Louisiana FloodID Overview

June 2023

LOUISIANA
WATERSHED
INITIATIVE

working together for sustainability and resilience

MULTIPLE AGENCY INVOLVEMENT

PROTOTYPE DEVELOPMENT TEAM

THE WATER INSTITUTE

LSU

THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL

PSC

IOWA

GOALS OF FloodID DEVELOPMENT

Advanced storm surge and compound flood hazard forecasts

Decision support dashboards assisting multiple emergency support functions

Extensible beyond hurricane storm surge in coastal areas to year-round, statewide flood forecasting

LOUISIANA FloodID PATH FORWARD

LEAD AGENCY

GOHSEP as the lead agency for continued R&D and FloodID operations to support across ESFs

BETA TESTING

GOHSEP led beta testing for 2023 hurricane season to test the system and further evaluate integrating system operations into existing workflows.

ONGOING OPERATIONS AND R&D

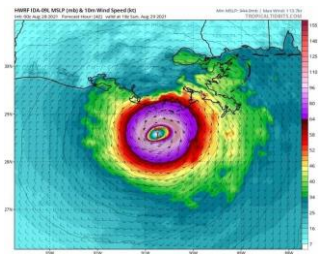
Identifying pathways to fund and staff FloodID operations and ongoing R&D considerations

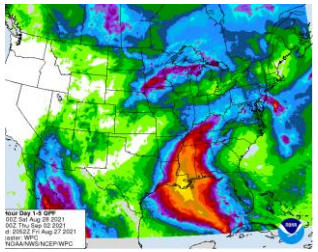
FloodID COMPONENTS

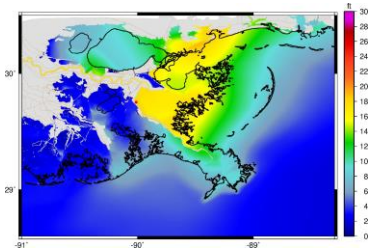
METEOROLOGICAL FORECAST: WIND AND PRESSURE FIELDS → METEOROLOGICAL FORECAST: RAINFALL → TROPICAL STORM SURGE MODELING → COMPOUND FLOOD MODELING → FLOOD EXTENT, DEPTH, AND TIMING VISUALIZATION → DECISION SUPPORT TOOLS

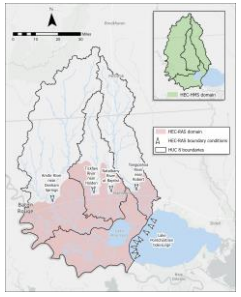
FLOOD hazard **INFORMATION** system

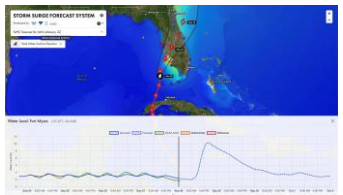
DECISION support tools

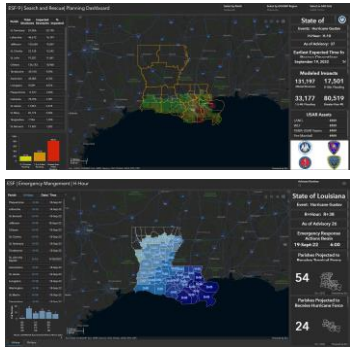








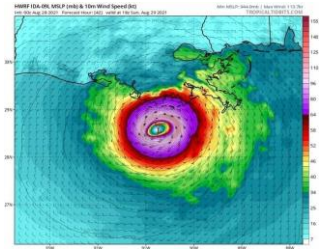




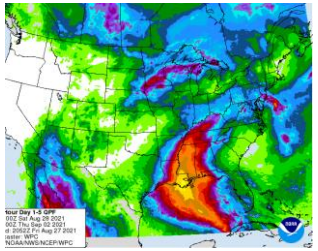
FloodID COMPONENTS

METEOROLOGICAL FORECAST: WIND AND PRESSURE FIELDS → **METEOROLOGICAL FORECAST: RAINFALL** → **TROPICAL STORM SURGE MODELING** → **COMPOUND FLOOD MODELING** → **FLOOD EXTENT, DEPTH, AND TIMING VISUALIZATION** → **DECISION SUPPORT TOOLS**

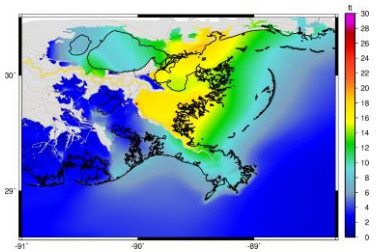
Leverage NOAA atmospheric pressure and wind velocity, which drive the coastal storm surge response



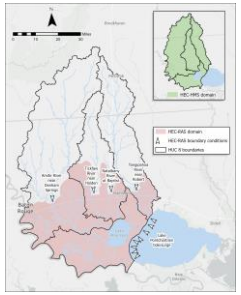
NOAA rainfall forecasts appropriate to combine with pressure and wind forecast for estimating compound flooding



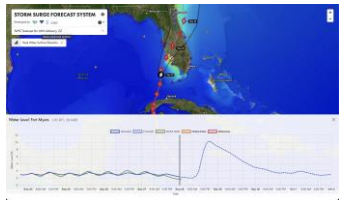
Using pressure/ wind forecast data to estimate storm surge and wave conditions, extents and timing



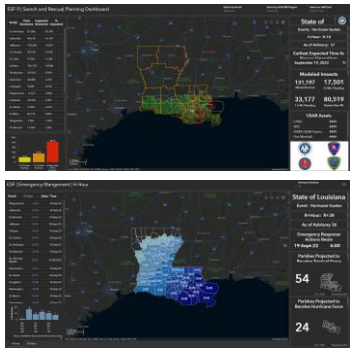
Using rainfall and streamflow data, as well as storm surge forecasts to estimate compound flooding



Visualize the outputs from tropical storm surge modeling and compound flood modeling



Custom set of decision support tools to meet stakeholder-specified needs

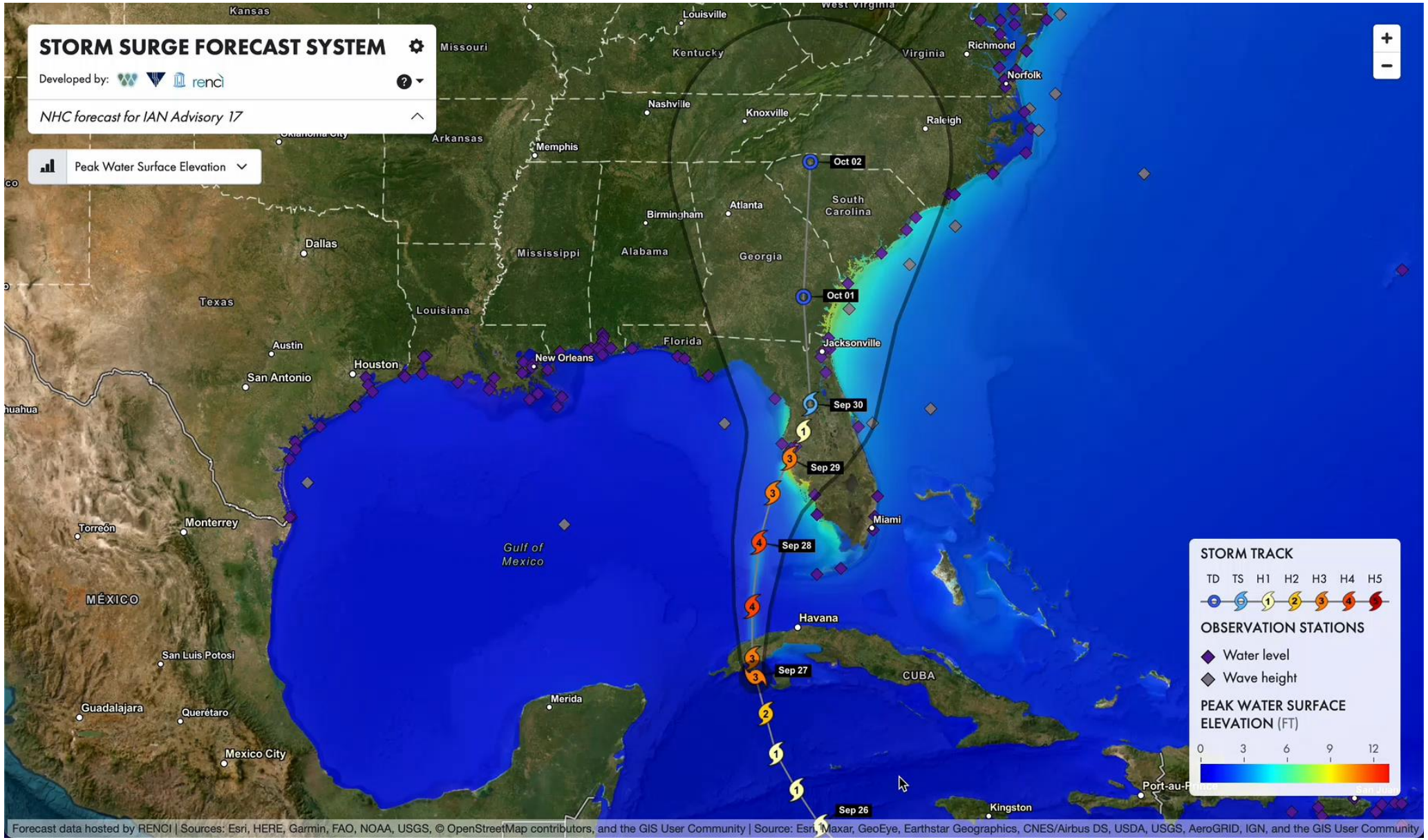


BACKEND DATA WORKFLOW

Data workflows are built into and between the six above components

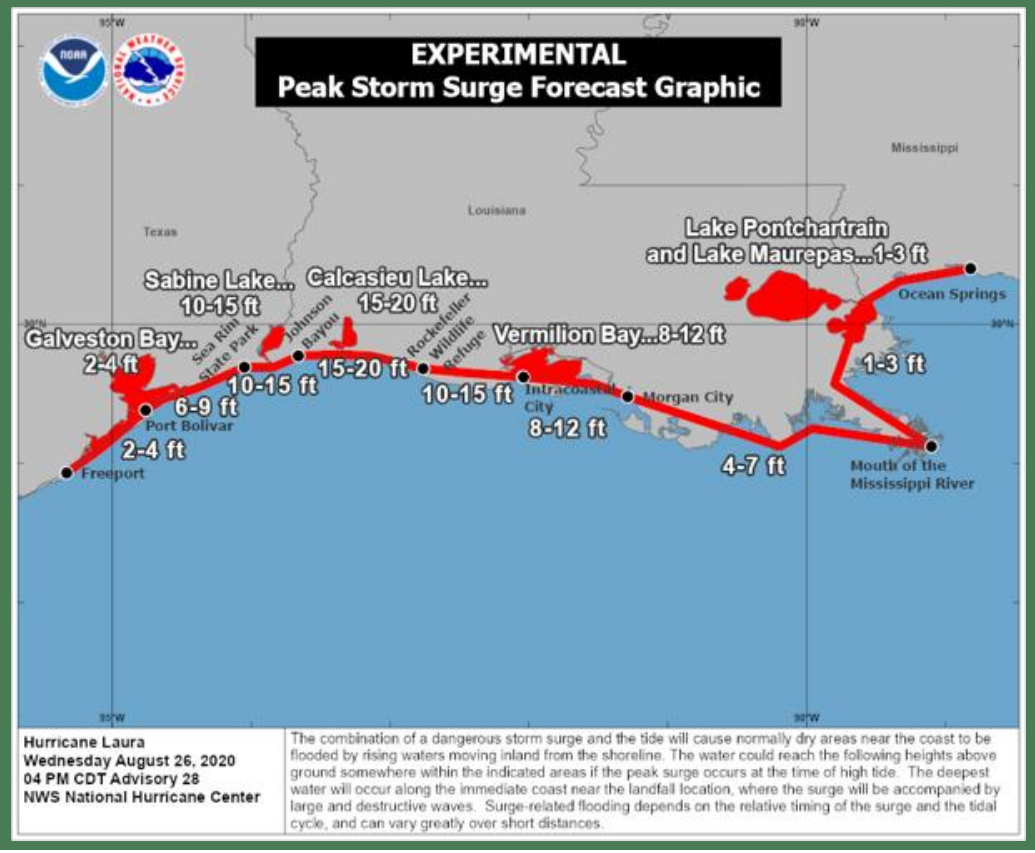
FLOOD HAZARD INFORMATION SYSTEM

FloodID WEB INTERFACE

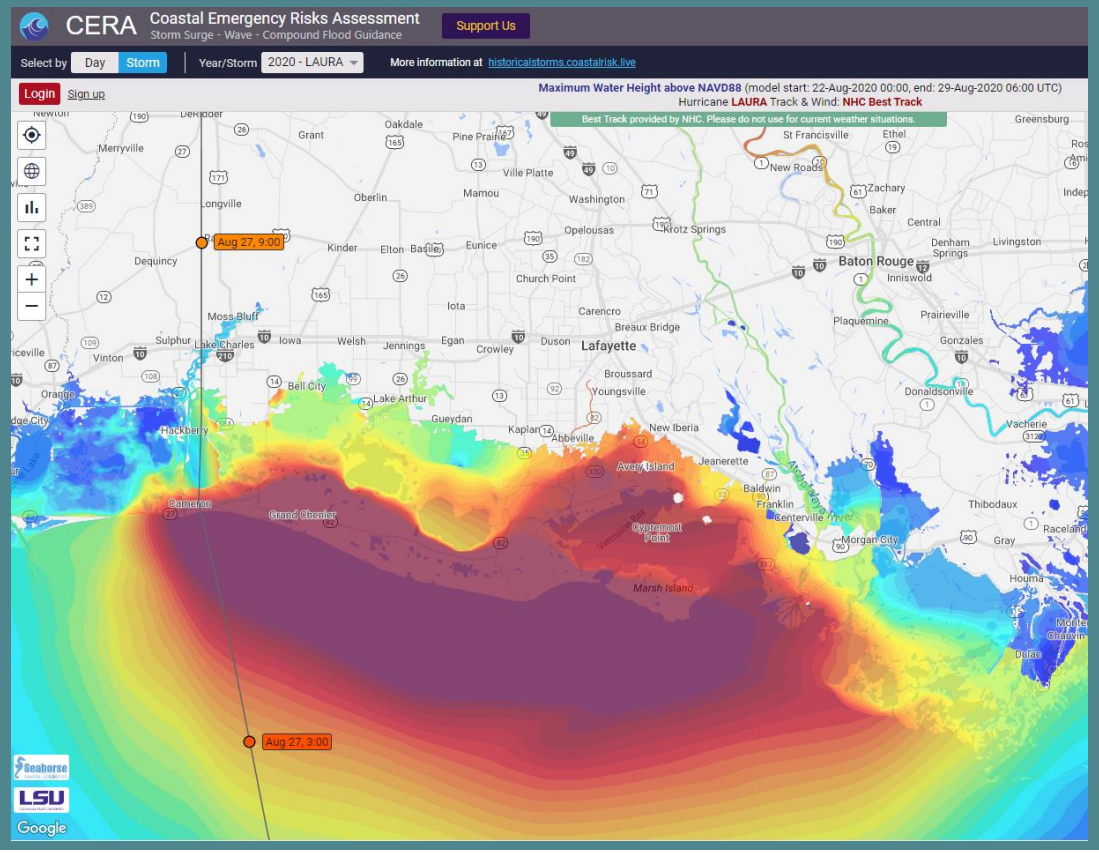


EXISTING FLOOD HAZARD FORECASTS

Federal Products



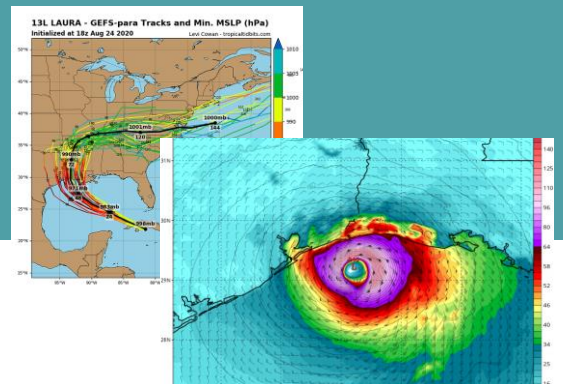
State Commissioned Products



FloodID EXTENSIBLE DESIGN

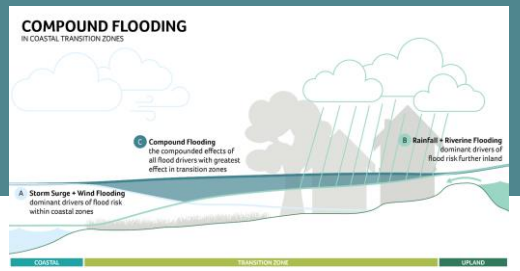
MULTIPLE METEOROLOGICAL OPTIONS

- Ensembles
- Individual storm representations



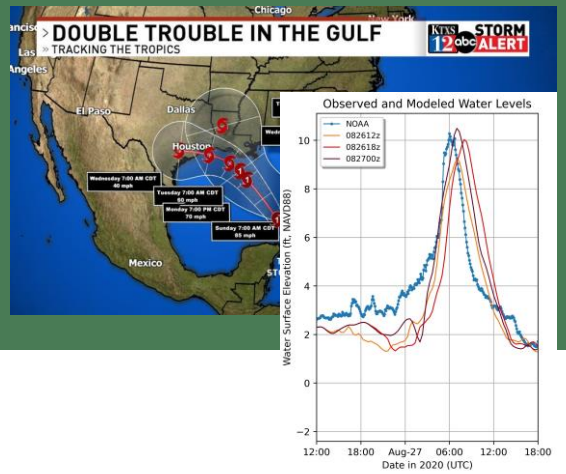
COMPOUND FLOODING

- Rainfall
- Streamflows
- Surge



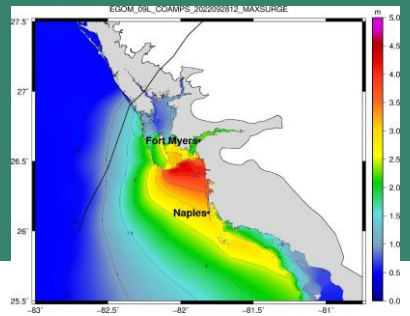
COMPLEX CONDITIONS

- Multiple storms
- High river



MULTIPLE USERS

- DHS
- NOPP
- University partners



DECISION SUPPORT TOOLS

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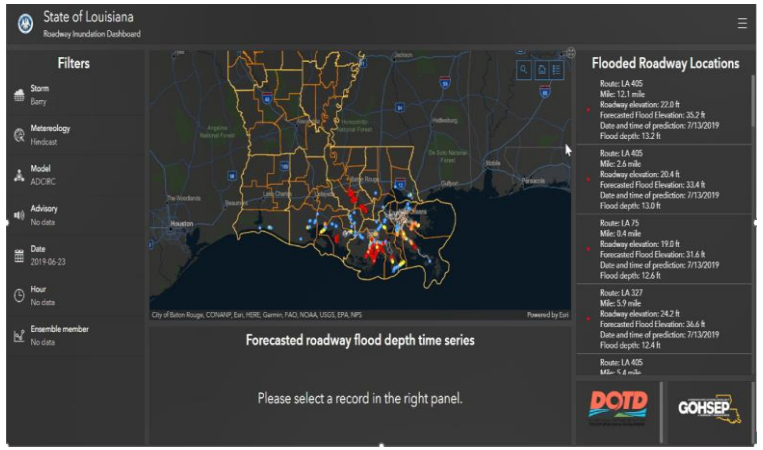
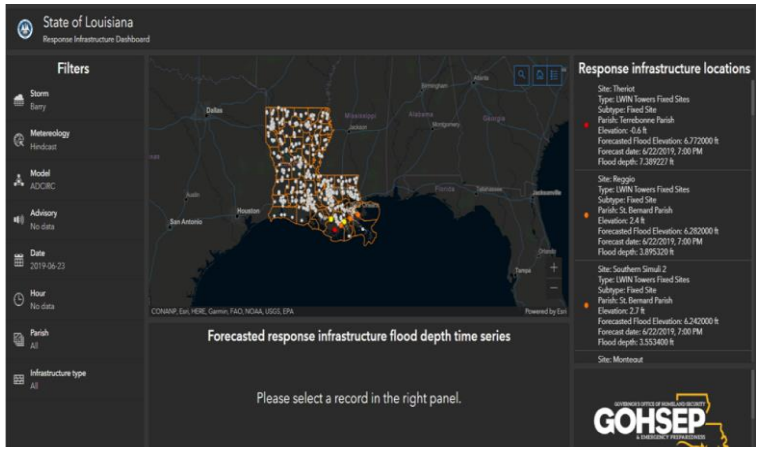
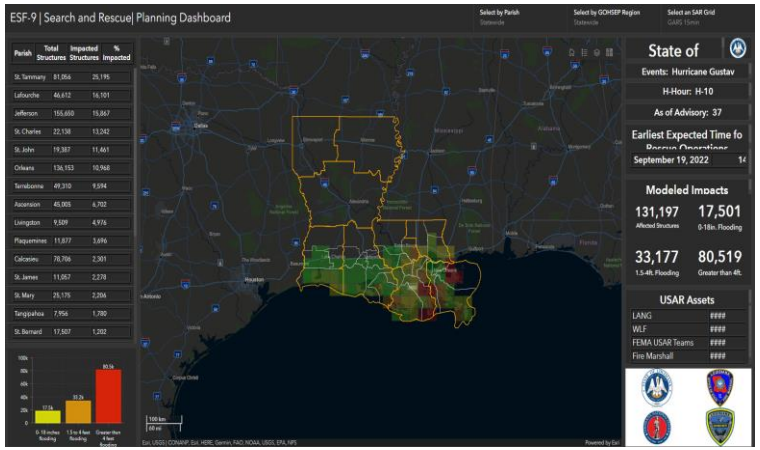


ROADWAY INUNDATION

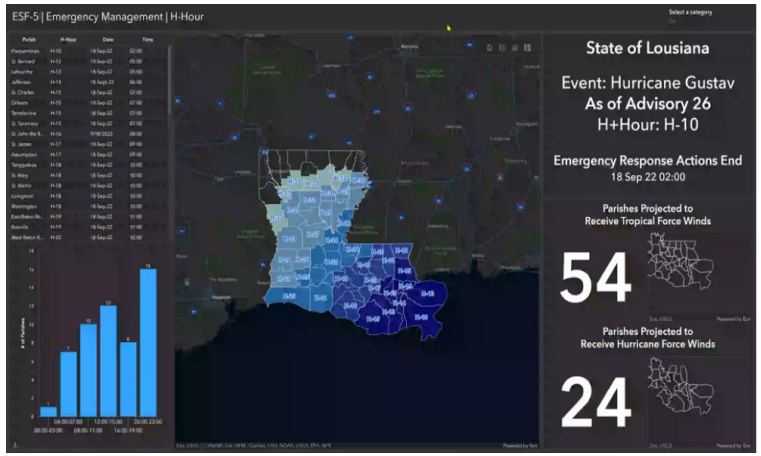


RESPONSE INFRASTRUCTURE

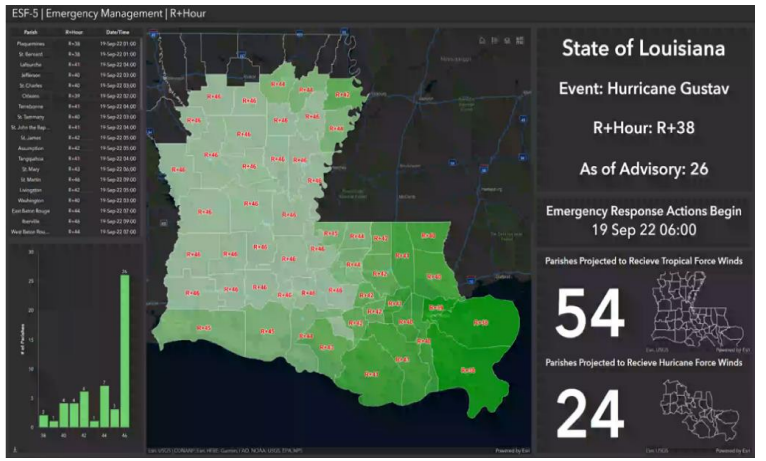
DIRECT DAMAGES



SEARCH AND RESCUE



H-HOUR

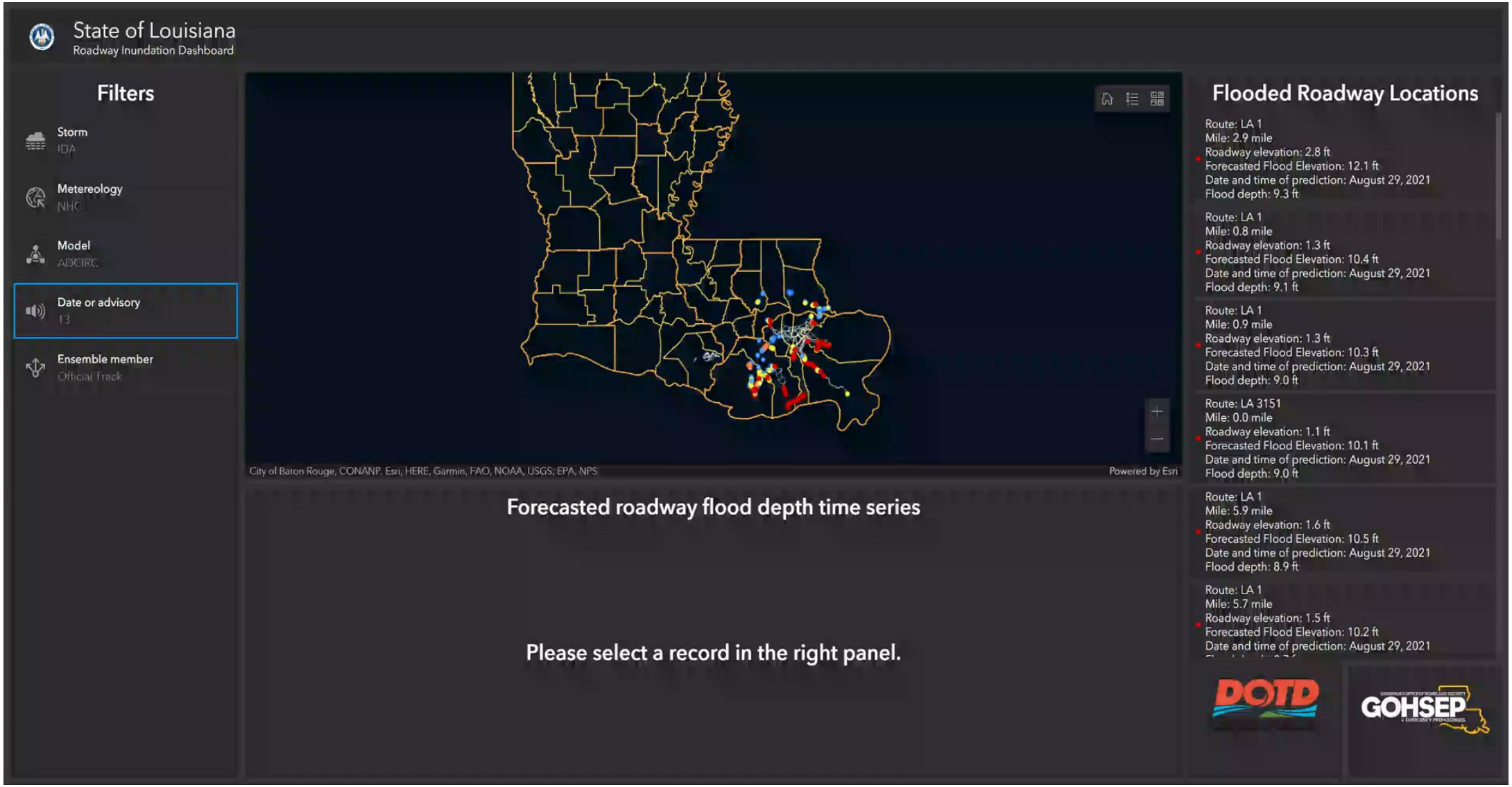


R-HOUR

ROADWAY INUNDATION DECISION SUPPORT TOOL

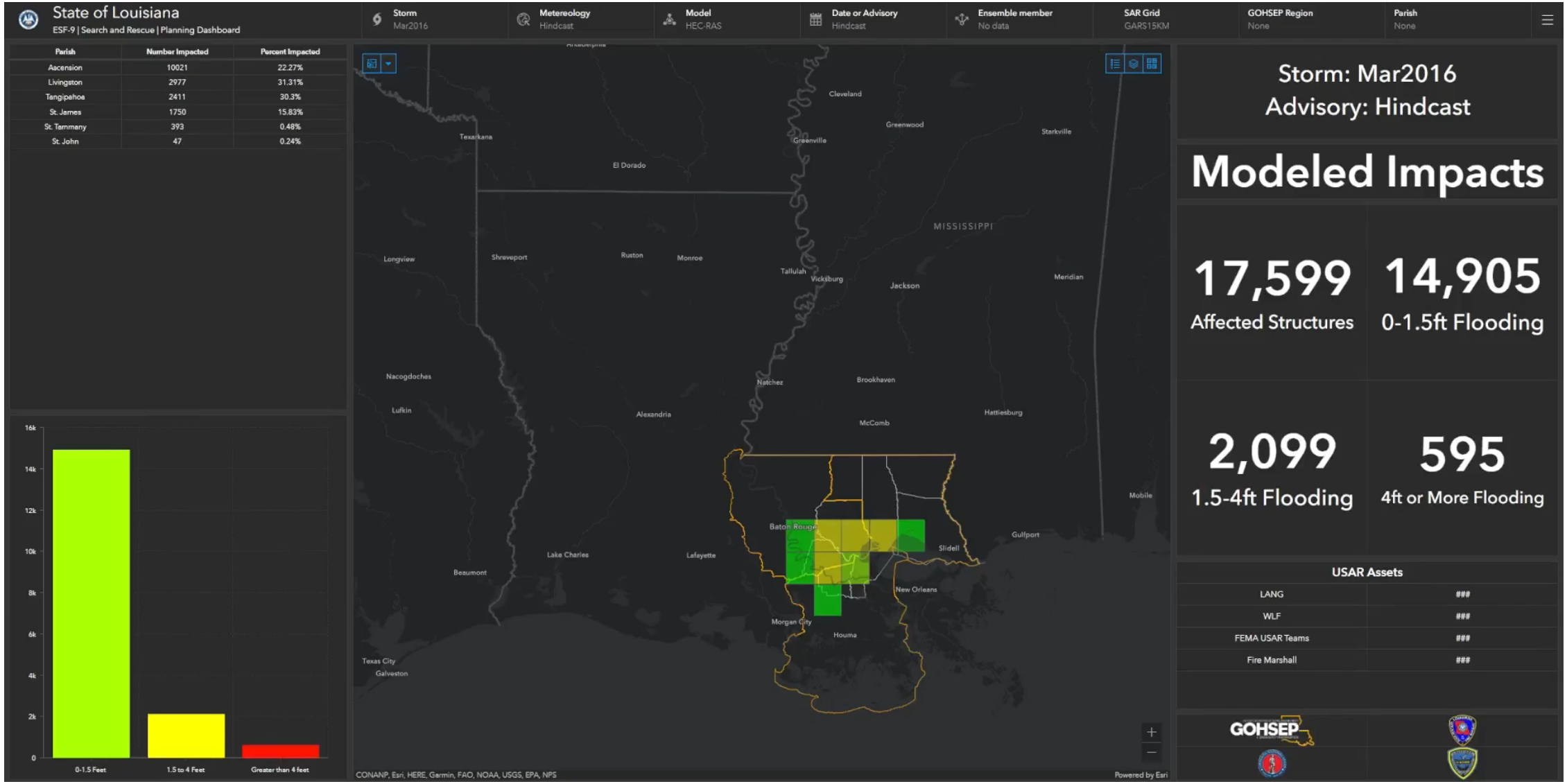
Expected Users: ESF-01

Lead State Agency: GOHSEP



SEARCH AND RESCUE DECISION SUPPORT TOOL

Expected Users: ESF-9 Lead State Agency: GOHSEP



DISCUSSION

For additional information, contact

Hugh J. Roberts, P.E., The Water Institute

hroberts@thewaterinstitute.org