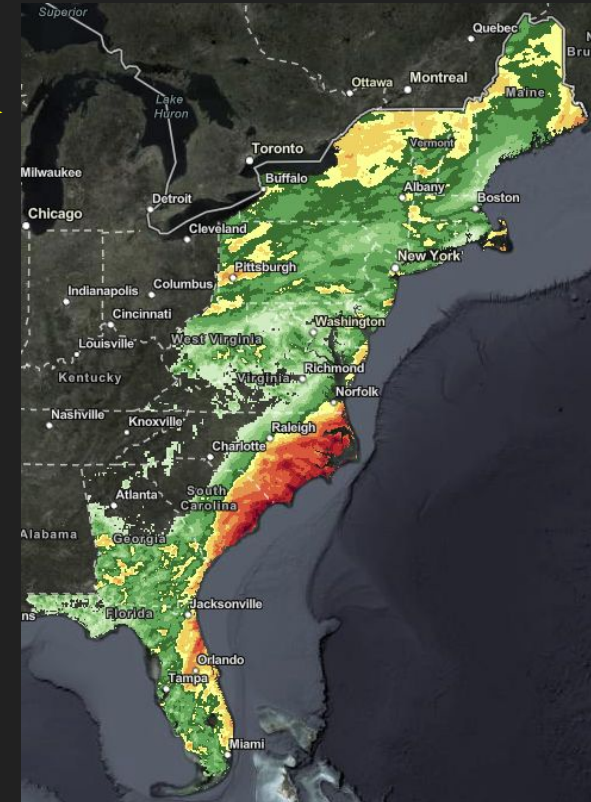
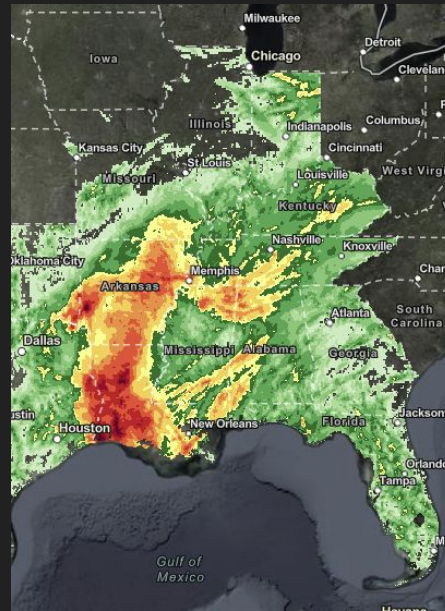


Hurricane Dorian & Beyond: How GIS Mutual Aid and Cloud-Based GIS Improve IDSS for Core Partners

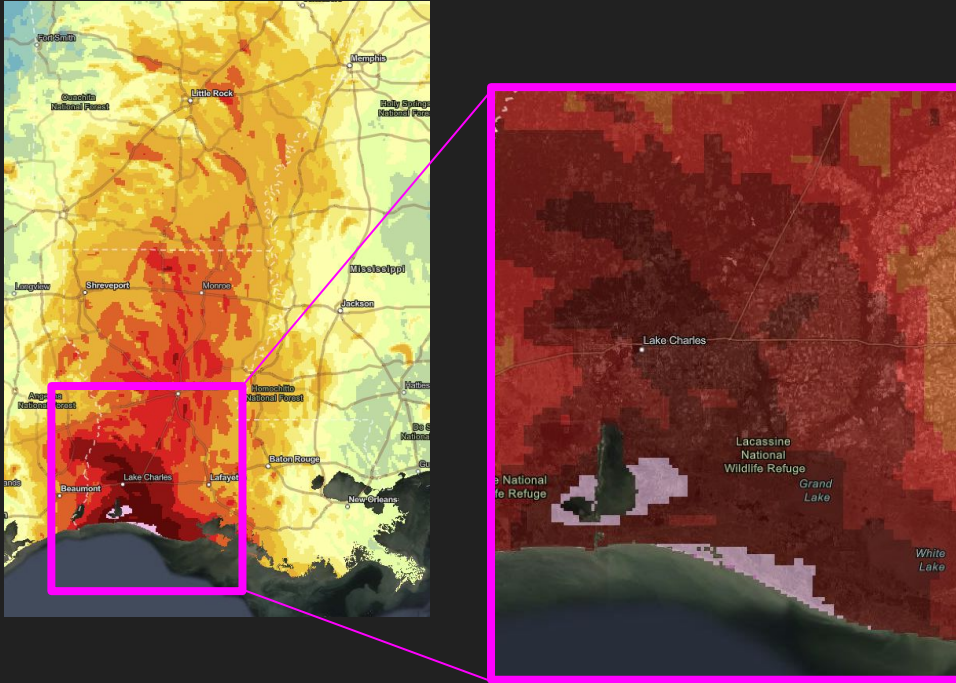
Danny Gant (WFO MRX)
Derek Giardino (West Gulf RFC)
Jared Allen (WFO CYS)

Outline

- What is **IDSS & Why GIS?**
- **GIS Mutual Aid & ArcGIS**
Online Templates
- GIS & NWS IDSS in 2019-2020
 - Hurricane Dorian (Rainfall)
 - Fire Weather
 - Hurricane Laura (Rainfall)
- The **Future of GIS & IDSS** in the NWS



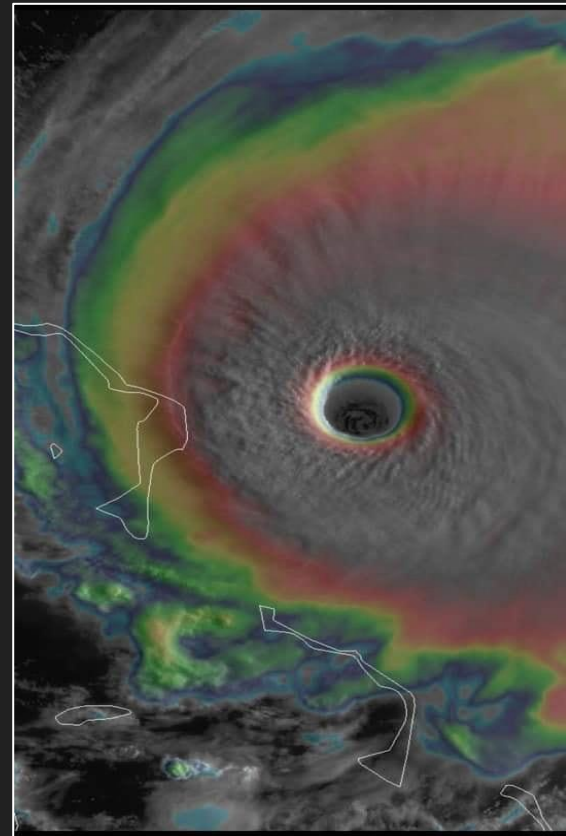
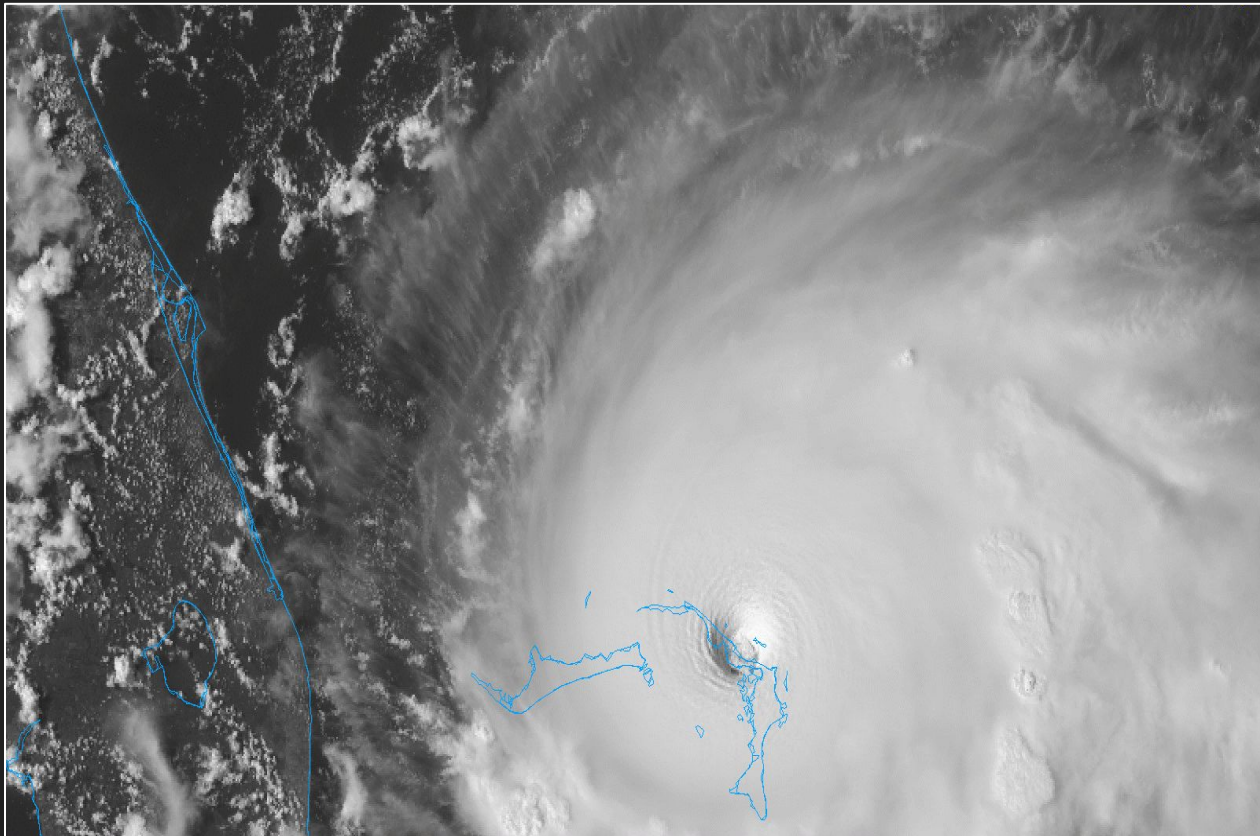
What is IDSS & Why GIS?



- Impact-Based Decision Support Services (IDSS)
 - Forecast advice and interpretive services to core partners
 - Core partners consist of emergency management personnel and public safety officials who make decisions when hazardous weather, water, and climate conditions impact the life and property of the American people.
- Why GIS?
 - Critical decision makers value clear, concise, consistent, and capable guidance from on-site personnel. Cloud-based GIS gives meteorologists the tools to satisfy this requirement for core partners. Not just static imagery anymore!

“to be able to analyze the number households that might've been impacted to 1. better direct their DA teams, and 2. estimate (with \$ amounts) how many households might've been affected” ~ **Mike Ouimet (Unit Chief of Operations Technology for Texas Department of Emergency Management)**

Hurricane Dorian



The Midnight Warriors

GIS Mutual Aid Request

- Deployed to Tallahassee Florida from Ft. Worth Texas
- Needed a tool to adapt to the situation and encompass all hazards to provide decision support
- Had little time to develop and maintain/advance tool while deployed



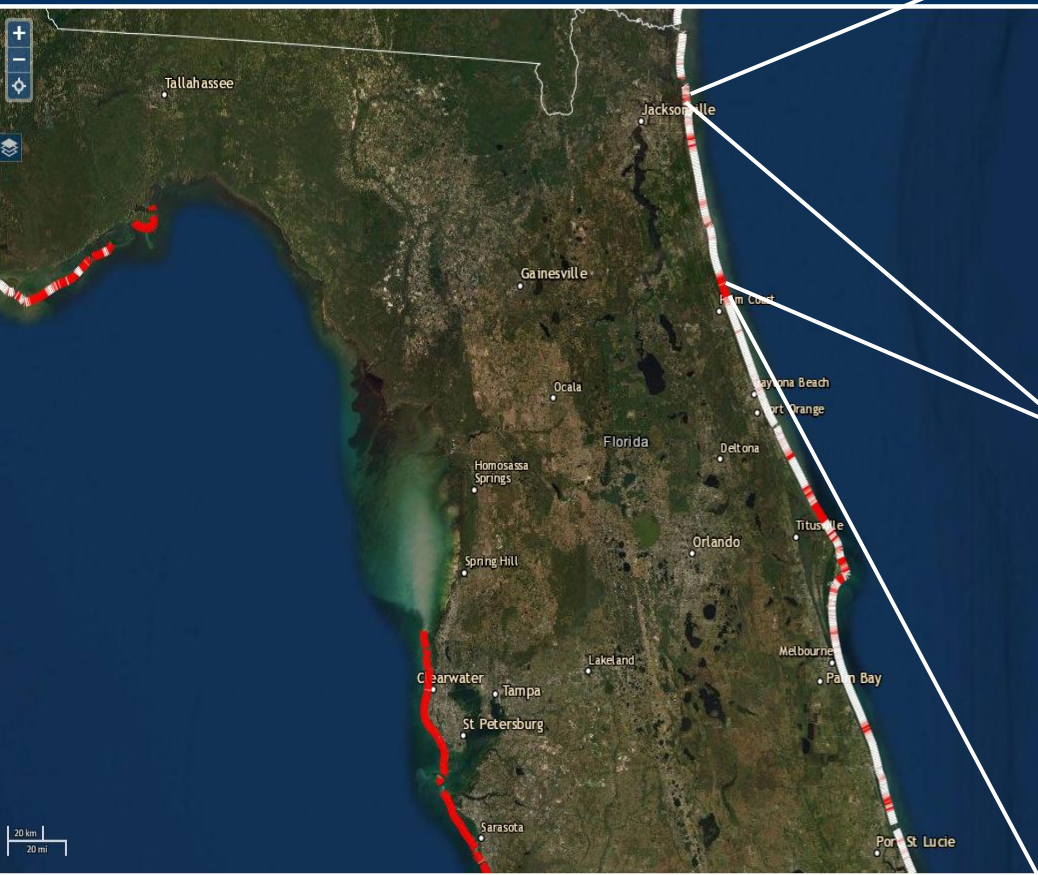
Enter the GIS Community

- Created a rough Dorian Story Map and called for help
- Woke up with multiple new tabs, layers, and sites added helping immediately answer EM questions
- Continuously advanced the tool throughout the week customizing it to the requests of partners

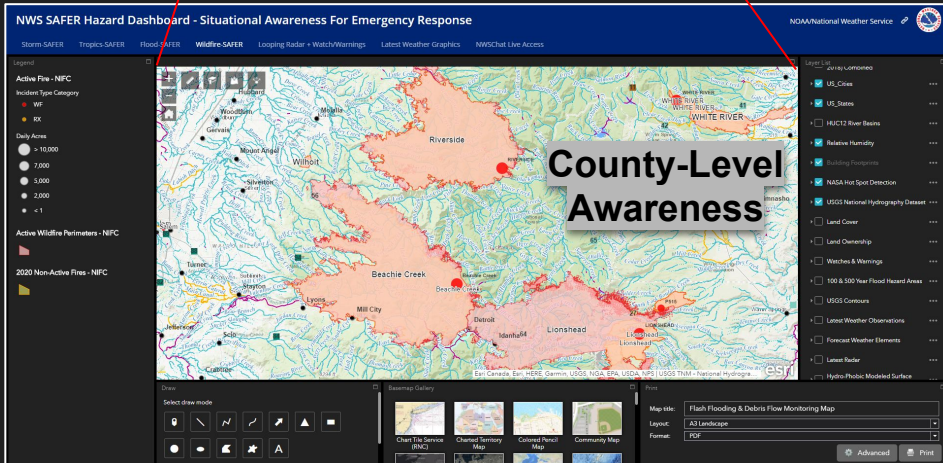
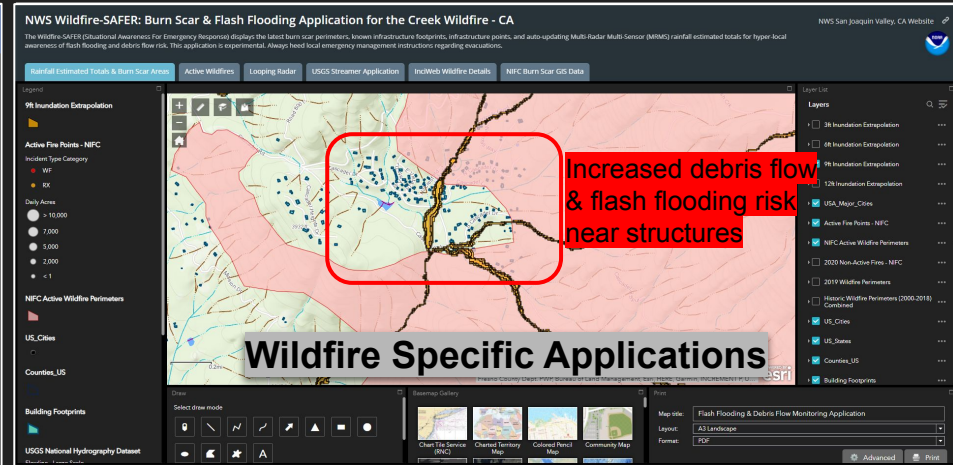
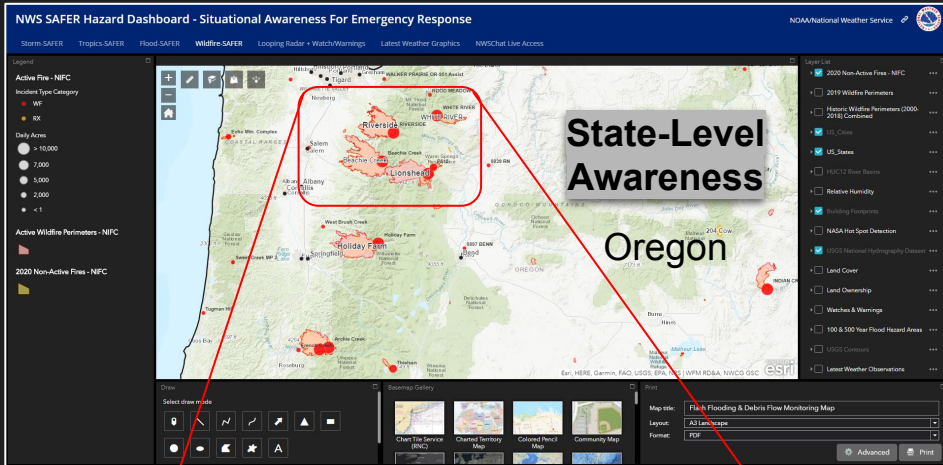


USGS Coastal Change Hazards Portal

All Search...



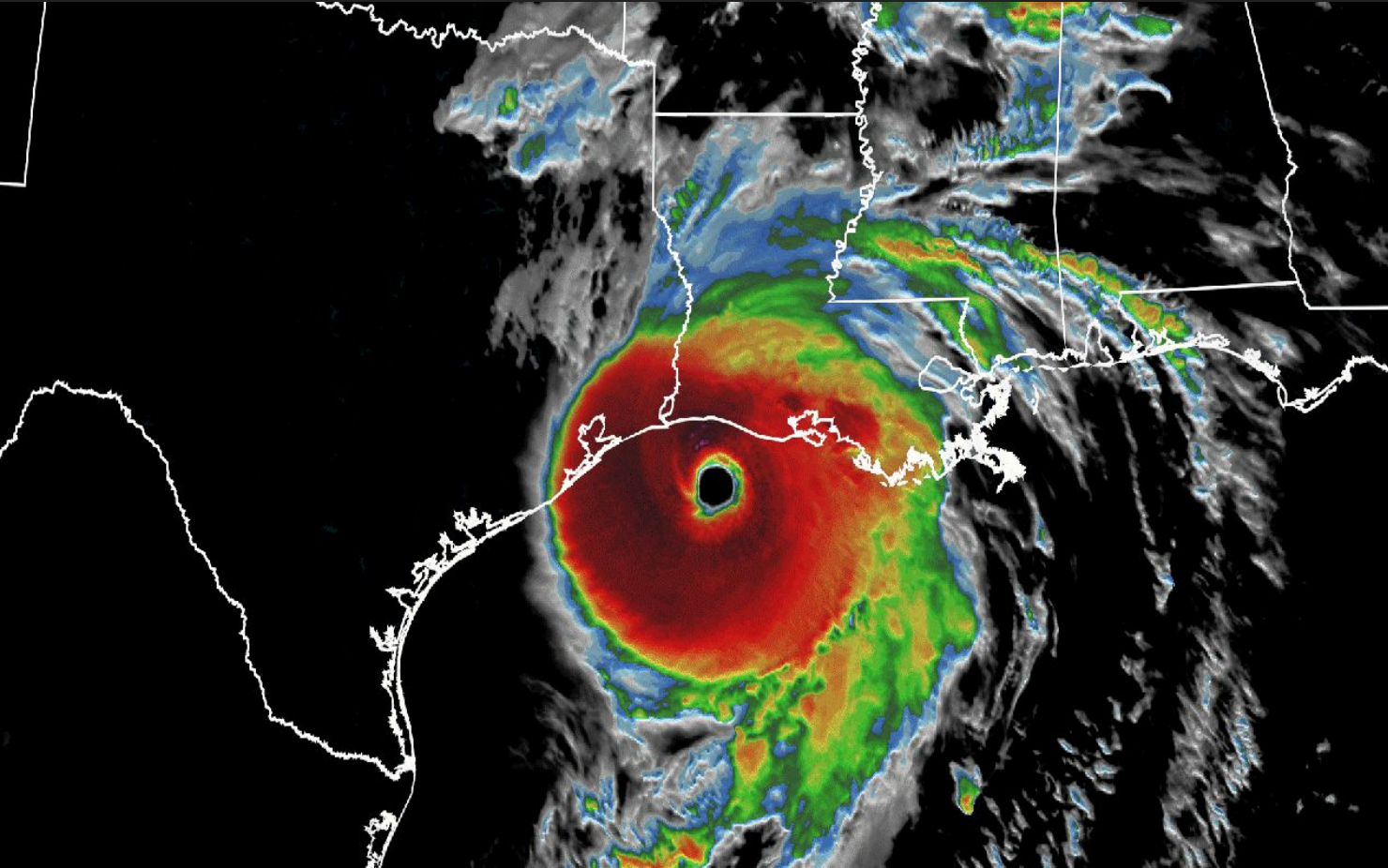
Staying Wildfire Aware - Hazards Changing by the Hour



Wildfire-specific mapping applications for hyper-local awareness of both initial wildfire growth hazards & post-wildfire debris flow & flash flooding hazards are flexible & adaptable to anywhere.

Wildfire impacted NWS weather forecast offices can request wildfire-specific mapping applications & debris flow modeling through a Google Form for improved internal situational awareness & enhanced external IDSS Delivery.

Hurricane Laura



Hurricane Laura

Peak Category:
Hurricane Category 4

Max Winds:
150mph

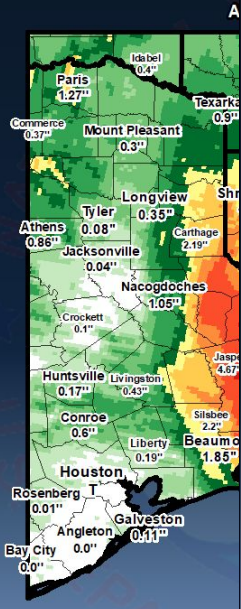
Peak Surge:
11 Ft Confirmed
(17 Ft Unconfirmed)

Inland Flooding:
Moderate Flooding

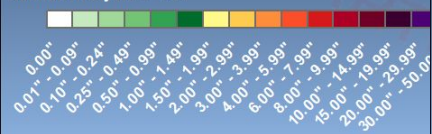
Getting Resources Located Quickly

National Weather Service

Rainfall Analysis 08/2

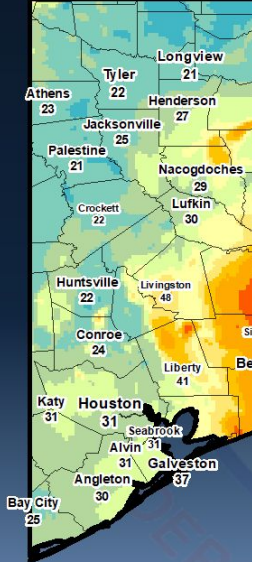


Rainfall Analysis 0" - 50"



This is an experimental product. Care should be taken in using the data.

MaxWind Analysis



MaxWind Analysis (MPH)

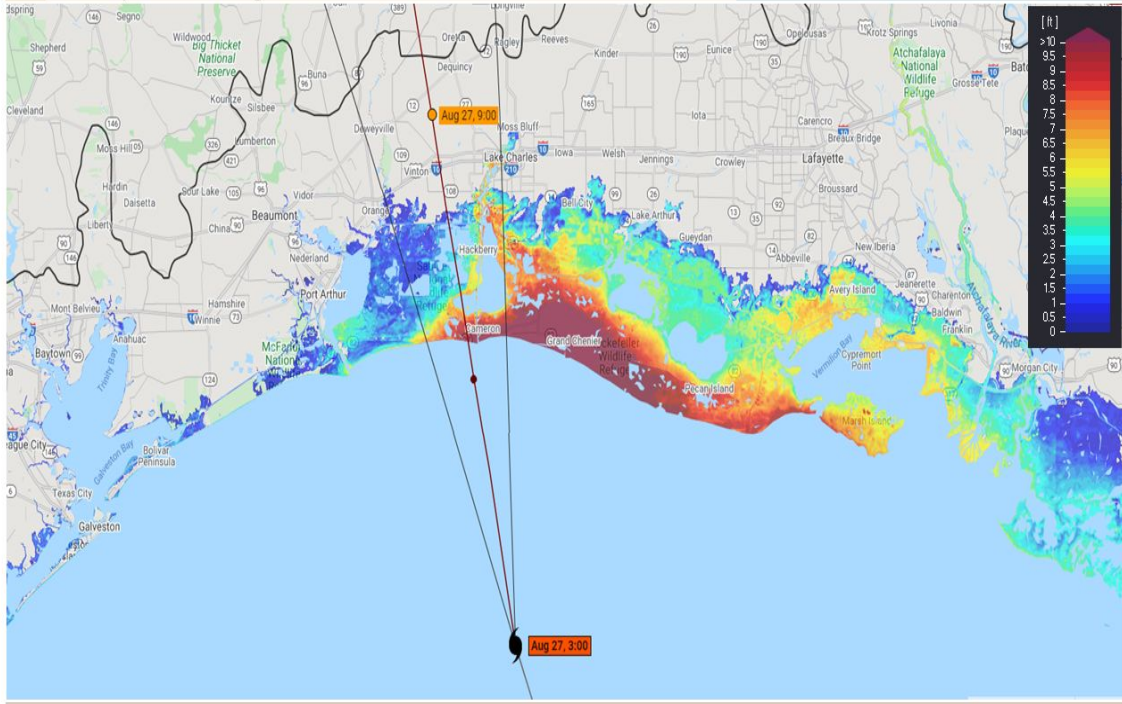


This is an experimental product. Care should be taken in using the data.

National Weather Service

Simulation of Surge Inundation

Advisory 29 Run - Heights Above Ground Level



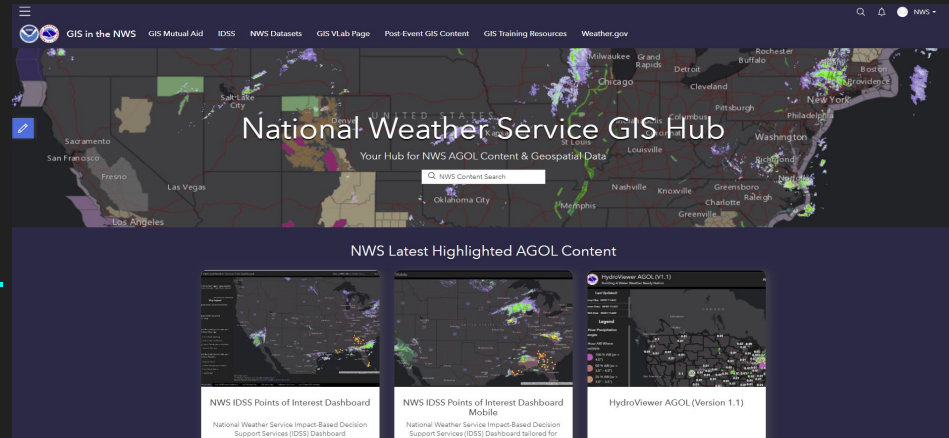
West Gulf
River Forecast Center

8/27/2020 6:52 AM

www.weather.gov/wgfc

The Future of GIS & IDSS in the NWS...

- **Deeper organization** around a GeoSpatial framework to **support/enhance IDSS**
- **GeoSpatial Intelligence Workgroup**
- **NWS ArcGIS Online Internal HUB** to house and share content, ideas, and training
- **NWS ArcGIS Online Community HUB** expands sharing of content/apps to external core partners without going public





Thank You!

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