

Inland Flooding Analysis

FEMA Region 4 GIS Resource Center

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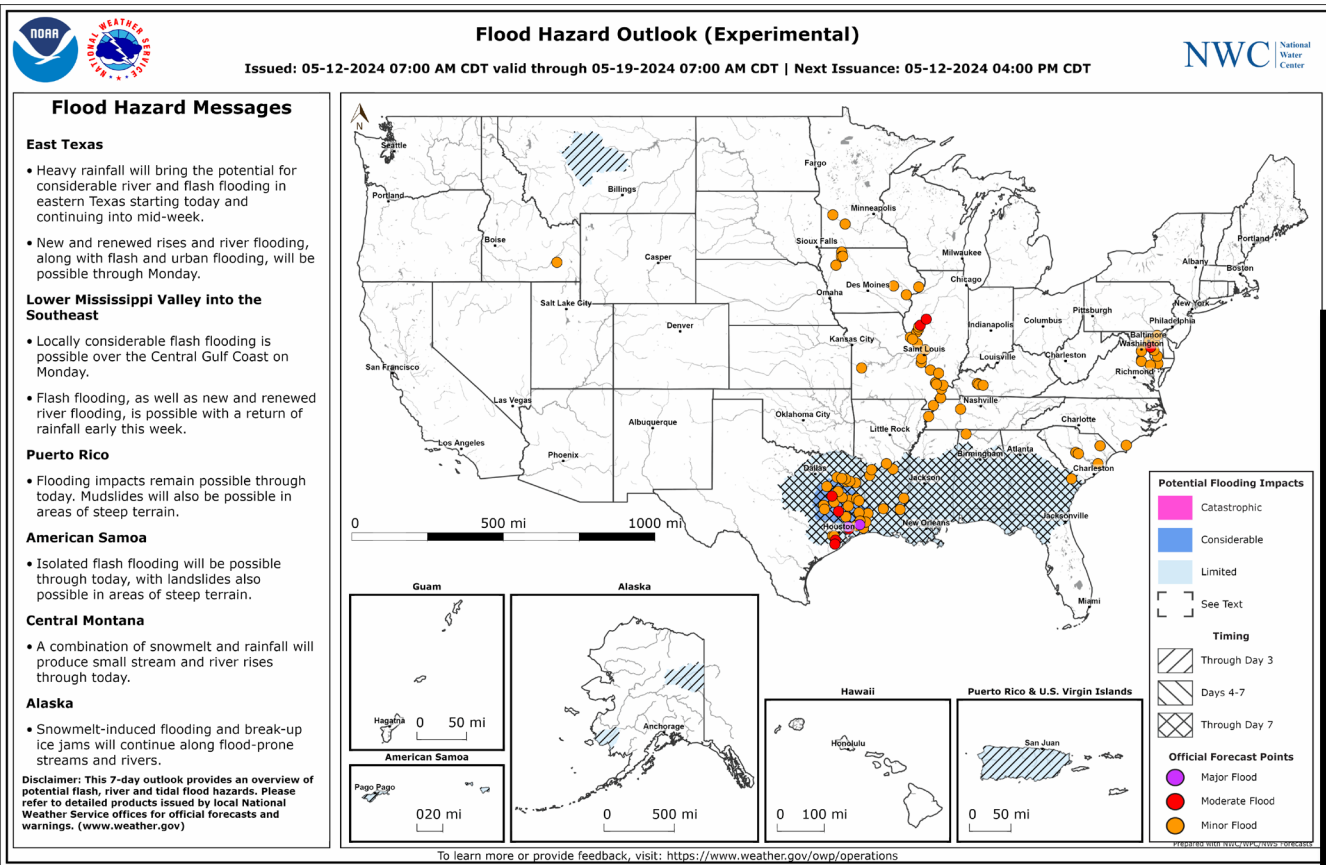
Inland Flooding – BIG Challenge

- One of our biggest challenges is predicting inland flooding
- Flood modeling has come a long way in recent years
- National Water Center Flood Hazard Outlook (FHO)
 - [Experimental: Experimental: Flood Hazard Outlook \(noaa.gov\)](https://www.noaa.gov/data/forecast/flood-hazard-outlook)
- Storm Prediction Center Excessive Rainfall Outlook (ERO)
 - [Excessive Rainfall Outlook \(ERO\) Interactive Display \(noaa.gov\)](https://www.spc.noaa.gov/forecast/excessive_rainfall_outlook/)
- National Water Center Prediction Service
 - [National Water Prediction Service - NOAA](https://www.nwcc.noaa.gov/)



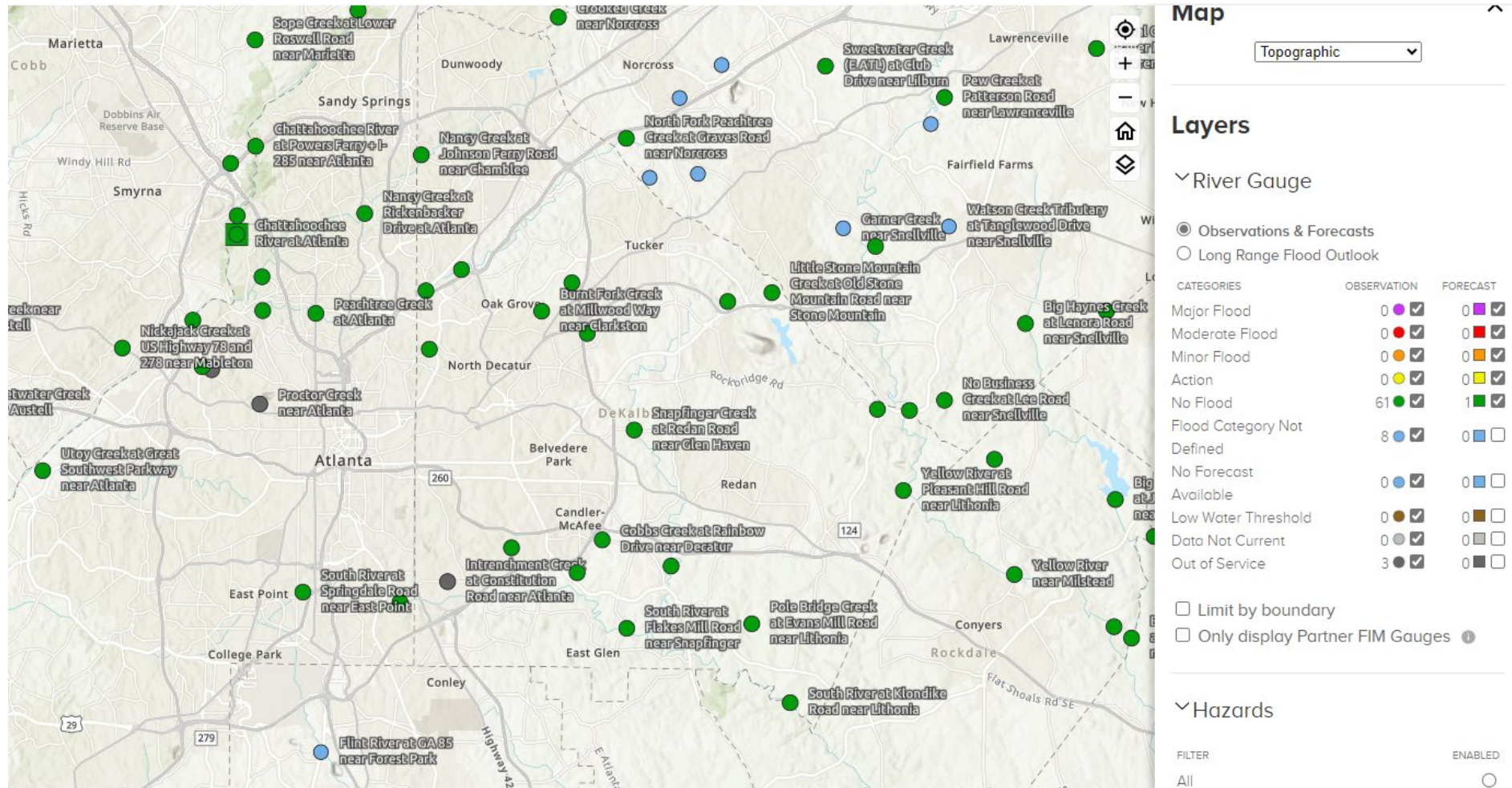
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FHO and ERO



Atlanta Region River Gauge Status

- [National Water Prediction Service - NOAA](#)



Flood Inundation Models – TC Debby

- Tropical Cyclone Debby – Major threat was excessive rainfall and inland flooding
- Modeled water height
 - ICEYE – Flooding is derived through satellite imagery, synthetic aperture radar, ground truth observations and high-water marks. High-res DEM (1-3m resolution)
 - USACE – River hydraulic models and Quantitative Precipitation Forecast (QPF)

Flood Inundation Exposure Analysis

- Demographics
 - Vulnerable populations
- Structures
- Critical Infrastructure



Exposure Analysis Dashboard from FIM

ICEYE Flood Inundation Model > 1ft

Tropical Cyclone Debby: Exposure Analysis Demographics, Critical Infrastructure, and Structures

Filter by County

No data

Filter by Lifeline

No category selected

Exposed Population by County

Population: 1,296

Households: 545

Collier County, FL

Population: 1,218

Households: 606

Hernando County, FL

Population: 1,100

Households: 524

Chatham County, GA

Population: 895

Households: 357

Hillsborough County, FL

Population: 791

Households: 323

Bryan County, GA

Population: 615

Households: 235

Horry County, SC

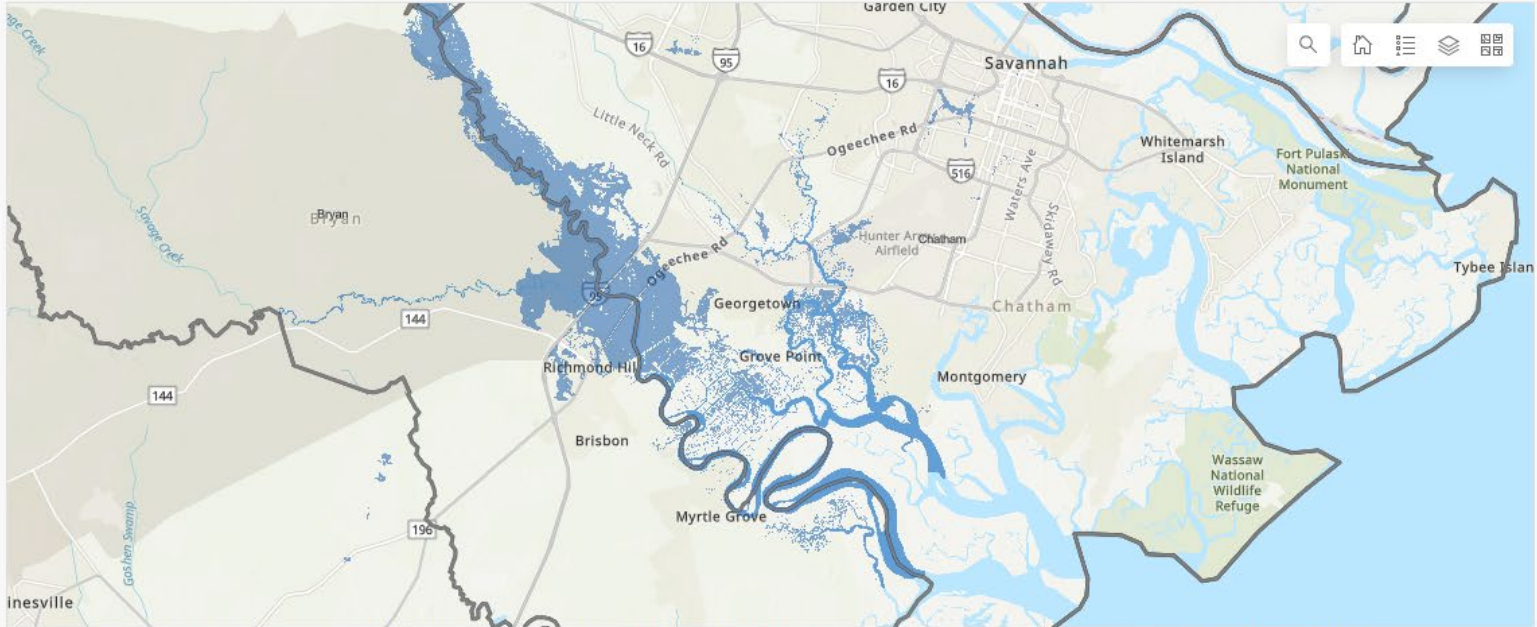
Population: 499

Households: 228


Colleton County, SC

Population: 499


Households: 228




Exposed Critical Infrastructure

 Odell Lake Dam

DAMS (Safety & Security)

 Bynum - Canal Embankment

DAMS (Safety & Security)

 Bynum

DAMS (Safety & Security)

Exposed Demographics by State

STATE	Population	Households	Pop. < 18	Pop. > 64	Household Income <20k	Owner Occupied Housing	Renter Occupied Housing	Owner Mobile Home	Renter Mobile Home
Georgia	895	357	189	95	47	189	151	17	23



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