

The Top 5

Georgia Weather Events of 2024

someone said Atlanta rn

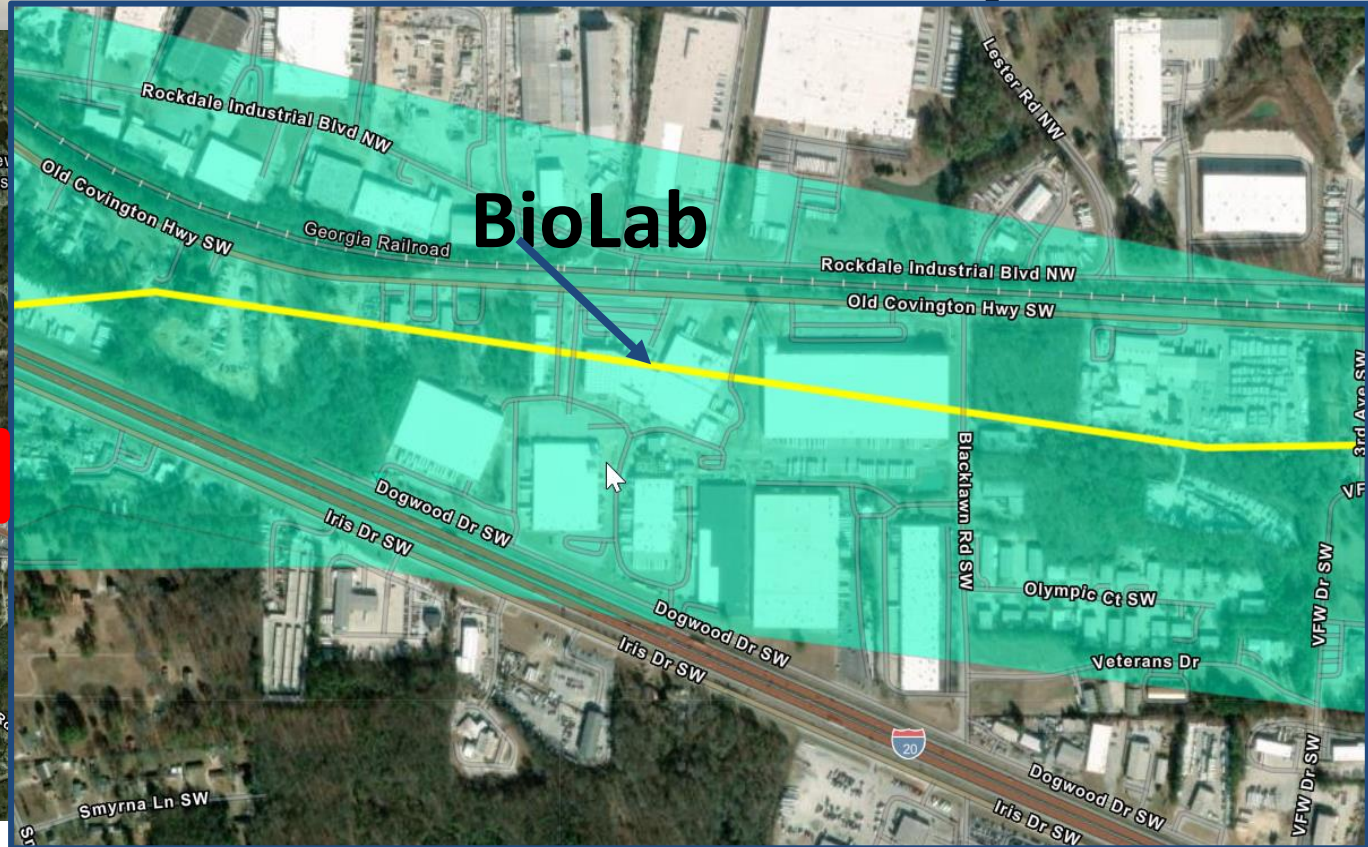
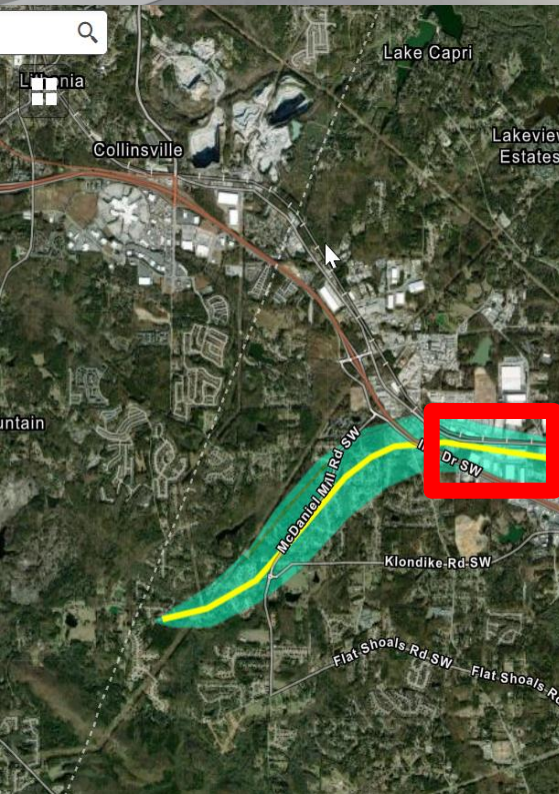


Keith Stellman - Meteorologist in Charge



Finalist

EF2 Tornado in Rockdale Co/Conyers

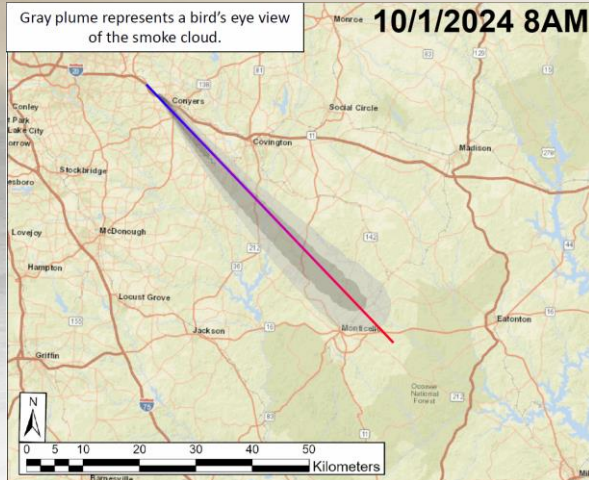




#5

BIOLab Fire in Conyers

- Early afternoon Sunday Sept 29th (3 days after Helene)
- Began working with other agencies on plumes - IMAAC (Interagency Modelling and Atmospheric Assessment Center)



Sunday Sept 29 - 3 days post Helene



Tuesday Oct 1, 930AM - I20
National Weather Service Atlanta





#4

Is it **Wet** OR is it **Dry**

The See-Saw year of weather



Is it **Wet** OR is it **Dry**



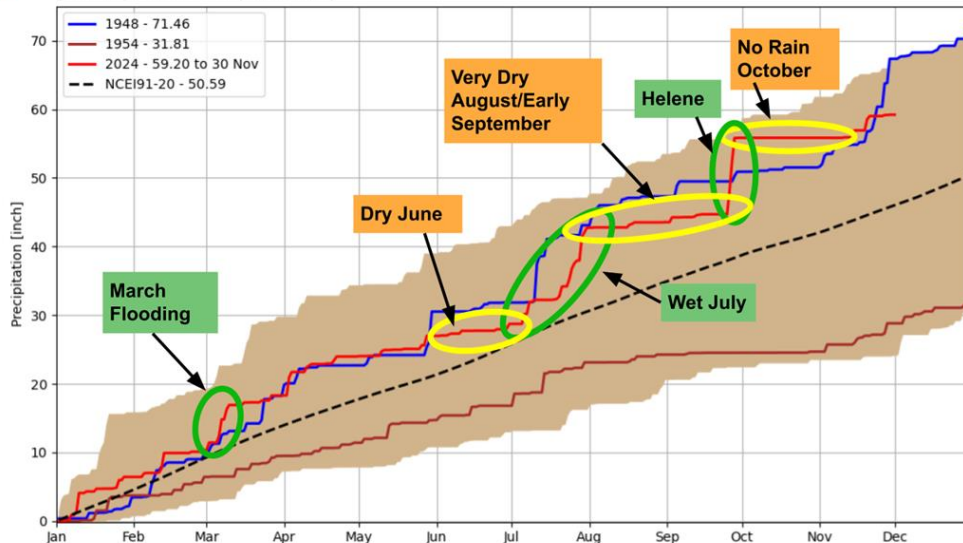
2024 Atlanta Rainfall... So Far... Part II

December 1, 2024
1:09 PM



Accumulated Precipitation after 1 January

[GATATL] Atlanta Area (1878-2024)



Rank	Value	Ending Date
1	71.45	1948-12-31
2	70.03	2018-12-31
3	69.43	2009-12-31
4	68.38	2015-12-31
5	67.71	1929-12-31
6	66.99	2020-12-31
7	66.15	1936-12-31
8	66.02	2013-12-31
9	66.00	1975-12-31
10	65.04	1920-12-31

Where are we now?

- 3.37" since post on Oct 16th

How wet would December have to be to break the record?

- 12.26" needed to break the record
 - This would be the 3rd wettest December on record or about a 2.1% chance.

How wet would December have to be to reach the top 10?

- 5.84" needed to reach top 10 wettest
- This would be at least the 34th wettest December on record or about a 30% chance.

Generated at 1 Dec 2024 10:10 AM CST in 0.87s

IEM Autoplot App #172



National Oceanic and
Atmospheric Administration
U.S. Department of Commerce

National Weather Service
Peachtree City, GA

National Weather Service Atlanta

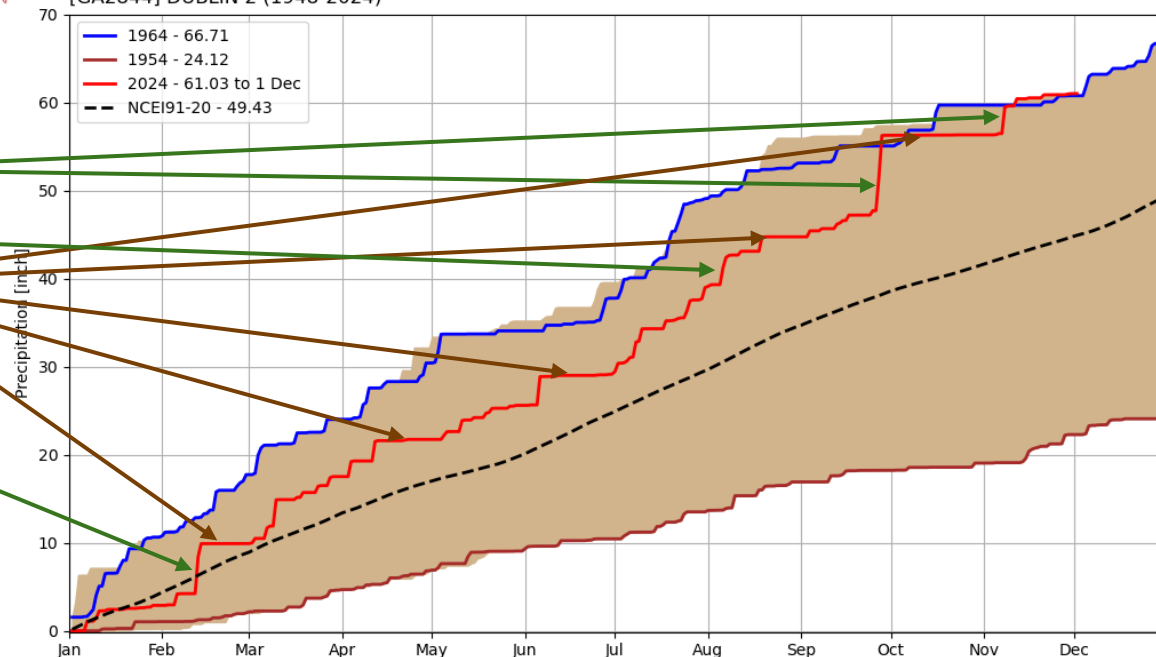


Is it **Wet** OR is it **Dry**



Accumulated Precipitation after 1 January
[GA2844] DUBLIN 2 (1948-2024)

- **Dublin GA** on pace for wettest year on record
- Helene + Rafael Rainfall stand out
- Debby
- Distinct dry periods followed the big rain events
- Big February event



Generated at 1 Dec 2024 12:17 PM CST in 0.63s

IEM Autoplot App #172



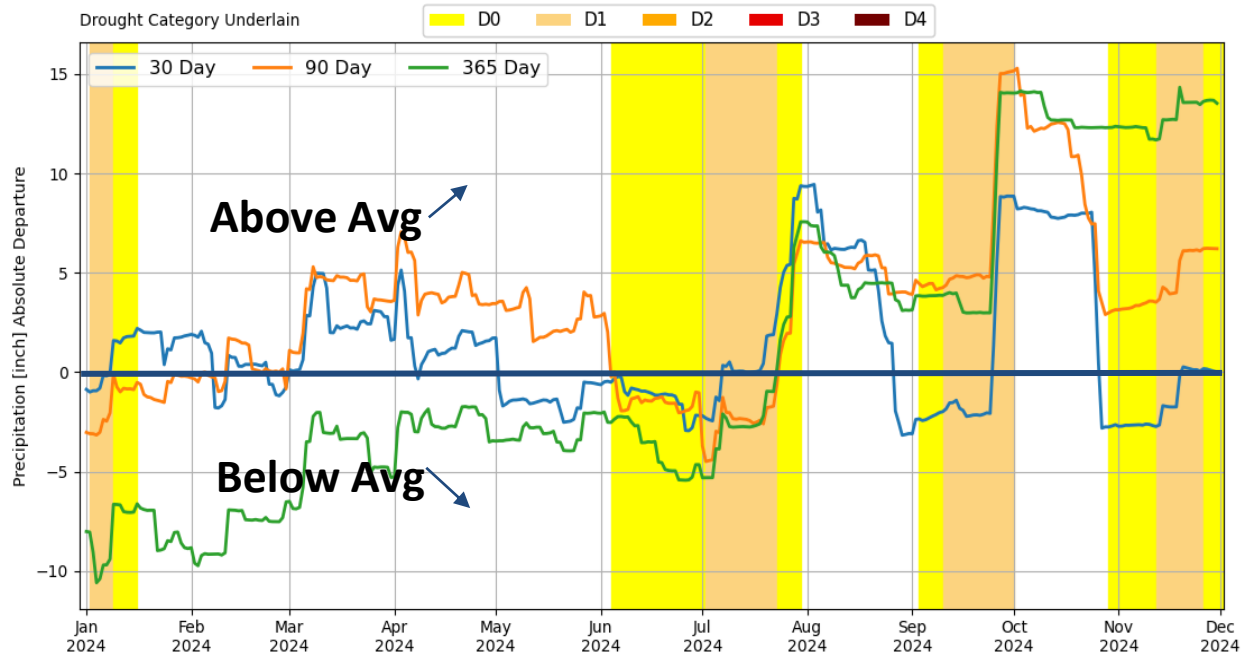
Is it **Wet** OR is it **Dry**



[GATATL] Atlanta Area
Trailing 30, 90, 365 Day Departures & US Drought Monitor

- As soon as we would start to dry out, a large rain event would remove the drought.

- Wet Feb/Mar
- Wet July
- Helene



1 Jan 2024 to 1 Dec 2024

Generated at 1 Dec 2024 12:27 PM CST in 4.01s

IEM Autoplot App #142



#3

Flood Event of Nov 6-7

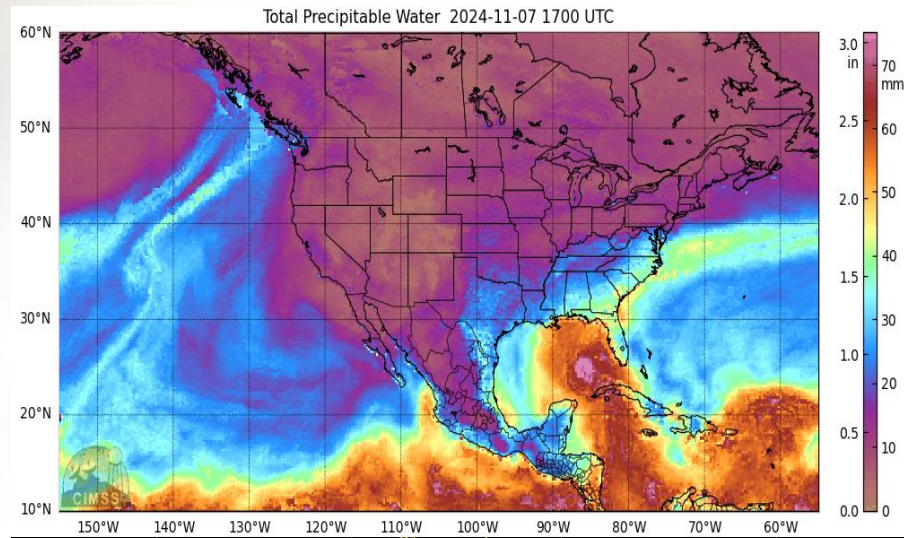
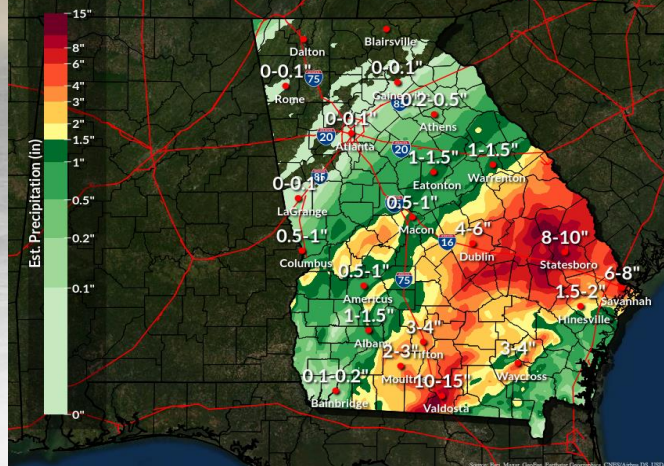
(tied to Rafael)

- Presidential Disaster Declaration??
- Early Estimate **\$25M+ in damage**
- Mostly washed out roads, many were just repaired following Helene
- 8-14" of Rainfall across South/Southeast GA

State Total Rainfall Estimates

From Wednesday 7am to Friday 7 am

Weather Forecast Office
Atlanta, GA
Nov 08, 2024 12:05 PM EST



Water Vapor Imagery showing the tropical connection from Rafael into the SE United States

Highway 19 North of Glenwood in Wheeler County



#2

Hurricane Debby

- Aug 4-6, 2024
- Slow moving TS
- Very Heavy rainfall across SE GA
- Federal Disaster Declaration
- Major flooding across south/southeast GA

Storm Total Rainfall Forecast
through Friday AM
Weather Forecast Office
Atlanta, GA
Issued Aug 05, 2024 11:35 AM EDT

This map shows the forecasted total rainfall for the storm system. A color scale on the left indicates rainfall amounts in inches: 0.2 (light green), 0.5 (green), 1 (yellow-green), 1.5 (yellow), 2 (orange), 2.5 (red-orange), 3 (red), 4 (dark red), 5 (purple), 6 (dark purple), 7 (black), 8 (dark blue), 9 (blue), 10 (light blue), 11 (very light blue), 12 (white), 13 (light green), 14 (green), 15 (yellow-green). The map shows rainfall amounts across the Southeastern United States, with the highest concentrations (10-15 inches) in the South Atlantic region.

FEMA-4821-DR, Georgia Disaster Declaration as of 09/24/2024
FEMA

This map shows the designated counties for individual assistance and public assistance under the Federal Mitigation Grant Program. The map includes a legend for Designated Counties: Individual Assistance (green), Public Assistance (Categories A-G) (yellow), and Public Assistance (Categories A-G) (orange). The map also includes a Data Layer/Map Description, Data Sources, and a map of Georgia with designated counties highlighted.

Tropical Storm Debby
Monday August 05, 2024
11 AM EDT Advisory 13
NWS National Hurricane Center

Current information: x
Center location 30.2 N 83.2 W
Maximum sustained wind 70 mph
Movement NNE at 8 mph

Forecast positions:
● Tropical Cyclone
○ Post/Potential TC
S 39-73 mph H 74-110 mph M > 110 mph

Potential track area: Watches: Day 1-3 Day 4-5
Hurricane Tropical Storm Hurricane Tropical Storm Hurricane Tropical Storm

Warnings: Hurricane Tropical Storm Hurricane Tropical Storm Hurricane Tropical Storm

Current wind field estimate: Hurricane Tropical Storm Hurricane Tropical Storm Hurricane Tropical Storm

Weather Prediction Center Excessive Rainfall Outlook Monday, August 05, 2024
Issued Time: 2024-08-05 18:27:00
Valid Time: 22-08-05-24 12Z 08-06-24

This map shows the probability of excessive rainfall for the storm. A color scale on the left indicates the probability of excessive rainfall: 0-10% (light green), 10-20% (green), 20-30% (yellow-green), 30-40% (yellow), 40-50% (orange), 50-60% (red-orange), 60-70% (red), 70-80% (dark red), 80-90% (purple), 90-100% (dark purple). The map shows the probability of excessive rainfall across the Southeastern United States, with the highest probabilities (80-100%) in the South Atlantic region.

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National Weather Service Atlanta

- Storm Total Rainfall Forecast**
through Friday AM

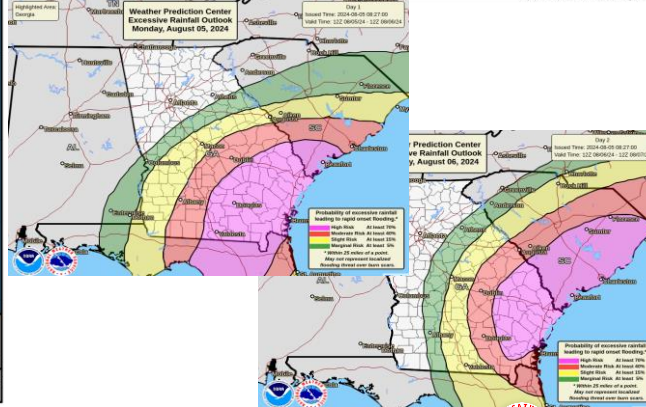
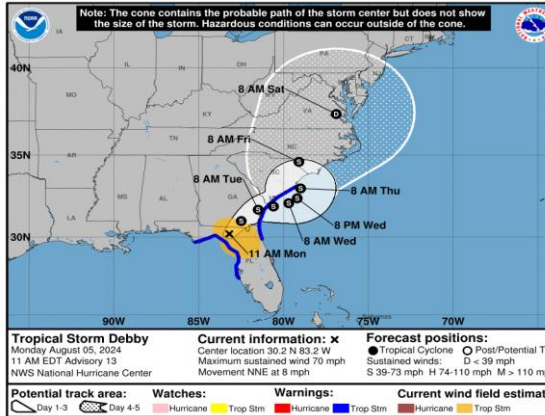
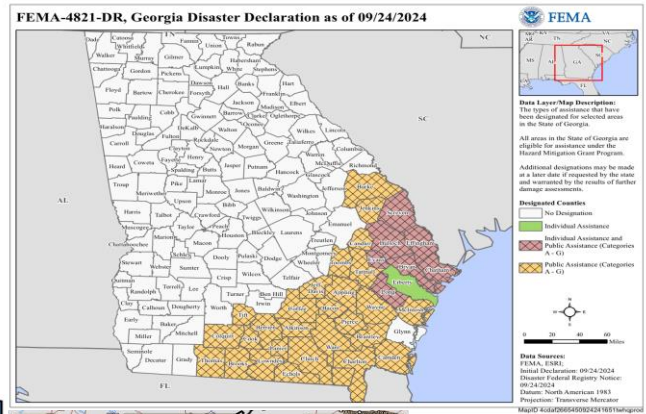
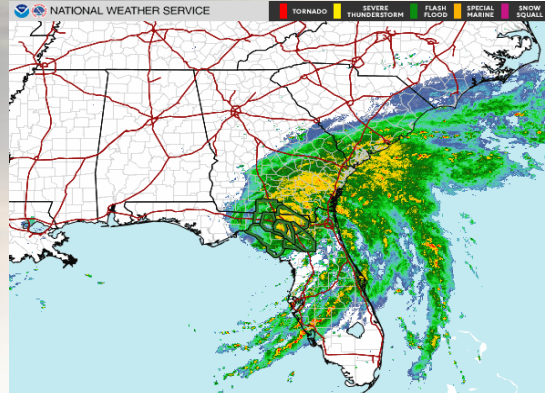
Weather Forecast Office
Atlanta, GA
Issued Aug 05, 2024 11:35 AM EDT

Storm Total Precipitation (in)

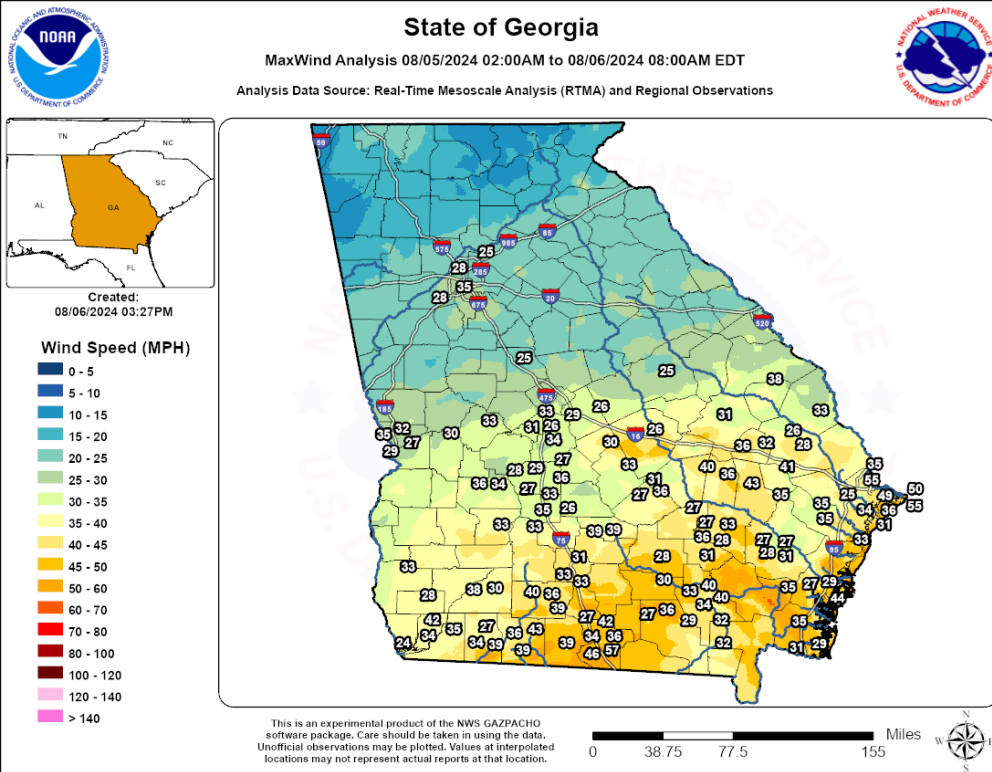
15+
8+
6+
4+
3+
2+
1.5+
1+
0.5+
0.2+

0.2"
0.2-0.5"
0.5-1"
1-2"
2-3"
4-6"
6-10"
10-15"
15+ "

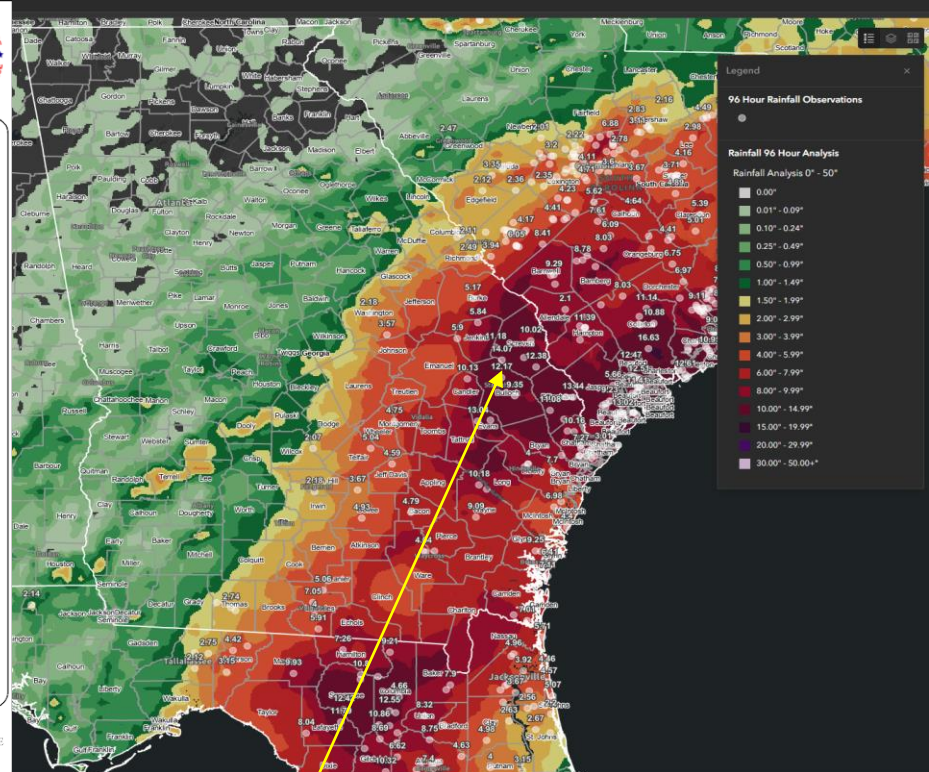
Atlanta, GA



Hurricane Debby Wind and Rainfall Data



Peak wind of 57 mph at Valdosta



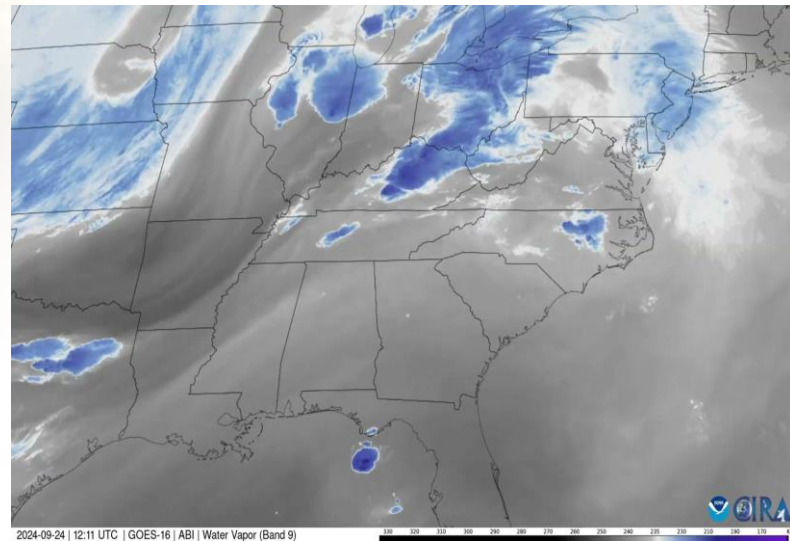
Top Rainfall total of 14.07" in Screven County



#1

Hurricane Helene

- Worst Natural Disaster in GA history??
- Early Estimate **\$8B+ in damage; \$6.5B Agricultural**
- **\$1.28B** in Timber losses
- **8.9** Million acres of forestland within the path
- GA Power - **over 11,000 power poles replaced..**
previous record 1700+ (Irma)
- **33 fatalities** in GA
 - Mostly falling trees
 - Tornado



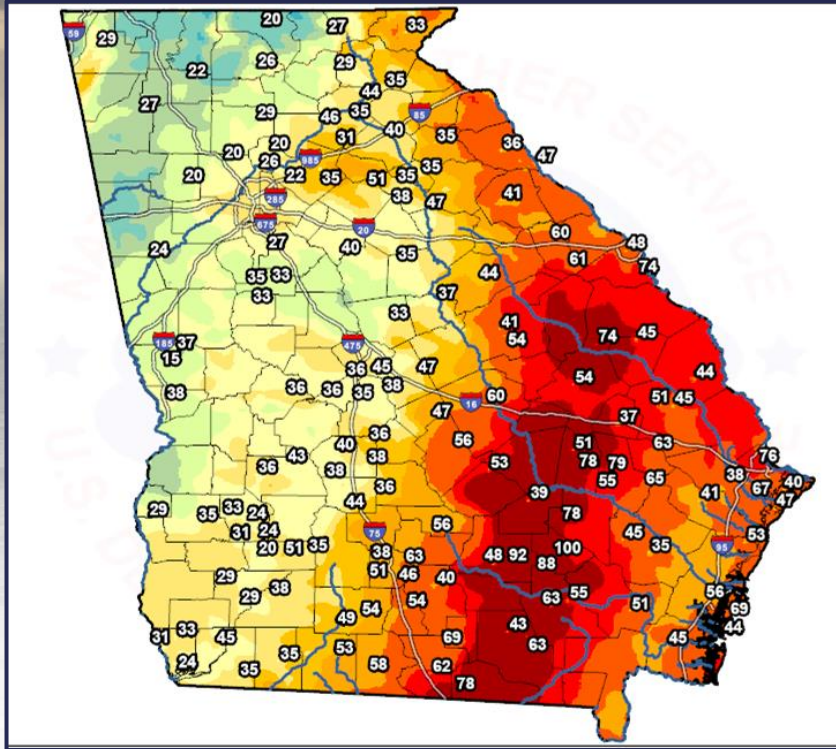
Meteorological Anomaly

- Major Hurricane + Upper Level System + Stalled Front in sync
- PRE - Predecessor Rain Event set the stage
- Strong Jet aided Helene inland during its transition to Extra-tropical
- Wind damage enhanced due to presence of a Sting Jet

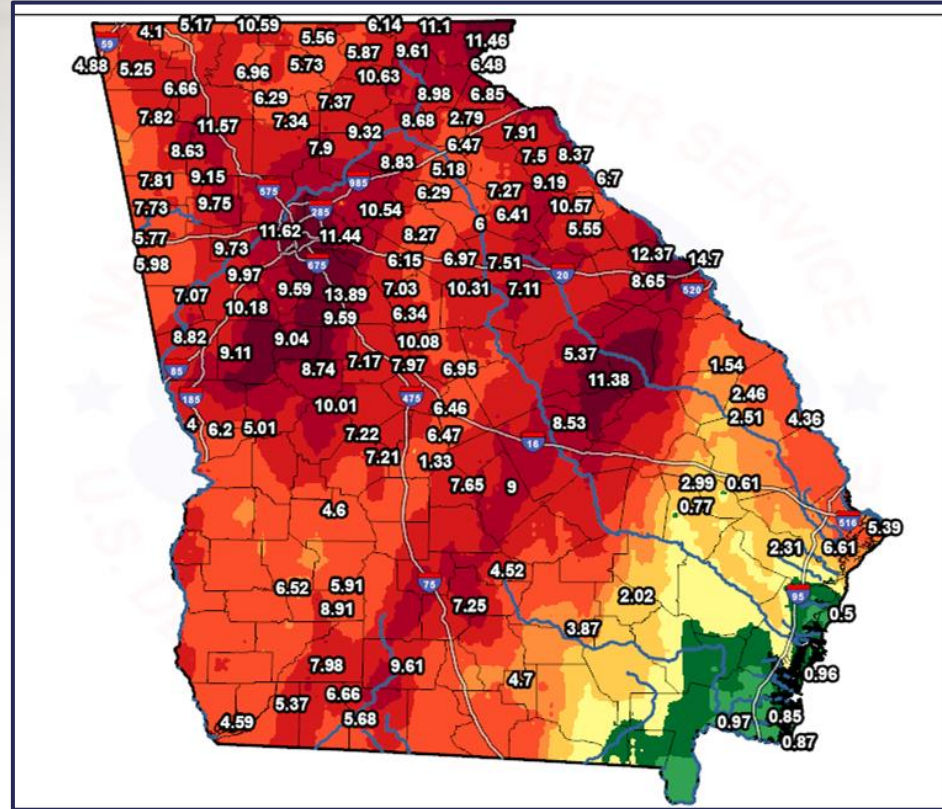
Brief Recap on Hurricane Helene (9/25-27)

Peak winds (available observations only)

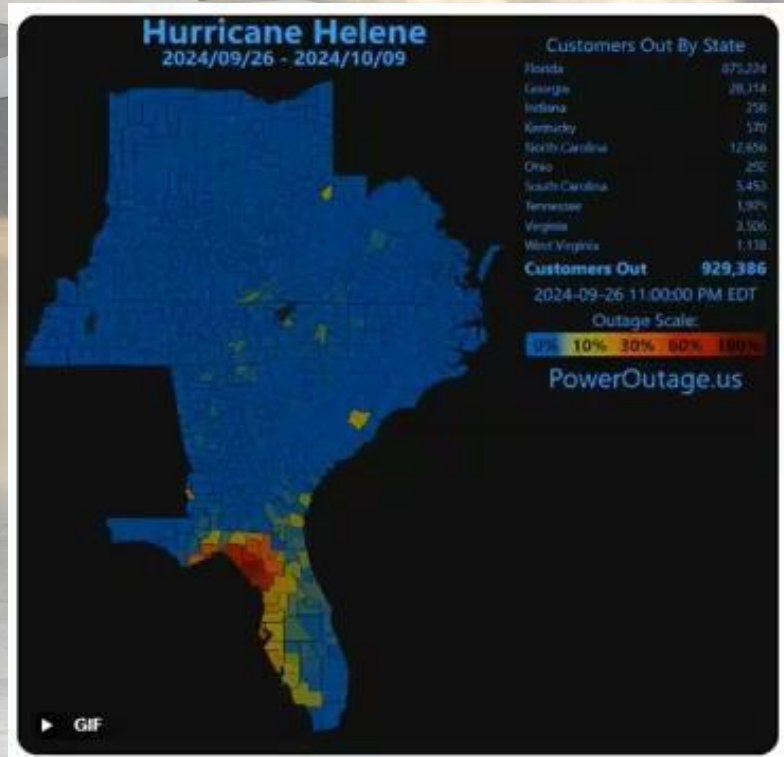
**AGS measured 82mph but lost power 15 min before peak winds arrived)*



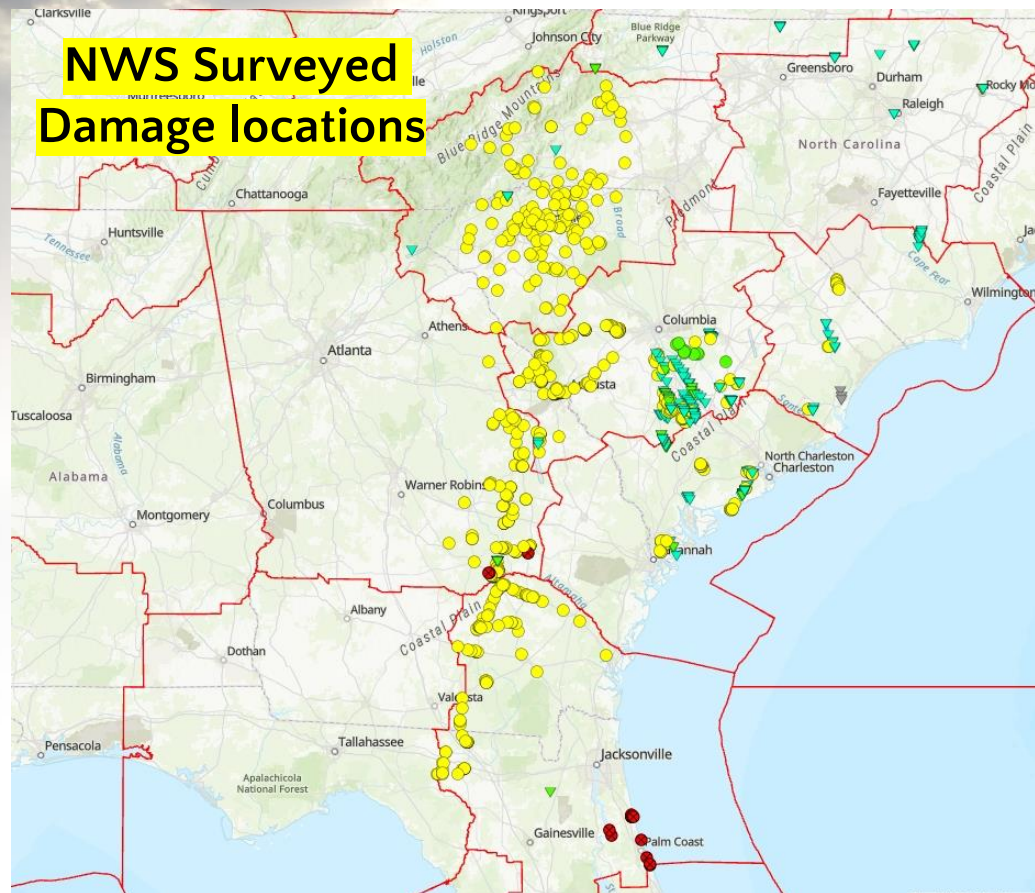
48 to 72-hour Rainfall Totals



Brief Recap on Hurricane Helene (9/25-27)



Power Outages
September 26 - October 9



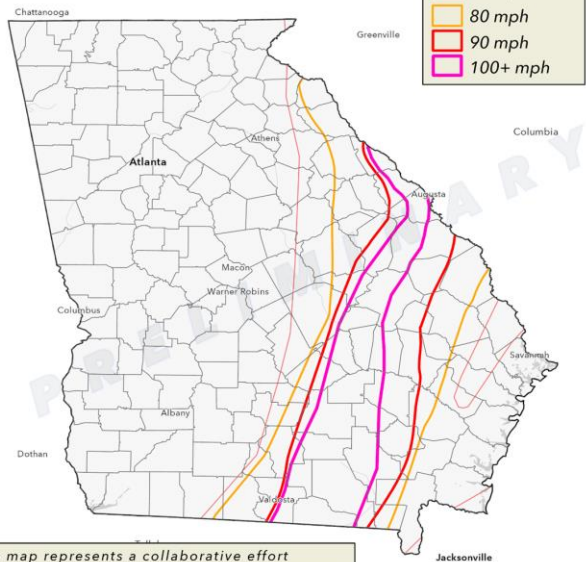
Hurricane Helene Updated Maximum Wind Map - *from damage surveys*

Estimated Peak Wind Gusts from Hurricane Helene



Estimated Peak Wind Gusts

- 70 mph
- 80 mph
- 90 mph
- 100+ mph

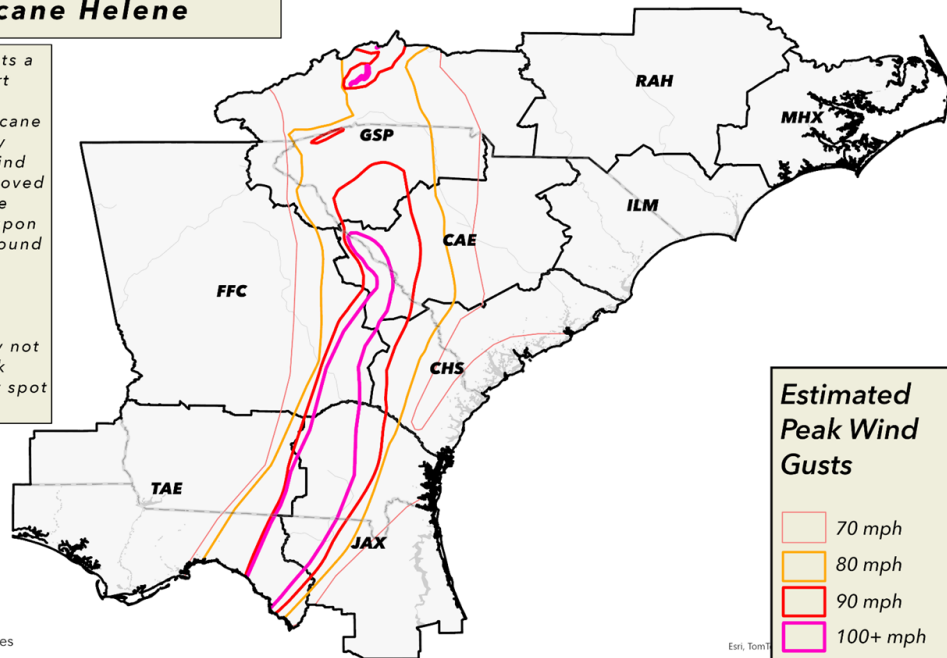


This map represents a collaborative effort amongst offices impacted by Hurricane Helene to properly assess the peak wind gusts as Helene moved inland. Winds were estimated based upon several days of ground surveys, satellite imagery, and consultation with experts. These are estimates and may not represent the peak wind gust at every spot on the map.

0 25 50 100 Miles
Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, NPS, USFWS

Estimated Peak Wind Gusts from Hurricane Helene

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Estimated Peak Wind Gusts

- 70 mph
- 80 mph
- 90 mph
- 100+ mph

Esri, TomTom

0 25 50 100 Miles

Savannah River (GA/SC state line)
just NW of Augusta

Savannah River (GA/SC state line)
just NW of Augusta



Clarks Hill Lake / Savannah River (GA/SC State Line)

2024-10-22 00:00 - 2024-10-22 23:59, Sentinel-2 L2A, True color

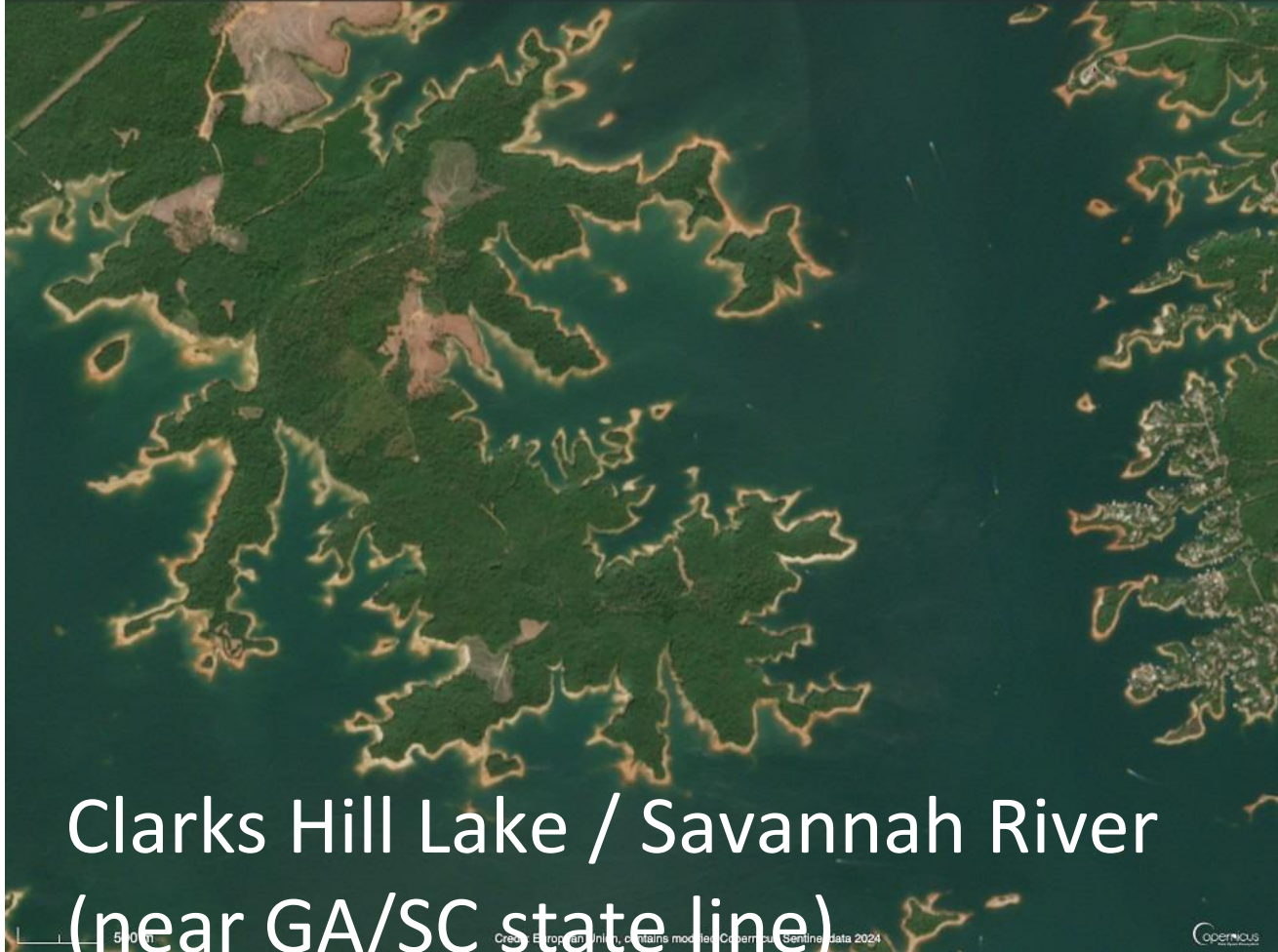
Clarks Hill Lake / Savannah River (GA/SC State Line)

500 m

Credit: European Union, contains modified Copernicus Sentinel data 2024

Copernicus

2024-09-22 00:00 - 2024-09-22 23:59, Sentinel-2 L2A, True color

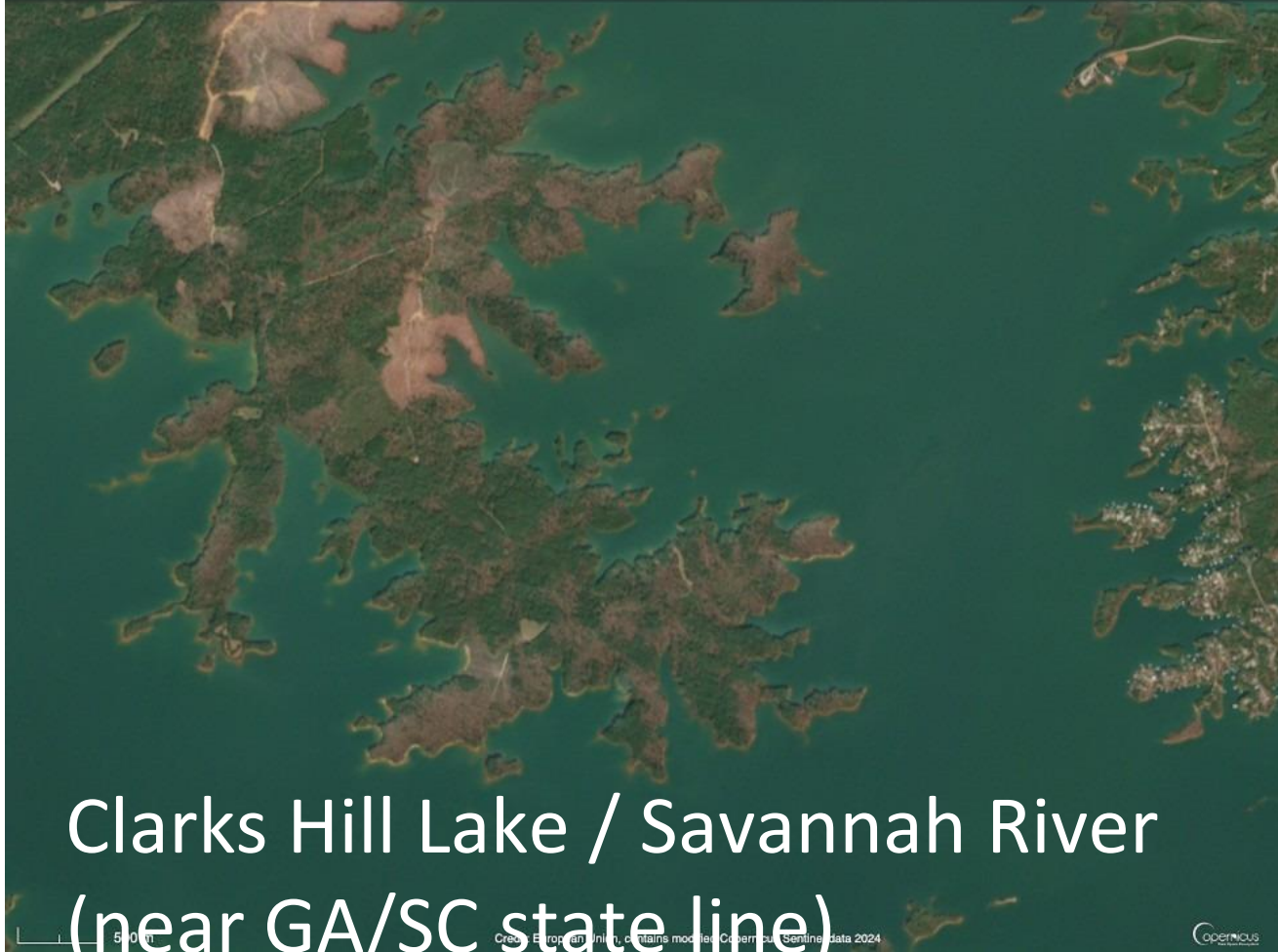


Clarks Hill Lake / Savannah River
(near GA/SC state line)

Created by European Union, contains modified Copernicus Sentinel data 2024

Copernicus

2024-10-07 00:00 - 2024-10-07 23:59, Sentinel-2 L2A, True color



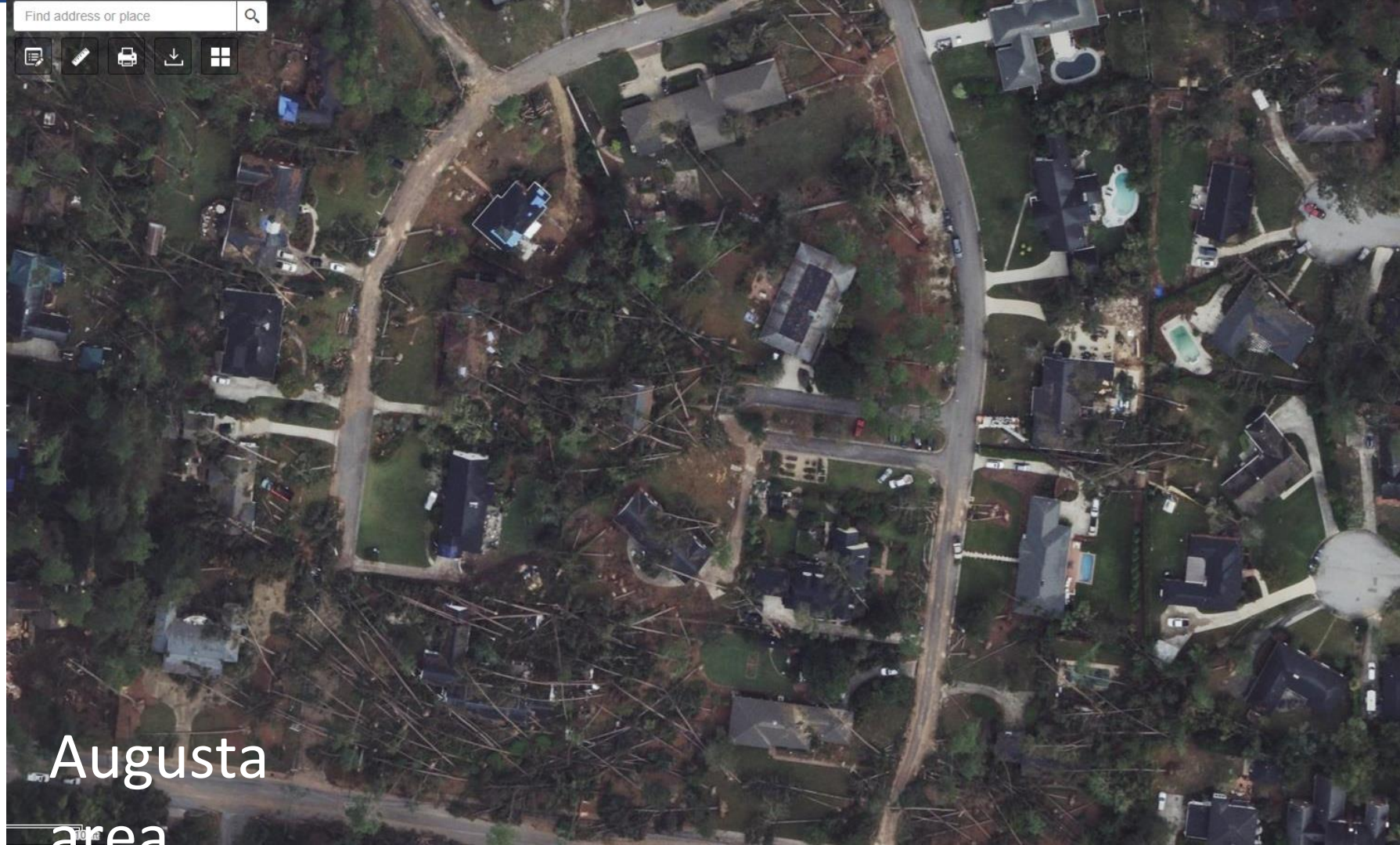
Clarks Hill Lake / Savannah River
(near GA/SC state line)

Find address or place



Augusta
area

Find address or place



Augusta
area