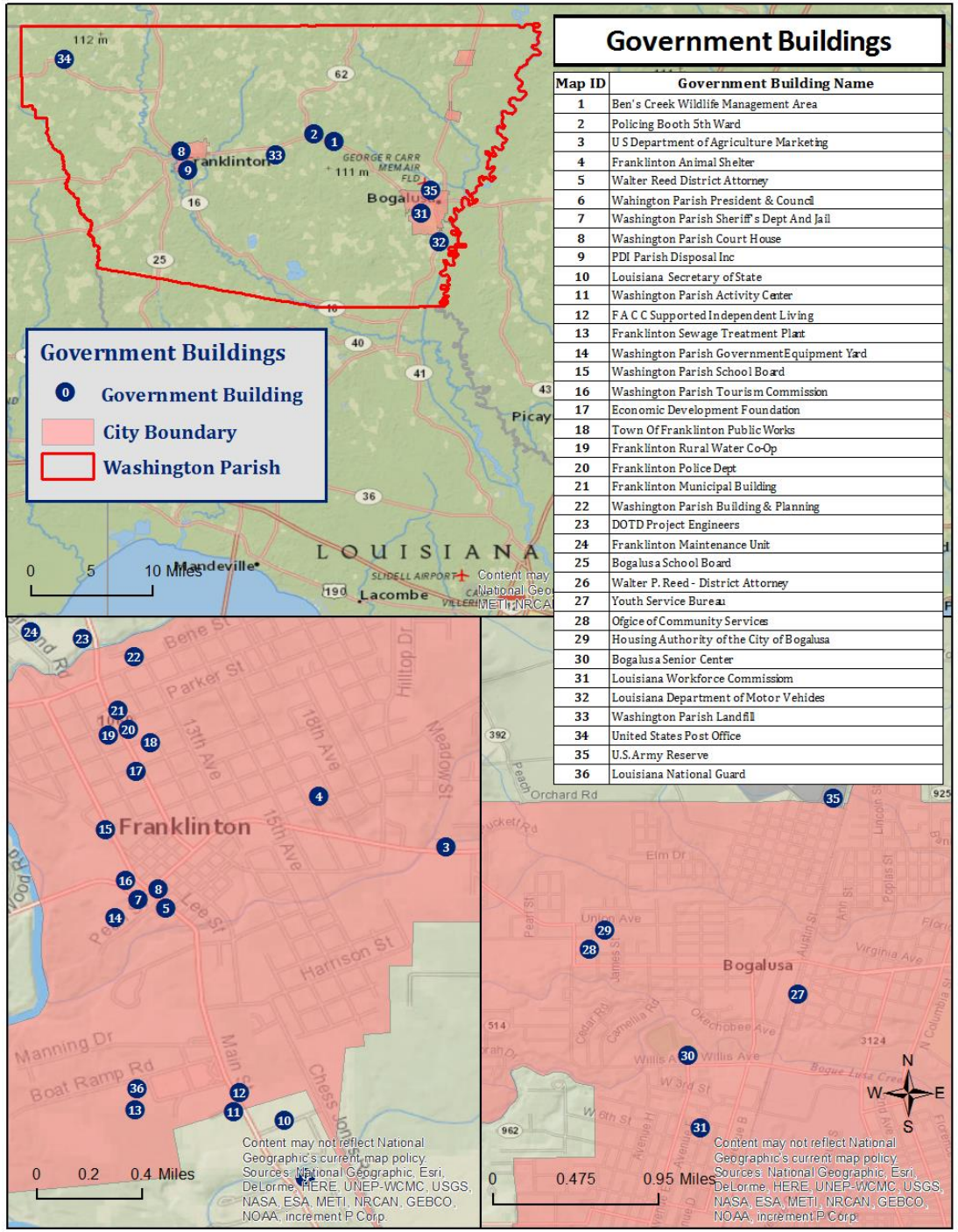
Critical Facilities – Fire Stations

Fire Stations

Map ID	Name
1	Washington Parish Fire District 6
2	Stateline Department
3	Thomas Fire Department
4	Pine Fire Station
5	Hackley Station
6	Hays Creek Station
7	Washington Parish District 5 Fire Department
8	Washington Parish Fire District 6
9	Washington Parish Clifton Staion
10	Franklinton Fire Dept
11	Washington Parish Fire District 2 Richardson Station
12	Washington Parish Fire Protection District 2 Stony Point Station
13	Washington Parish Fire Protection District 2 Vernon Station
14	Bogalusa Fire - Anthony J. Florenza Station
15	Washington Parish Fire District #1
16	Washington Parish Fire District #8
17	Washington Parish Fire District #7
18	Washington Parish Fire District 7
19	Washington Parish Fire District #7
20	Washington Parish Fire District #7
21	Washington Parish Fire District #7
22	Washington Parish Fire District #8
23	Mt Hermon Fire Department
24	Washington Parish Fire District #9 Alford Station



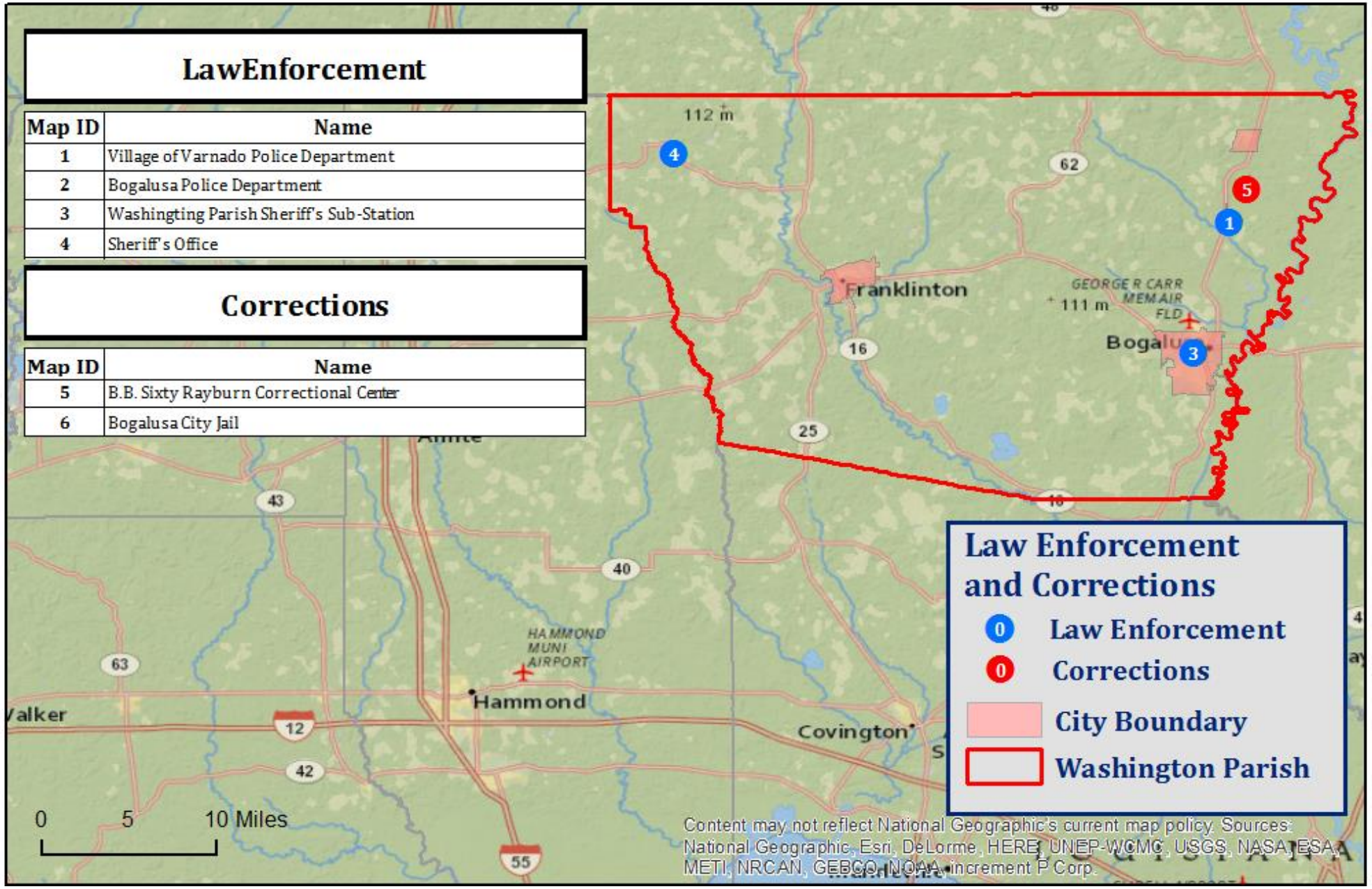
Critical Facilities – Government Buildings



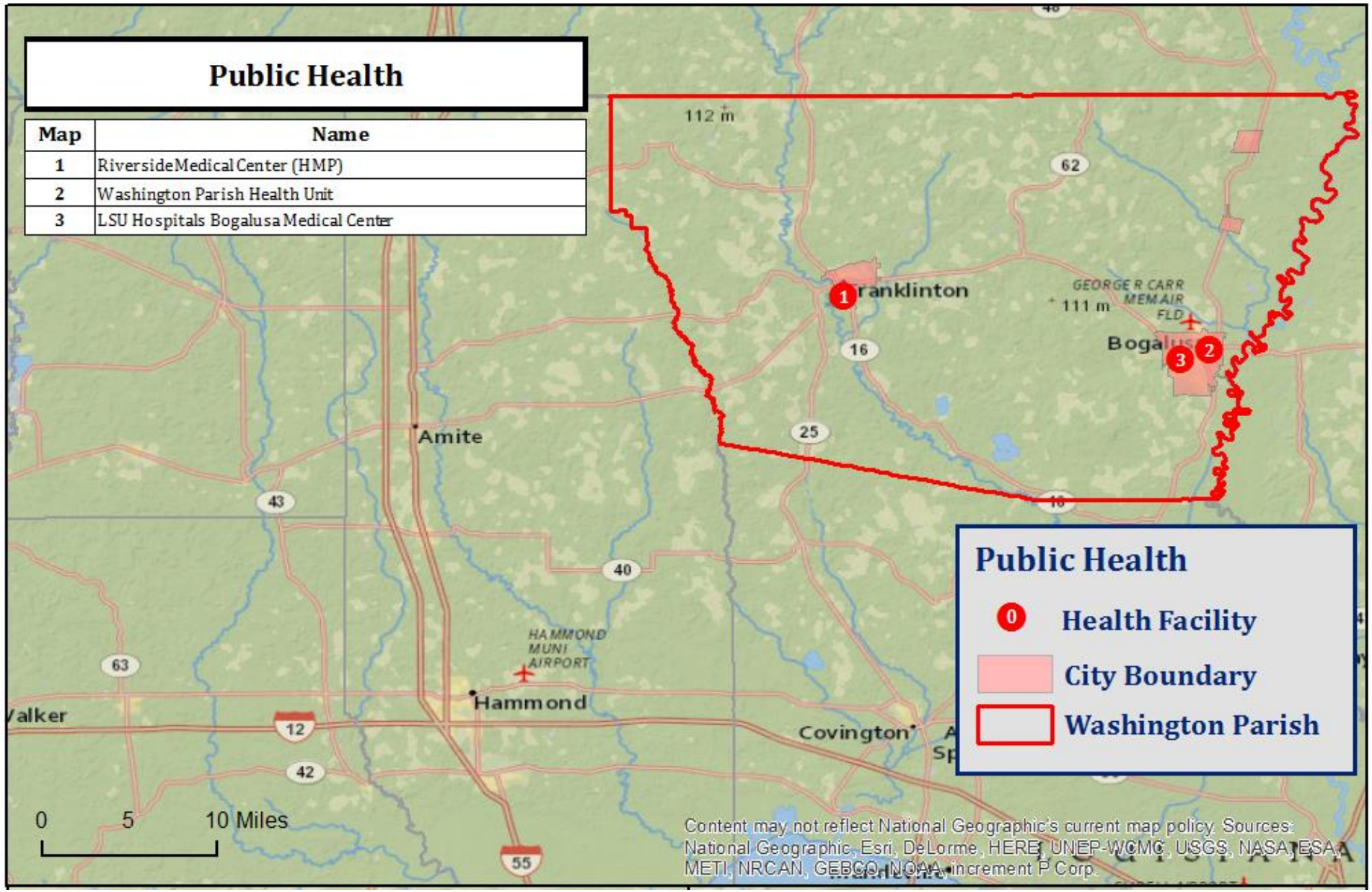
Government Buildings

Map ID	Government Building Name
1	Ben's Creek Wildlife Management Area
2	Policing Booth 5th Ward
3	U S Department of Agriculture Marketing
4	Franklinton Animal Shelter
5	Walter Reed District Attorney
6	Wahington Parish President & Council
7	Washington Parish Sheriff's Dept And Jail
8	Washington Parish Court House
9	PDI Parish Disposal Inc
10	Louisiana Secretary of State
11	Washington Parish Activity Center
12	F A C C Supported Independent Living
13	Franklinton Sewage Treatment Plant
14	Washington Parish GovernmentEquipment Yard
15	Washington Parish School Board
16	Washington Parish Tourism Commission
17	Economic Development Foundation
18	Town Of Franklinton Public Works
19	Franklinton Rural Water Co-Op
20	Franklinton Police Dept
21	Franklinton Municipal Building
22	Washington Parish Building & Planning
23	DOTD Project Engineers
24	Franklinton Maintenance Unit
25	Bogalusa School Board
26	Walter P. Reed - District Attorney
27	Youth Service Bureau
28	Ofgice of Community Services
29	Housing Authority of the City of Bogalusa
30	Bogalusa Senior Center
31	Louisiana Workforce Commissiom
32	Louisiana Department of Motor Vehides
33	Washington Parish Landfill
34	United States Post Office
35	U.S.Army Reserve
36	Louisiana National Guard

Critical Facilities – Law Enforcement



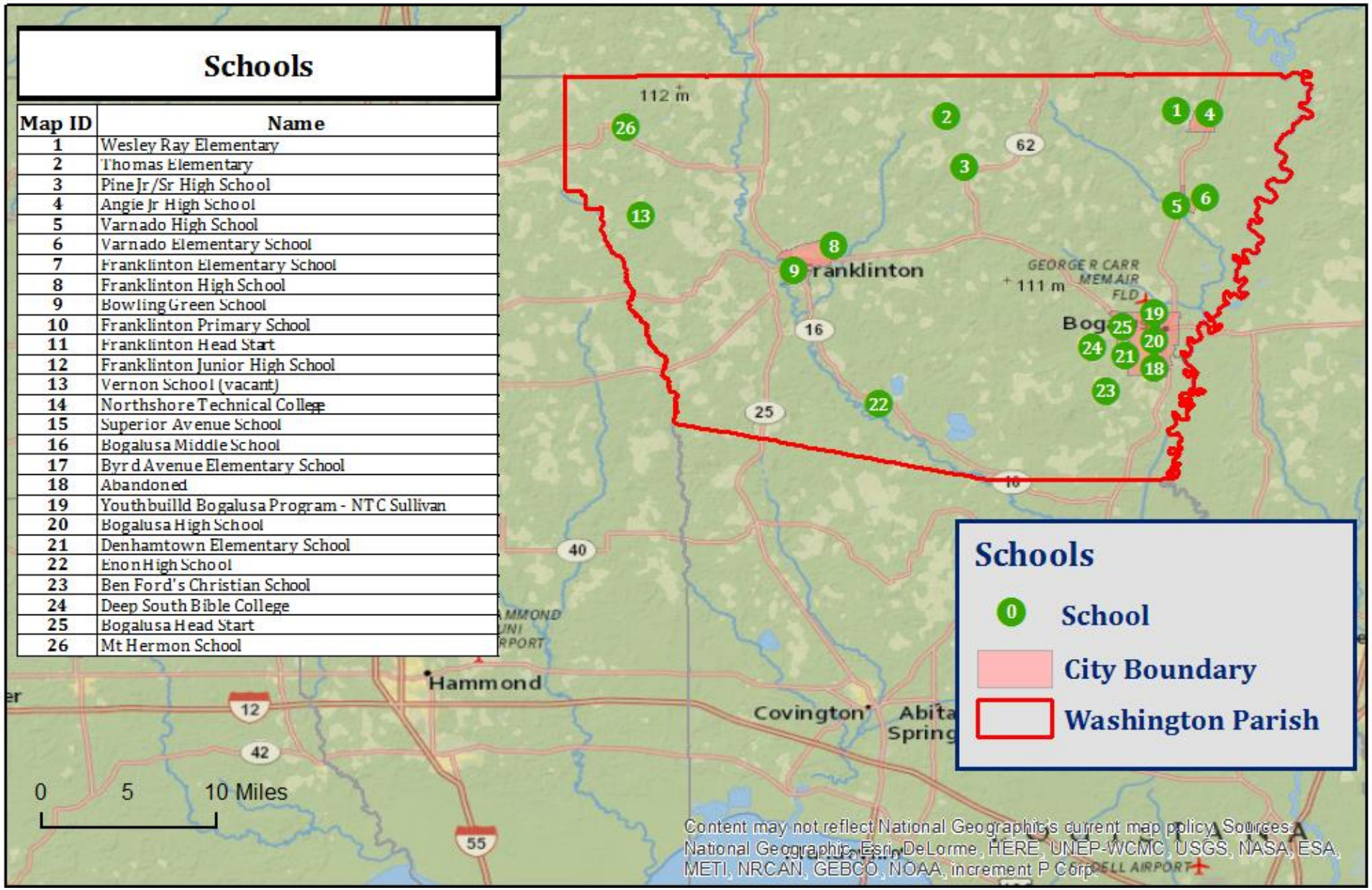
Critical Facilities – Public Health



Critical Facilities – Schools

Schools

Map ID	Name
1	Wesley Ray Elementary
2	Thomas Elementary
3	Pine Jr/Sr High School
4	Angie Jr High School
5	Varnado High School
6	Varnado Elementary School
7	Franklinton Elementary School
8	Franklinton High School
9	Bowling Green School
10	Franklinton Primary School
11	Franklinton Head Start
12	Franklinton Junior High School
13	Vernon School (vacant)
14	Northshore Technical College
15	Superior Avenue School
16	Bogalusa Middle School
17	Byrd Avenue Elementary School
18	Abandoned
19	Youthbuilld Bogalusa Program - NTC Sullivan
20	Bogalusa High School
21	Denhamtown Elementary School
22	Enon High School
23	Ben Ford's Christian School
24	Deep South Bible College
25	Bogalusa Head Start
26	Mt Hermon School

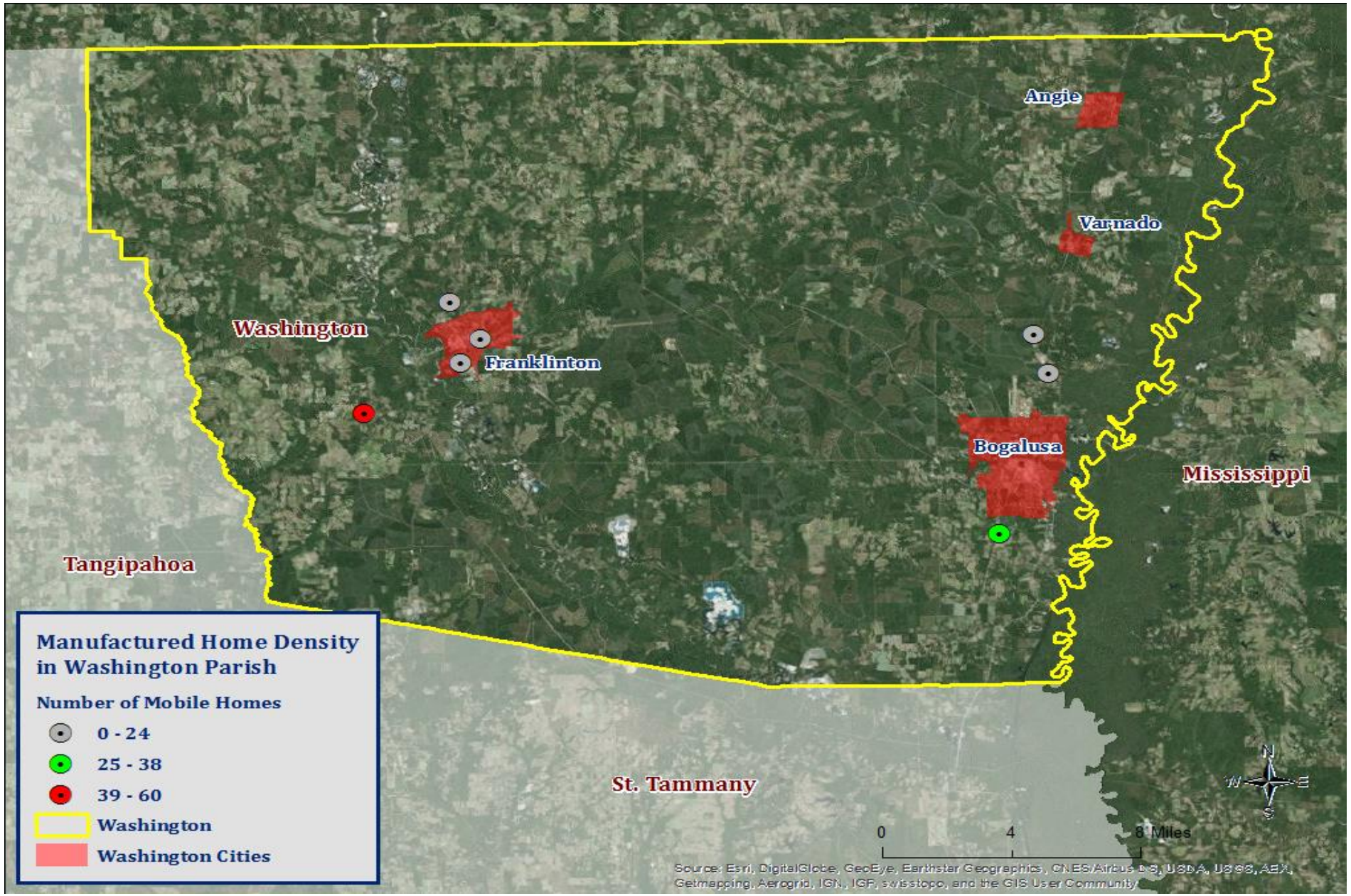


Estimated Total Structural Value for Washington Parish

Occupancy	Washington Parish	Unincorporated Washington	Angie	Bogalusa	Franklinton	Varnado
Agricultural	$40,604,000	$37,300,000	$0	$1,644,000	$1,660,000	$0
Commercial	$679,122,000	$197,371,000	$4,784,000	$285,652,000	$187,405,000	$3,910,000
Government	$52,159,000	$17,966,000	$4,430,000	$14,915,000	$10,419,000	$4,429,000
Industrial	$187,863,000	$110,852,000	$1,456,000	$52,438,000	$23,117,000	$0
Religion	$237,306,000	$115,722,000	$592,000	$79,412,000	$32,364,000	$9,216,000
Residential	$4,460,217,000	$2,777,206,000	$18,263,000	$1,258,593,000	$354,362,000	$51,793,000
Education	$70,560,000	$21,824,000	$1,142,000	$28,814,000	$18,624,000	$156,000
Total	$5,727,831,000	$3,278,241,000	$30,667,000	$1,721,468,000	$627,951,000	$69,504,000

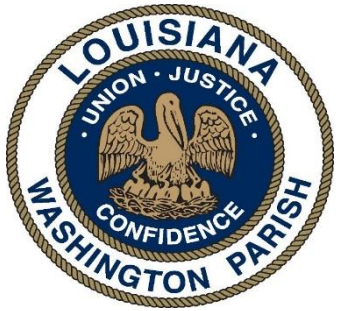
Source: HAZUS-MH Software

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.



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Flooding

Types of flooding may include the following:

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

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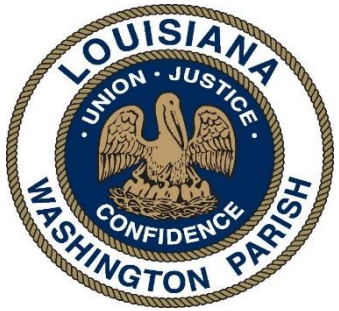
Repetitive Flooding

- 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.



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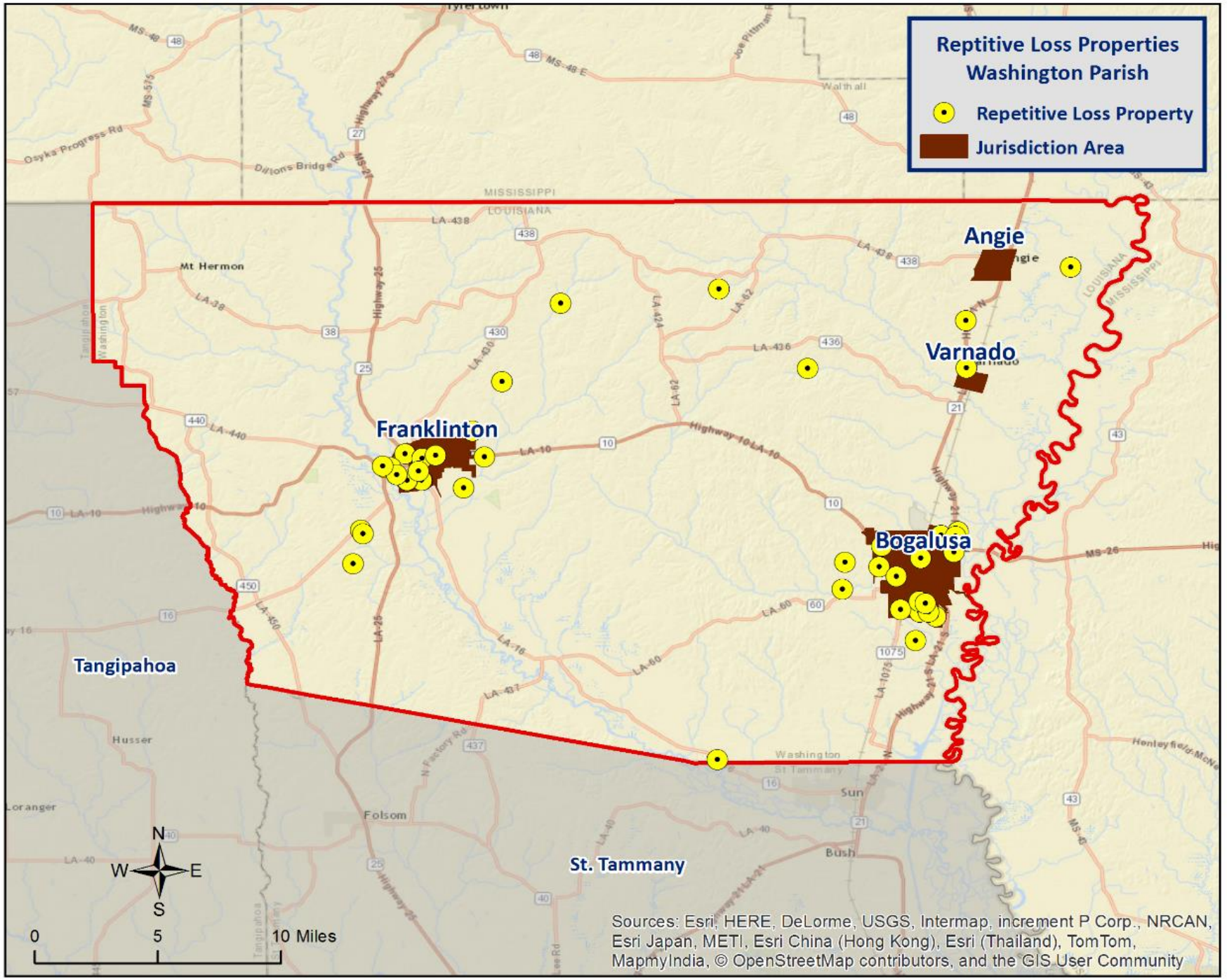
Repetitive Losses

- 53 Structures
- 8 Severe Repetitive Loss Structures
- Total Payments: $2,099,314
- Total Claims: 152
- Average Payment: $13,811



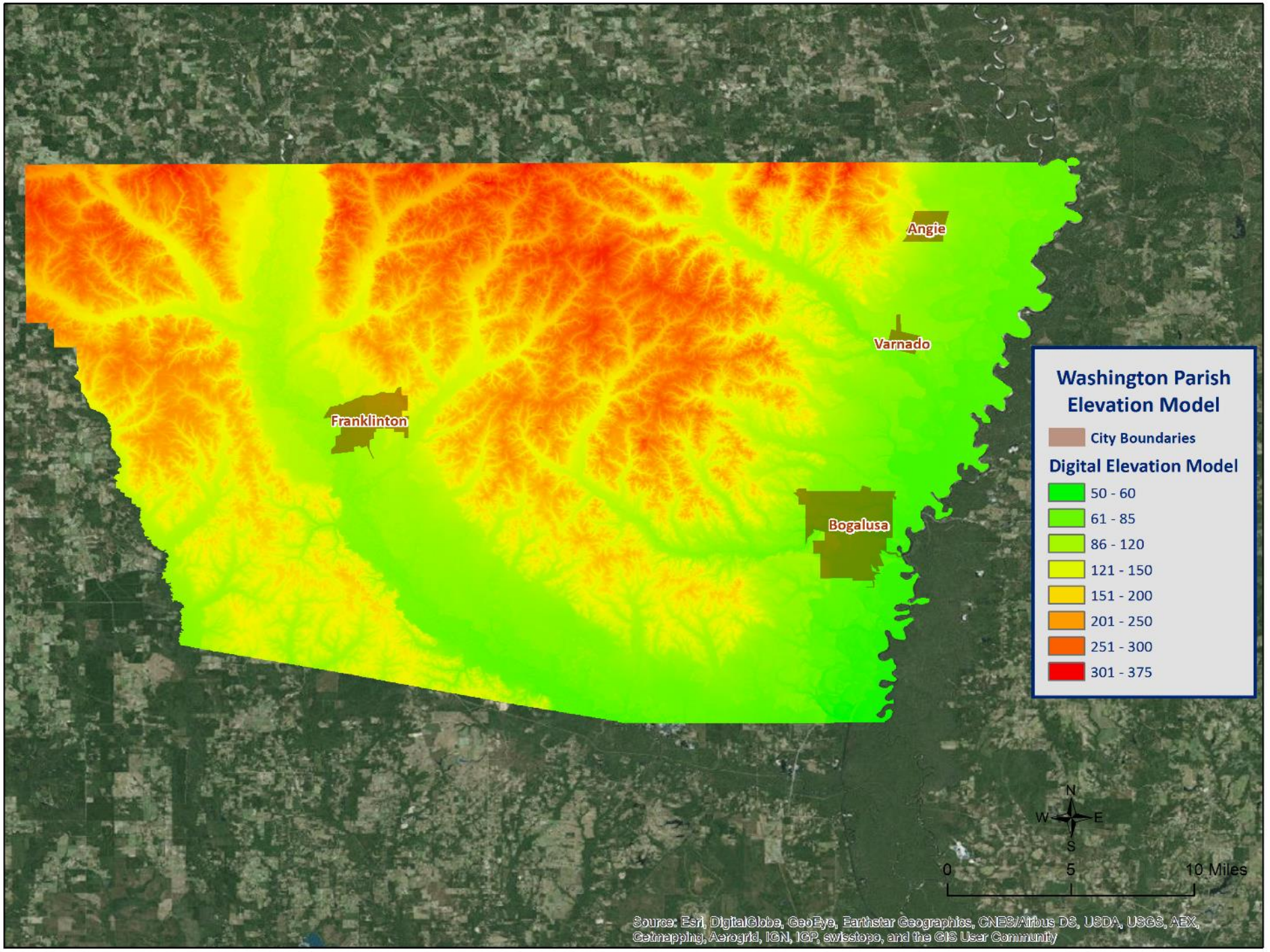
NFIP Policies

Location	No. of Insured Structures	Total Insurance Coverage Value	Annual Premiums Paid	No. of Insurance Claims Filed Since 1978	Total Loss Payments
Washington Parish (Unincorporated)	381	$66,862,700	$254,297	263	$3,106,953
Angie	2	$264,000	$1,199	0	$0
Bogalusa	132	$24,789,600	$88,751	101	$1,126,226
Franklinton	59	$10,833,700	$48,925	87	$1,031,958
Varnado	2	$385,000	$779	0	$0
Total	576	$103,135,000	$393,951	451	$5,265,137

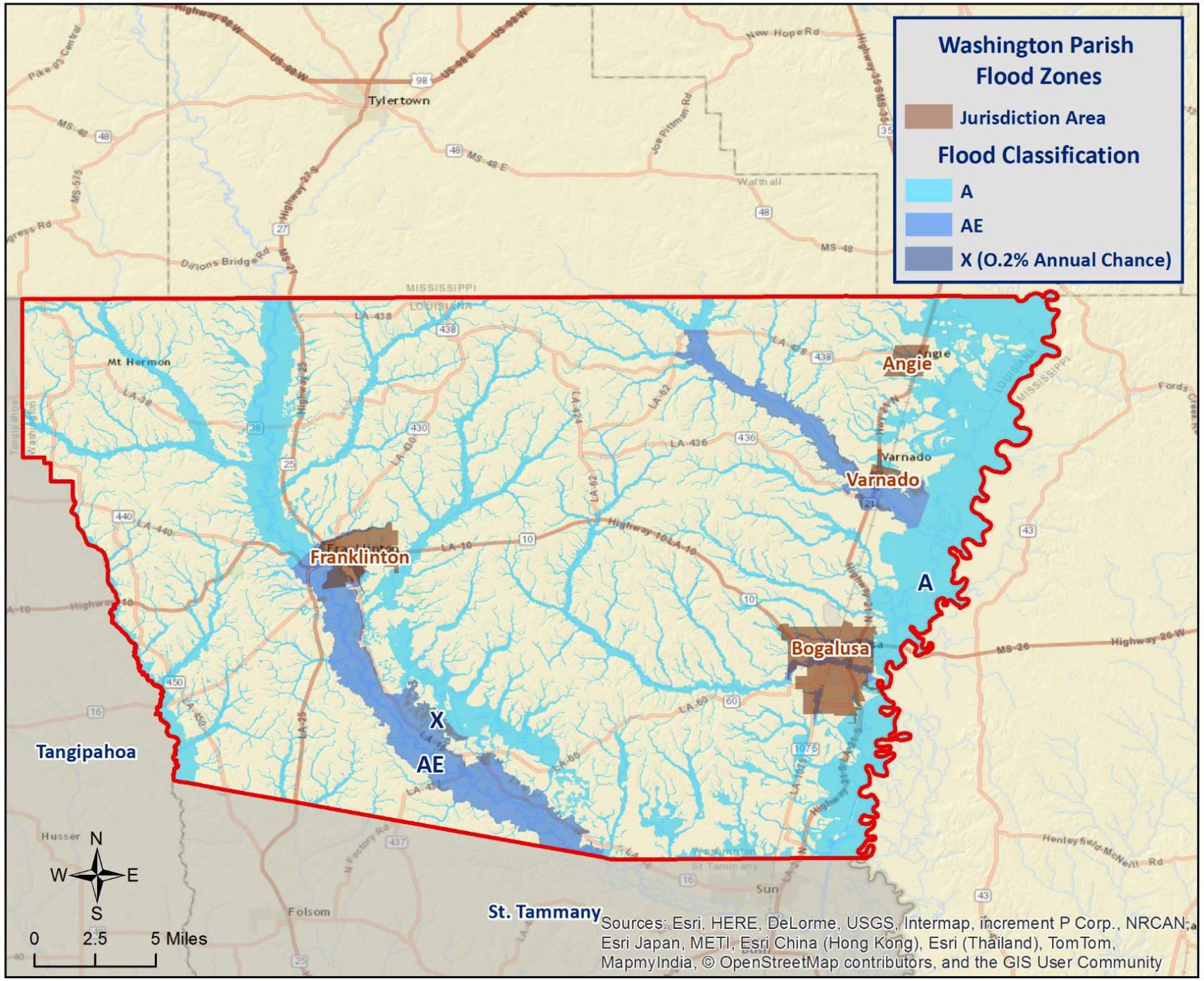
Community Flood Maps

CID	Community Name	Initial FHBM Identified	Initial FIRM Identified	Current Effective Map Date	Date Joined the NFIP	Tribal
220230	(Unincorporated)	1/10/1975	5/4/1988	12/3/2009	5/4/1988	No
220231A	Angie, Village of	1/3/1975	12/3/2009	12/3/2009 (M)	12/3/2009	No
220232	Bogalusa, City of	5/6/1977	5/4/1988	12/3/2009	5/4/1988	No
220233	Franklinton, Town of	11/9/1973	9/28/1979	12/3/2009	9/28/1979	No
220234	Varnado, Village of	10/25/1974	2/17/1989	12/3/2009	4/5/1989	No

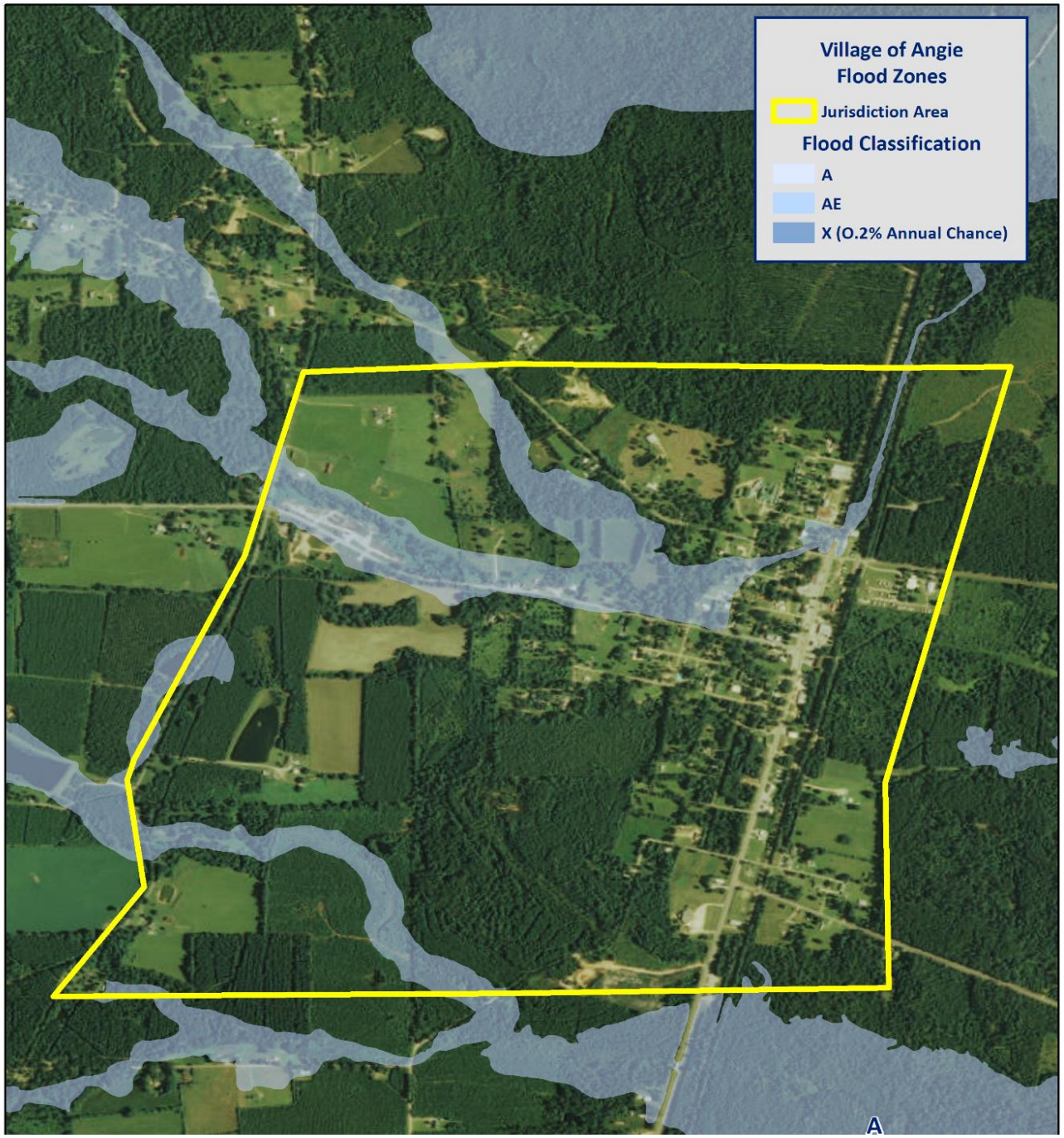
Washington Parish Digital Elevation Model



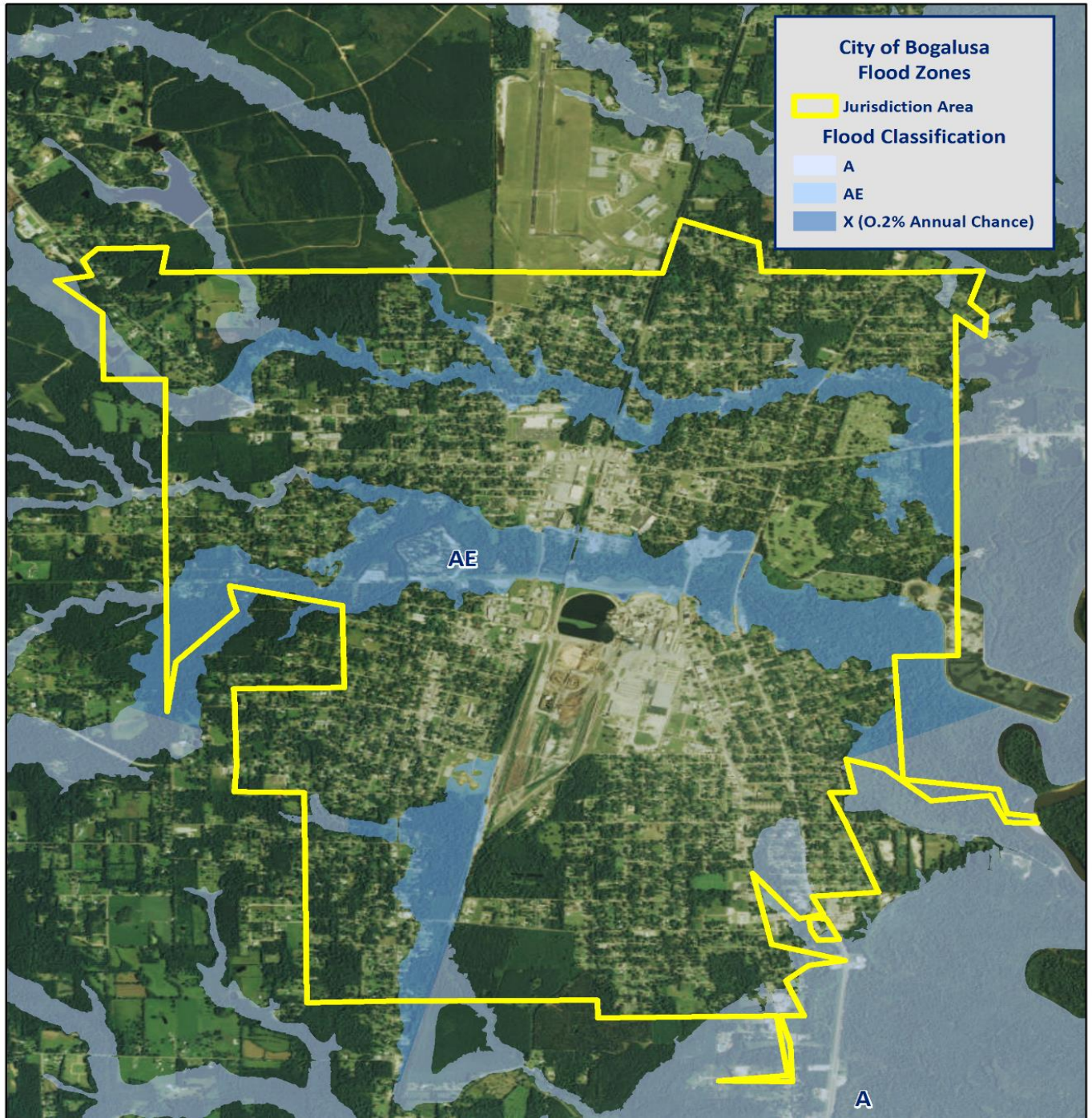
Approved DFIRM for Washington Parish



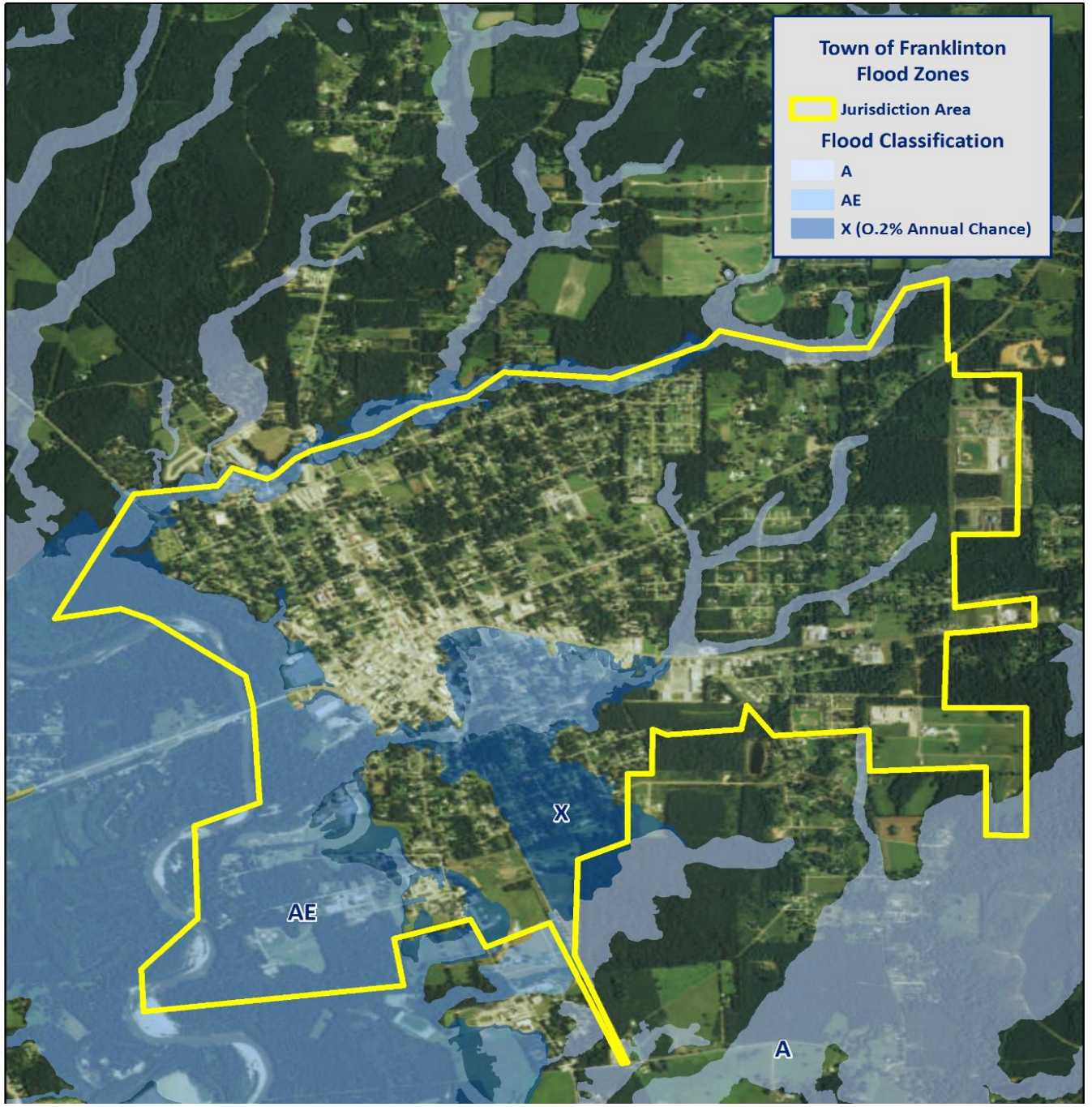
Approved DFIRM for the Village of Angie



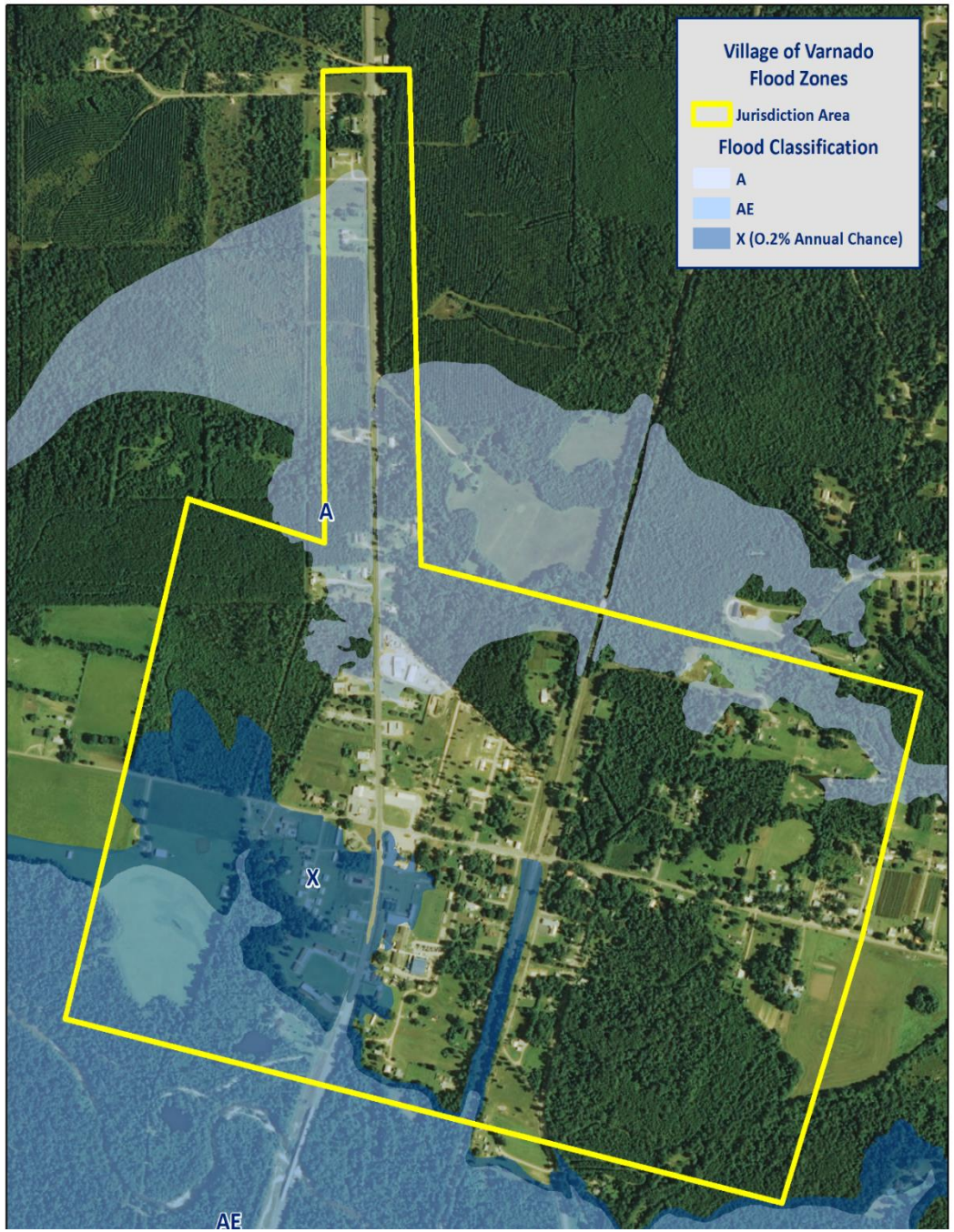
Approved DFIRM for the City of Bogalusa



Approved DFIRM for Town of Franklinton



Approved DFIRM for the Village of Varnado



Previous Occurrences

- Since 1998 there have been a total of 11 significant flood events recognized by the National Weather Service
- 3 Flood Events and 8 Flash Flood Events
- 5 of the flood events were results of tropical cyclone activity
- Total Estimated Damages from Flooding $625,000
- 2 Flood Events occurred in Bogalusa (2002 and 2004)
- 1 Flood Event occurred in Angie (1998)
- 8 Flood Events occurred in Unincorporated Washington Parish
- 1 Death as a result of a flash flood in 2006

Estimated Losses for a 100 Year Flood Event

Jurisdiction	Estimated total Losses from 100 Year Flood Event
Washington Parish (Unincorporated)	$506,818,000
Angie	$3,081,000
Bogalusa	$109,532,000
Franklinton	$73,793,000
Varnado	$16,176,000
Total	$709,400,000

Number of People Exposed to a 100 Year Flood Event

Number of People Exposed to Flood Hazards			
Location	**# in Community**	**# in Hazard Area**	**% in Hazard Area**
Washington Parish (Unincorporated)	**29,367**	**27,103**	**92.3%**
Angie	**251**	**159**	**63.3%**
Bogalusa	**12,232**	**3,779**	**30.9%**
Franklinton	**3,857**	**1,774**	**46.0%**
Varnado	**1,461**	**1,380**	**94.5%**
Total	**47,168**	**34,195**	**72.5%**

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.

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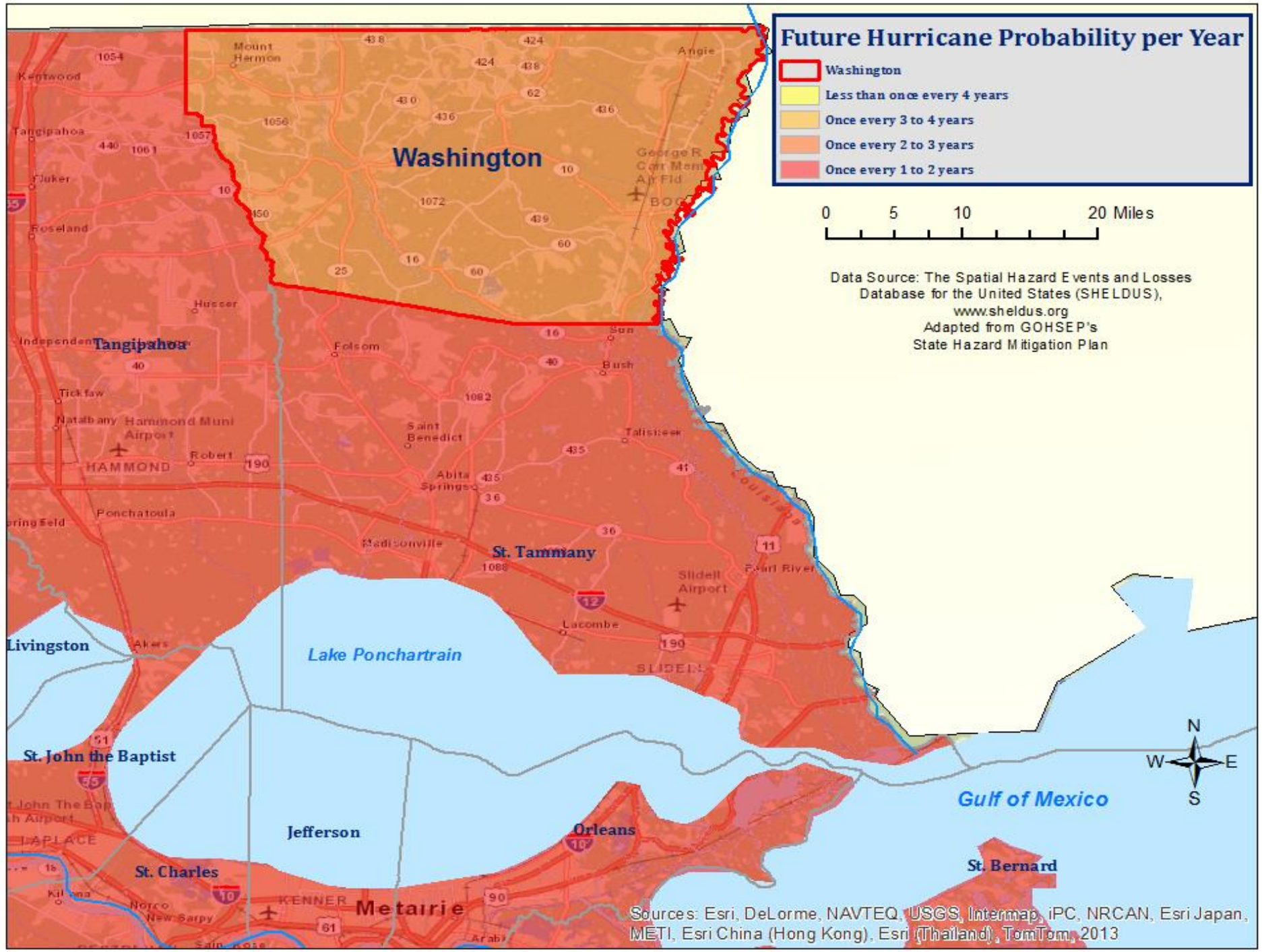
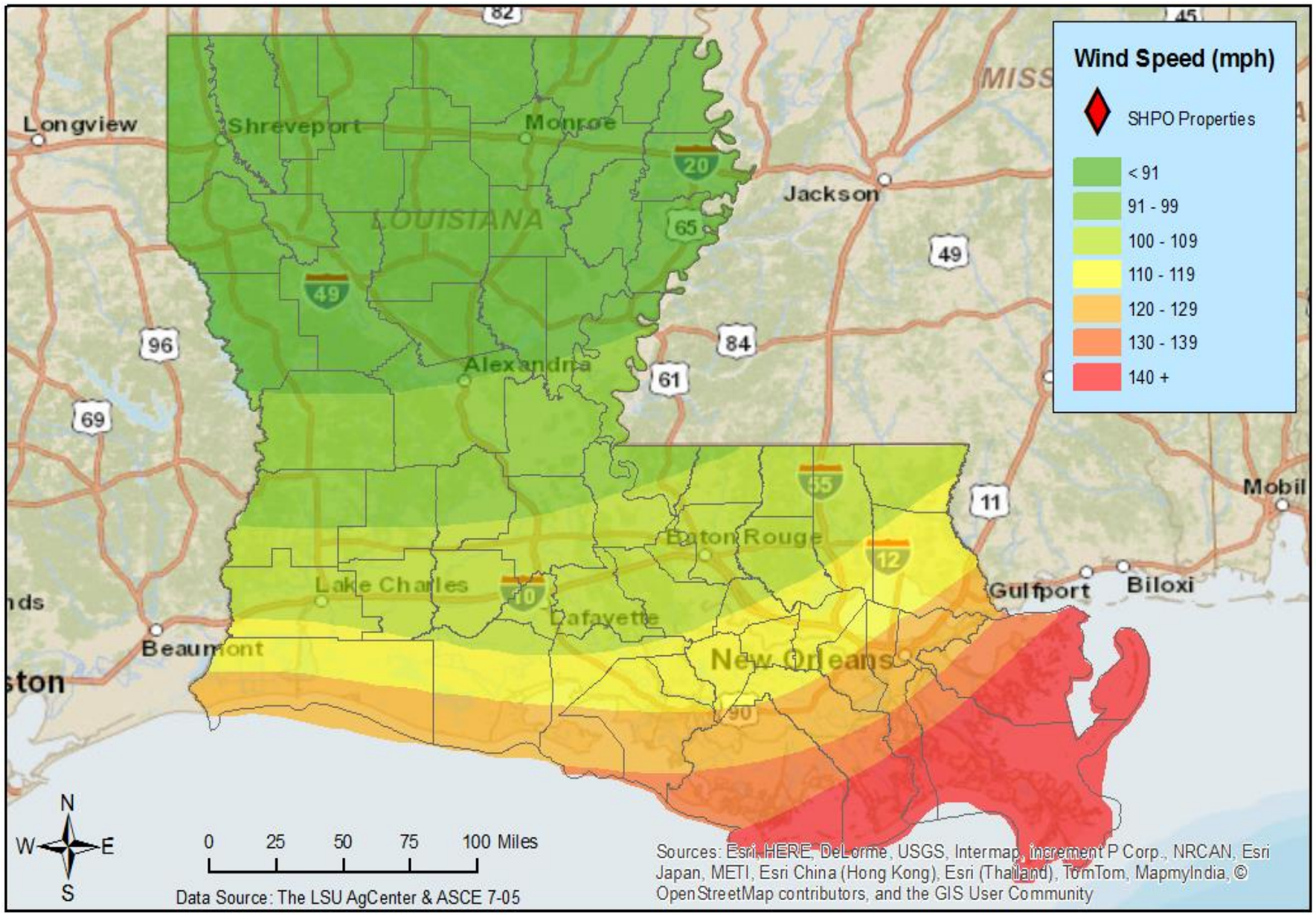
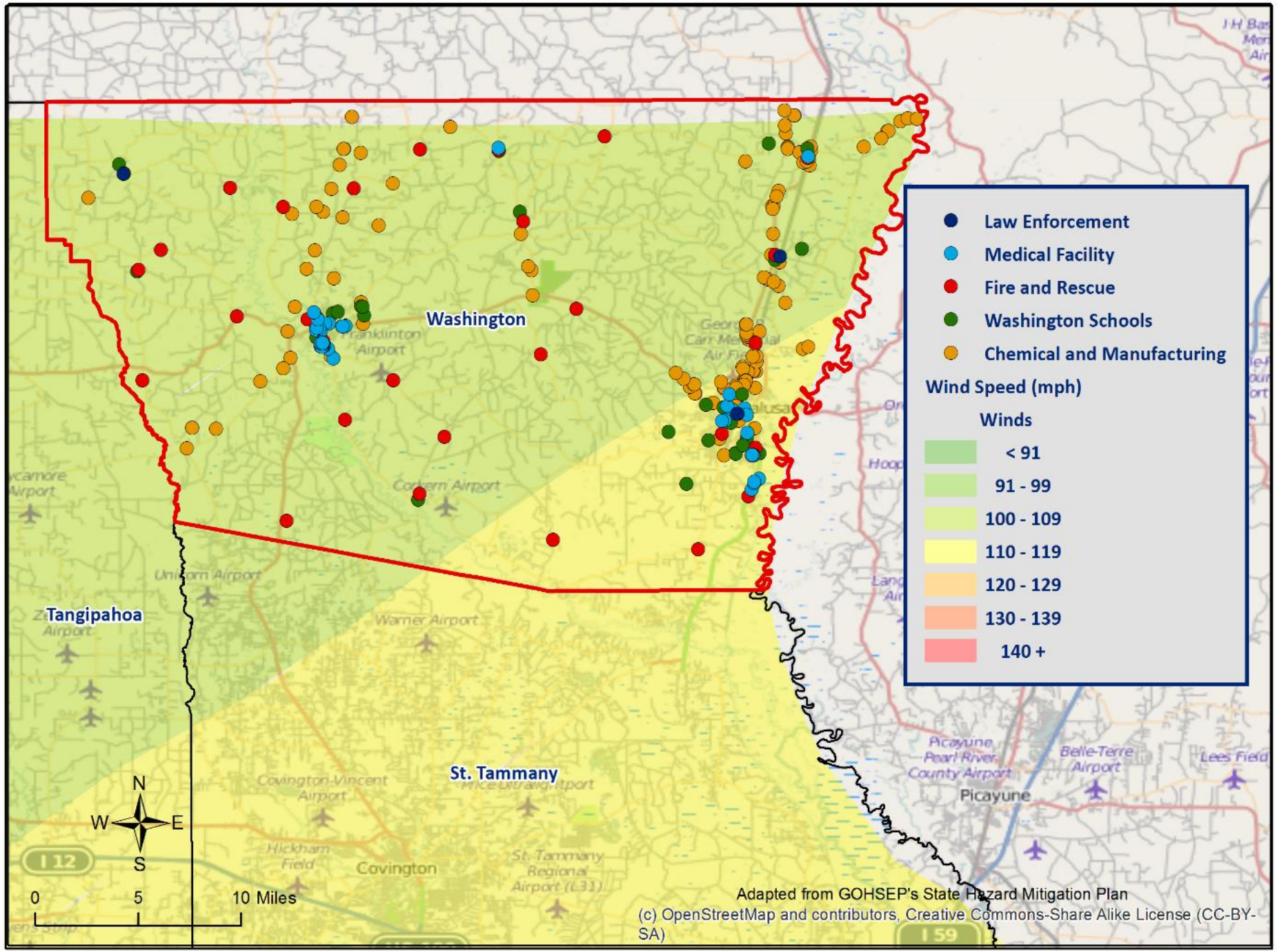
Tropical Cyclones



Tropical Cyclones

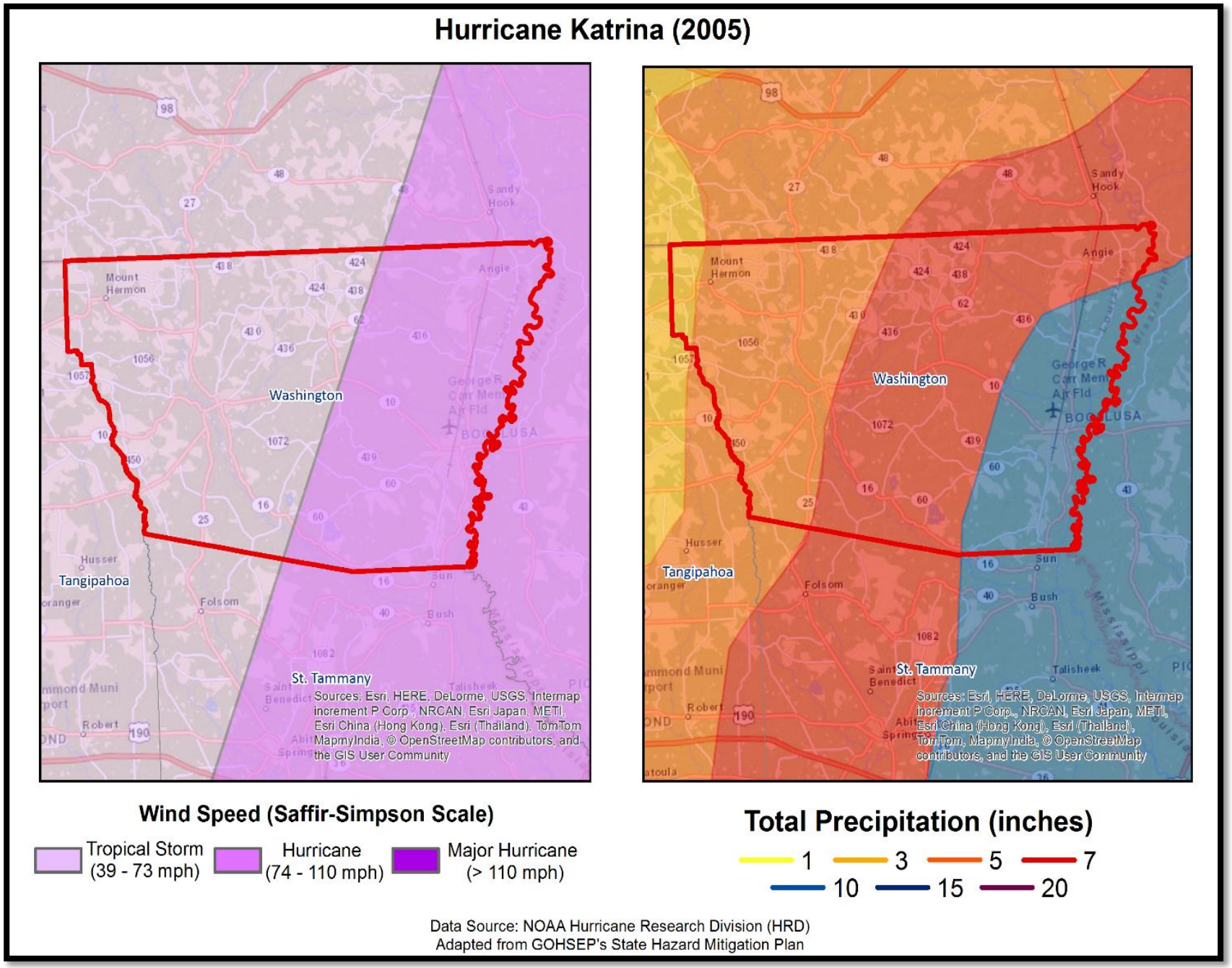


Tropical Cyclones



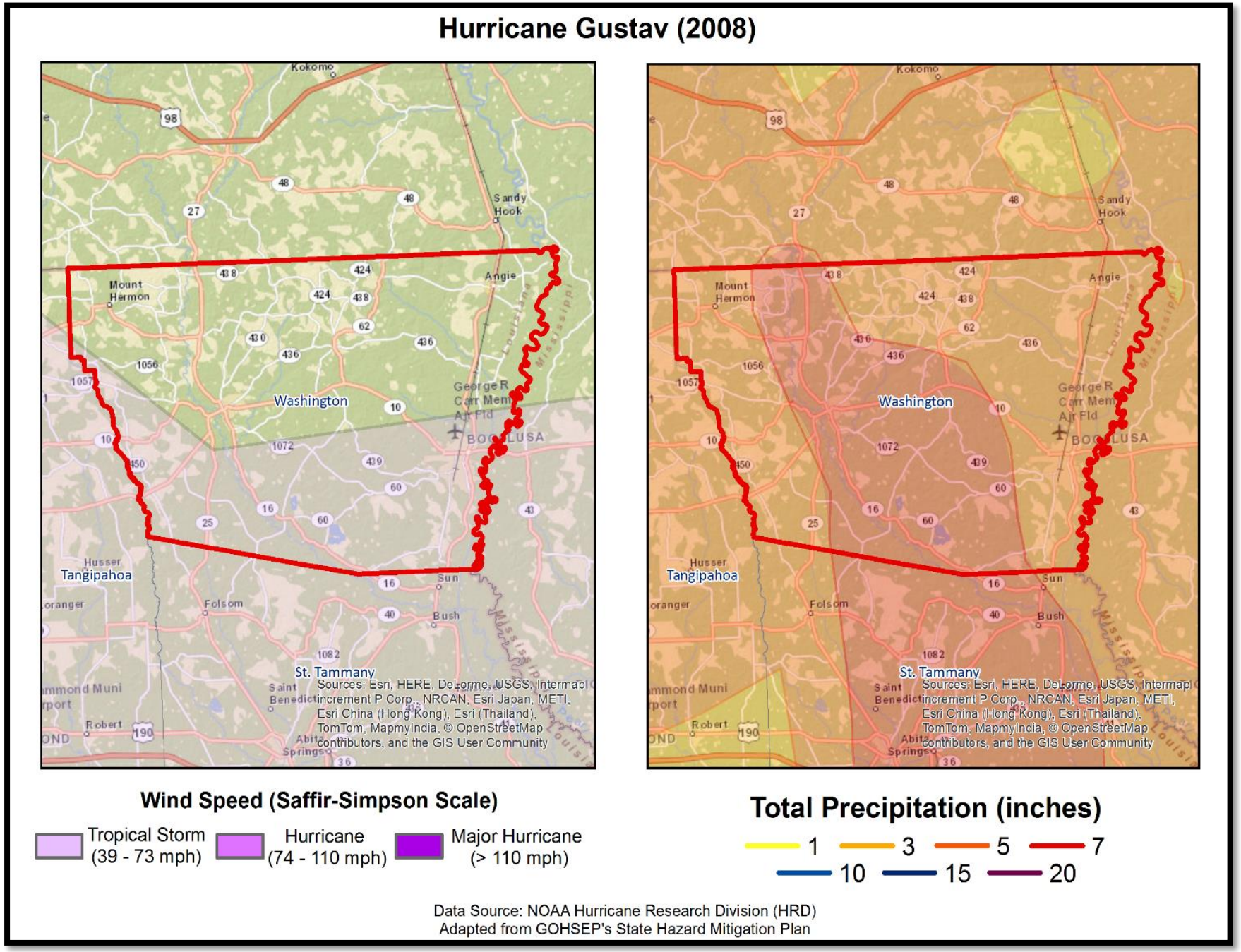
Tropical Cyclones

- Approximately $916,299,704 caused in property damage



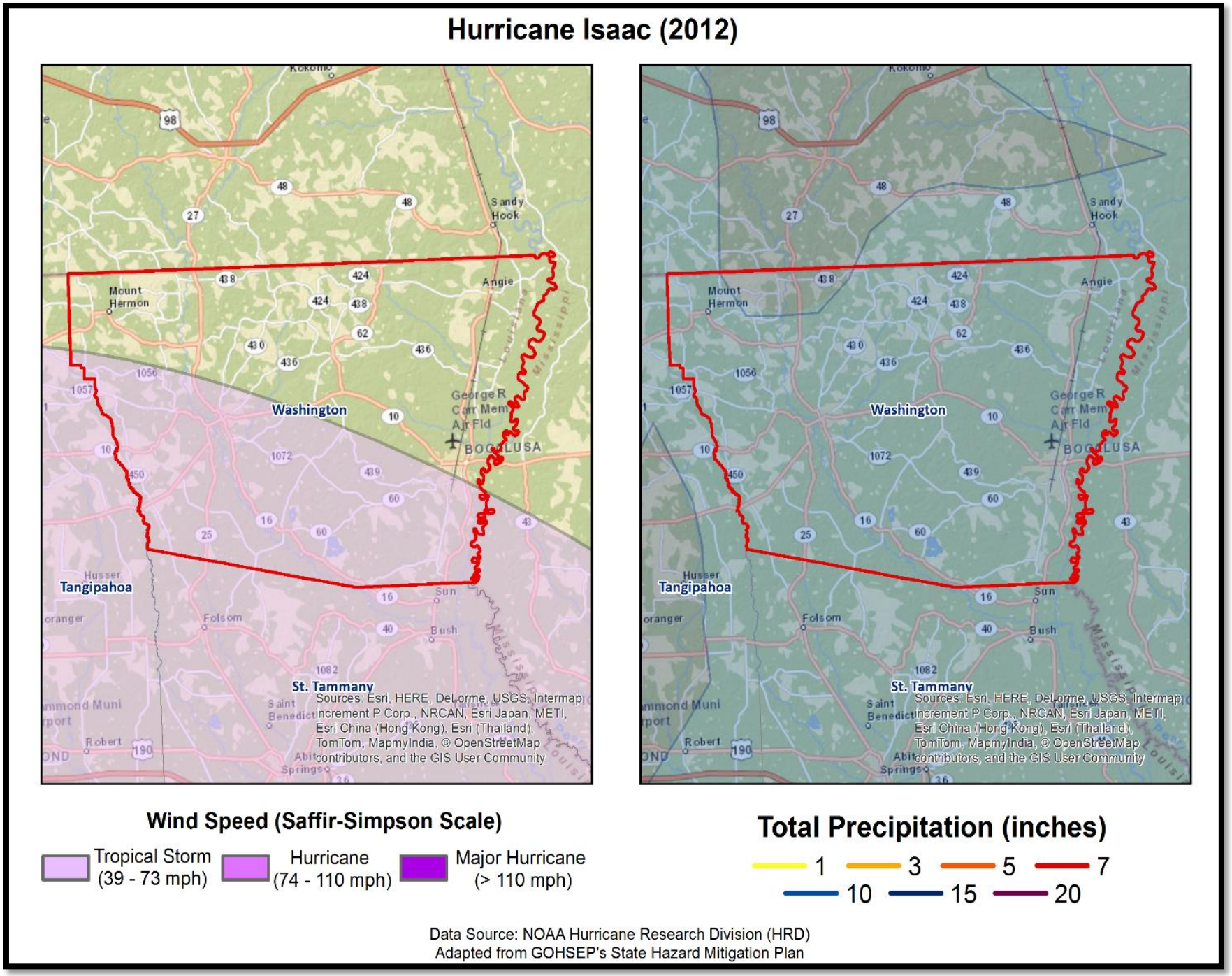
Tropical Cyclones

- Approximately $6,281,116 caused in property damage



Tropical Cyclones

- Approximately $3,297,604 caused in property damage



Tropical Cyclones – Estimated Losses

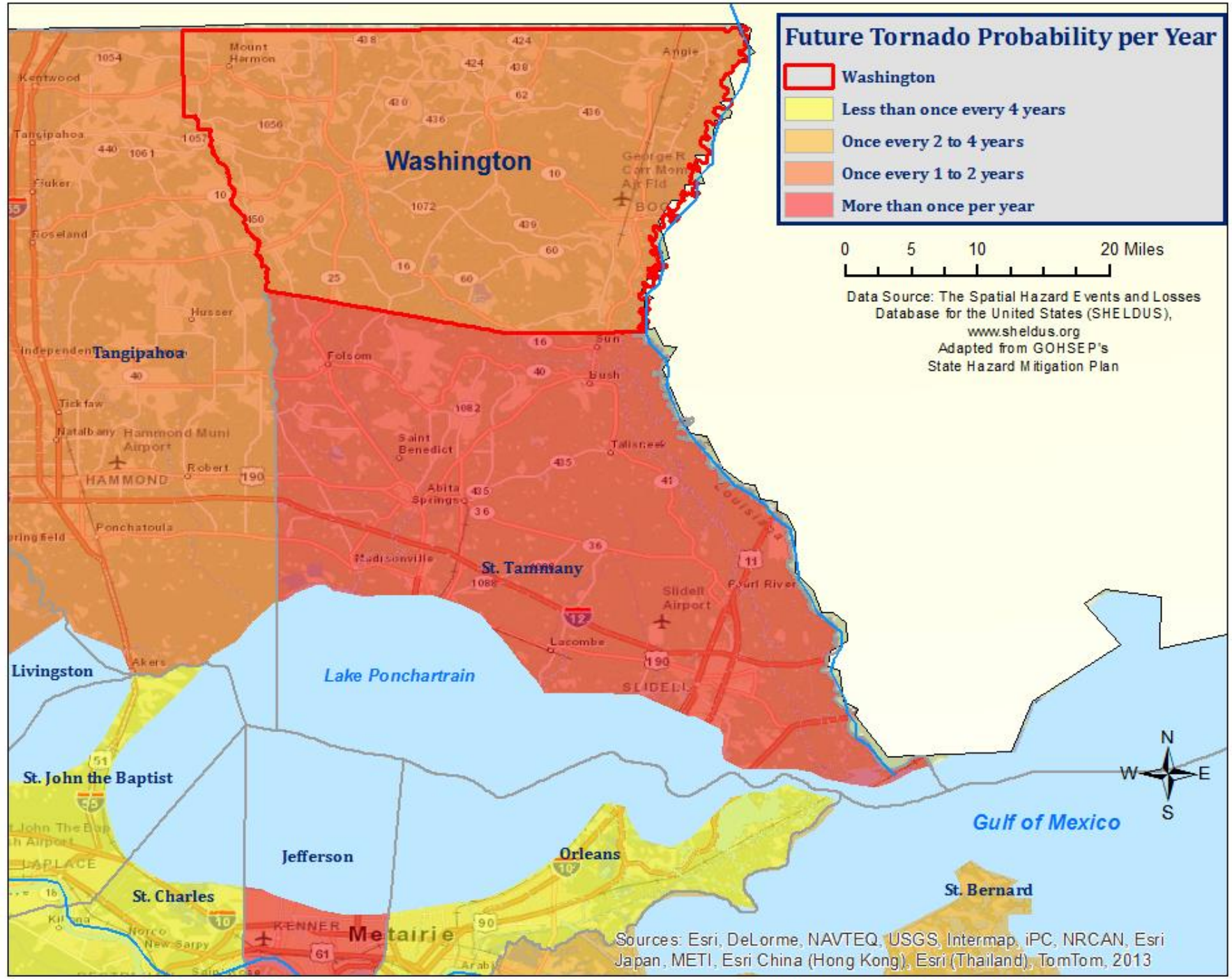
Jurisdiction	Estimated total Losses from 100 Year Hurricane Event
Washington Parish (Unincorporated)	$33,761,779
Angie	$288,562
Bogalusa	$14,062,522
Franklinton	$4,434,201
Varnado	$1,679,639
Total	$54,226,704

Tornadoes

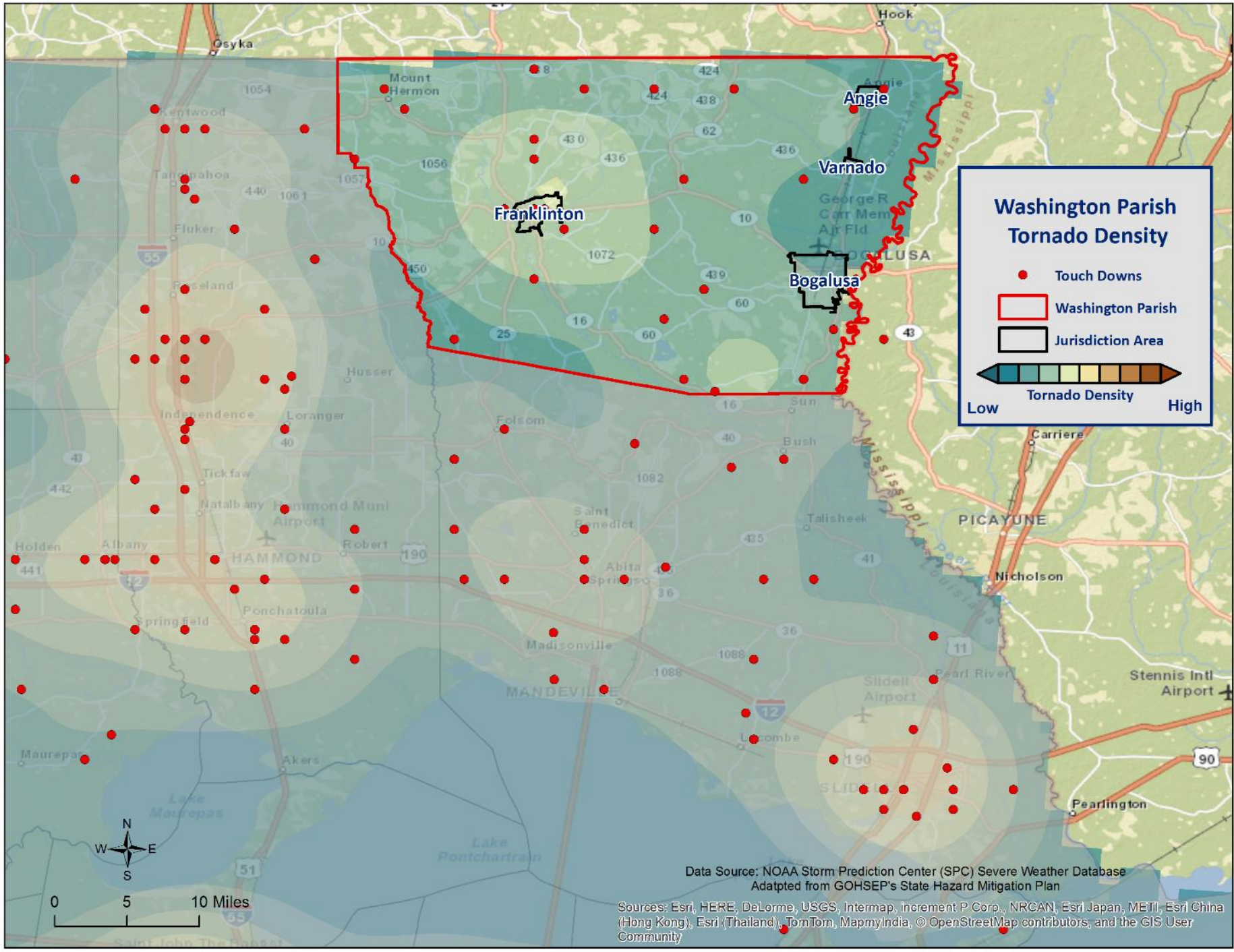
- Tornadoes (also called twisters and cyclones) are rapidly rotating funnels of wind extending between storm clouds and the ground.
- Tornadoes are the most severe storms for their size, and 70% of the world's reported tornadoes occur within the continental United States.

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 Probability



Tornado Locations

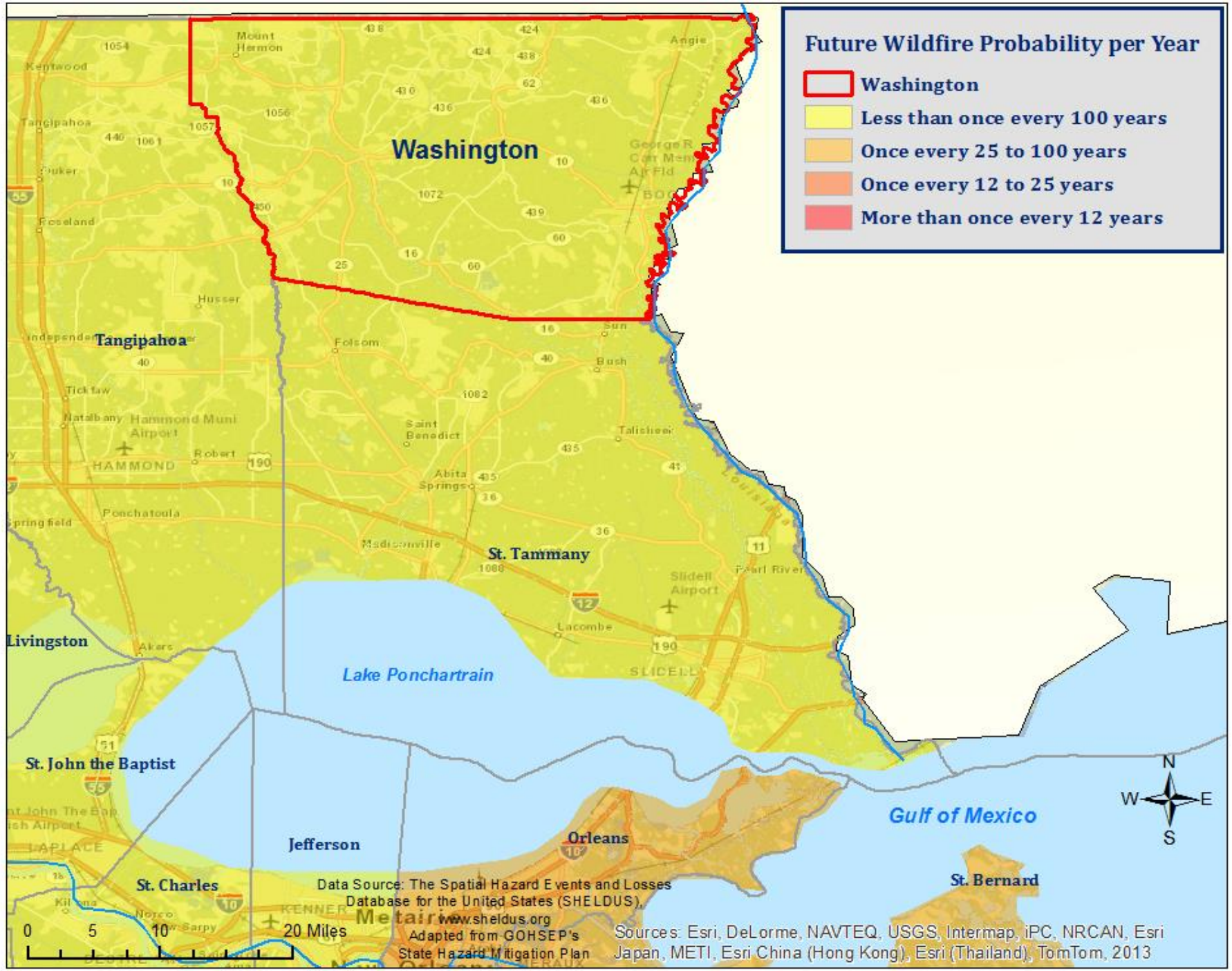


Tornados – Previous Occurrences & Estimated Losses

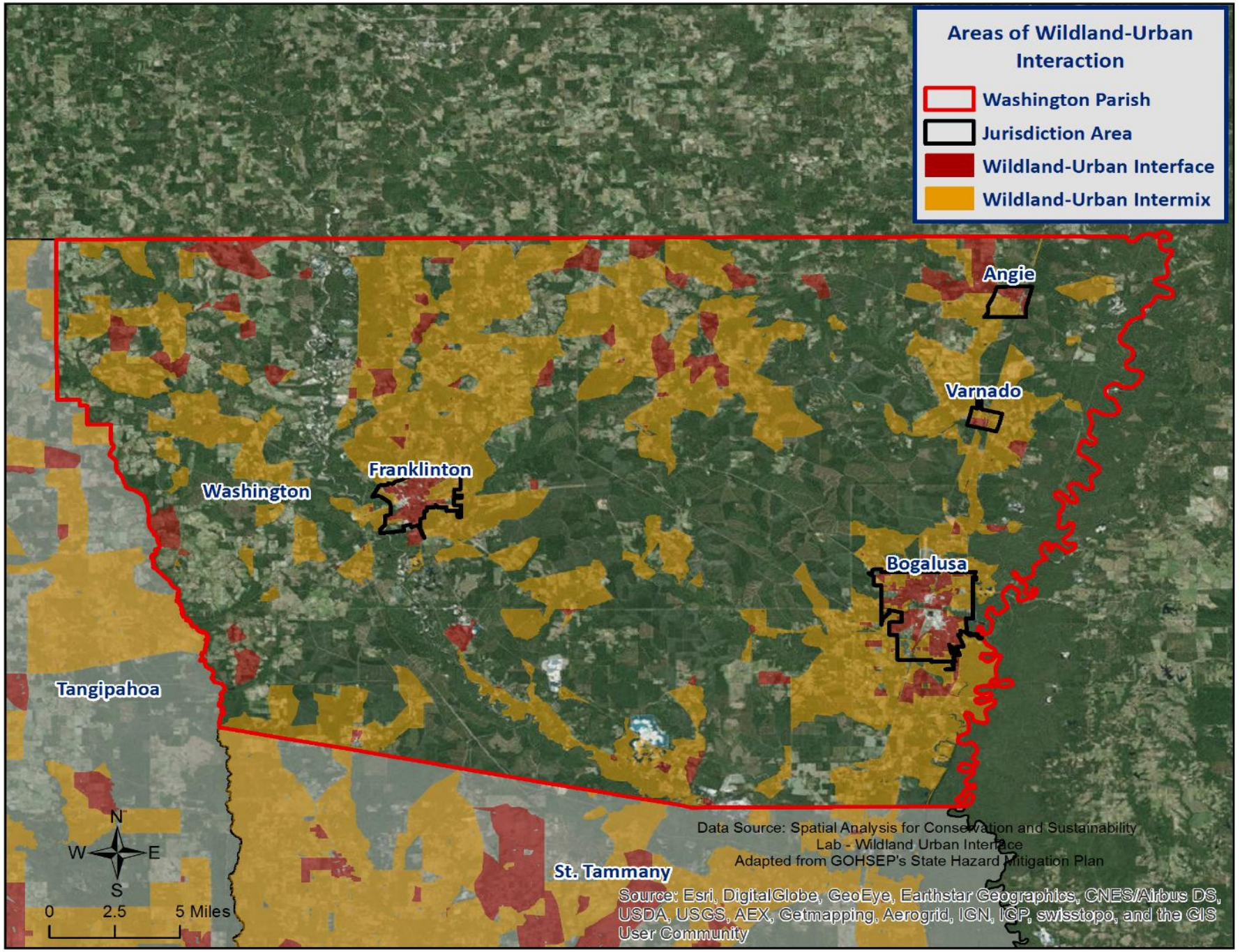
- There have been 14 Tornadoes that have impacted Washington Parish since 2000
- In the last five years there have been 2 tornadoes:
  - April 2011 – $31,484 in damages in Franklinton (EF1)
  - April 2011 - $51,368 in damages in Bogalusa (EF1)
- Total Damage History for last 15 years: $636,376
- Average cost per event: $45,455

Estimated Annual Losses for Tornadoes in Washington Parish				
Washington Parish (Unincorporated) (62.3% of Population)	Angie (0.5% of Population)	Bogalusa (25.9% of Population)	Franklinton (8.2% of Population)	Varnado (3.1% of Population)
$16,127	$138	$6,717	$2,118	$802

Wildfire


Future Wildfire Probability per Year
Washington
Less than once every 100 years
Once every 25 to 100 years
Once every 12 to 25 years
More than once every 12 years
Washington
Tangipahoa
St. Tammany
Livingston
St. John the Baptist
Jefferson
Orleans
St. Charles
St. Bernard
Lake Ponchartrain
Gulf of Mexico
Data Source: The Spatial Hazard Events and Losses Database for the United States (SHELDUS), www.sheldus.org
Adapted from GOHSEP's State Hazard Mitigation Plan
0 5 10 20 Miles
N
W
E
S
Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

Wildfire


Areas of Wildland-Urban Interaction
Washington Parish
Jurisdiction Area
Wildland-Urban Interface
Wildland-Urban Intermix
Angie
Varnado
Franklinton
Washington
Bogalusa
Tangipahoa
St. Tammany
N
W
E
S
0
2.5
5 Miles
Data Source: Spatial Analysis for Conservation and Sustainability Lab - Wildland Urban Interface
Adapted from GOHSEP's State Hazard Mitigation Plan
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Mitigation Strategy – Parish Goals

- Goal 1: Identify and pursue preventative measures that will reduce future damages from hazards including the reduction of repetitive losses in the Parish and its municipalities.
- Goal 2: Enhance public awareness and understanding of hazard mitigation.
- Goal 3: Facilitate sound development in the Parish and municipalities so as to reduce or eliminate the potential impact of hazards.
- Goal 4: Enhance local capability and improve data collection as it relates to hazard mitigation.

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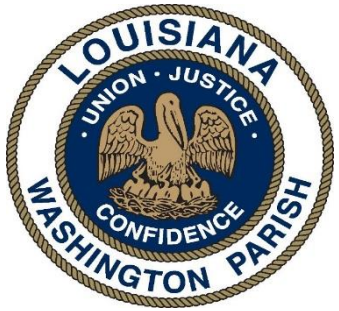
2009-2014 Parish HM Project Status

- Director's Comments



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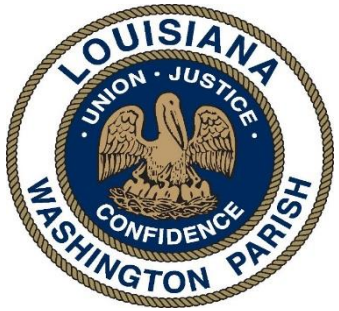
Public Outreach Activities

- Risk Analysis Activity (Hazard Occurrences)
- Problem Area Identification (Parish Maps)
- Survey



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Contact Us

Brant Mitchell, SDMI Director of Research & Operations
bmitch9@lsu.edu
(225) 578-5939

Lauren Stevens, HM Project Lead
lstevens@lsu.edu
(225) 578-0502

Lexie Andrews, HM Project Lead
aandrews1@lsu.edu
(225) 578-7034

Stephenson Disaster Management Institute
www.sdmi.lsu.edu


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