

Using GIS to Provide Tropical Decision Support Services to the Lake Okeechobee Region

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Lake Okeechobee

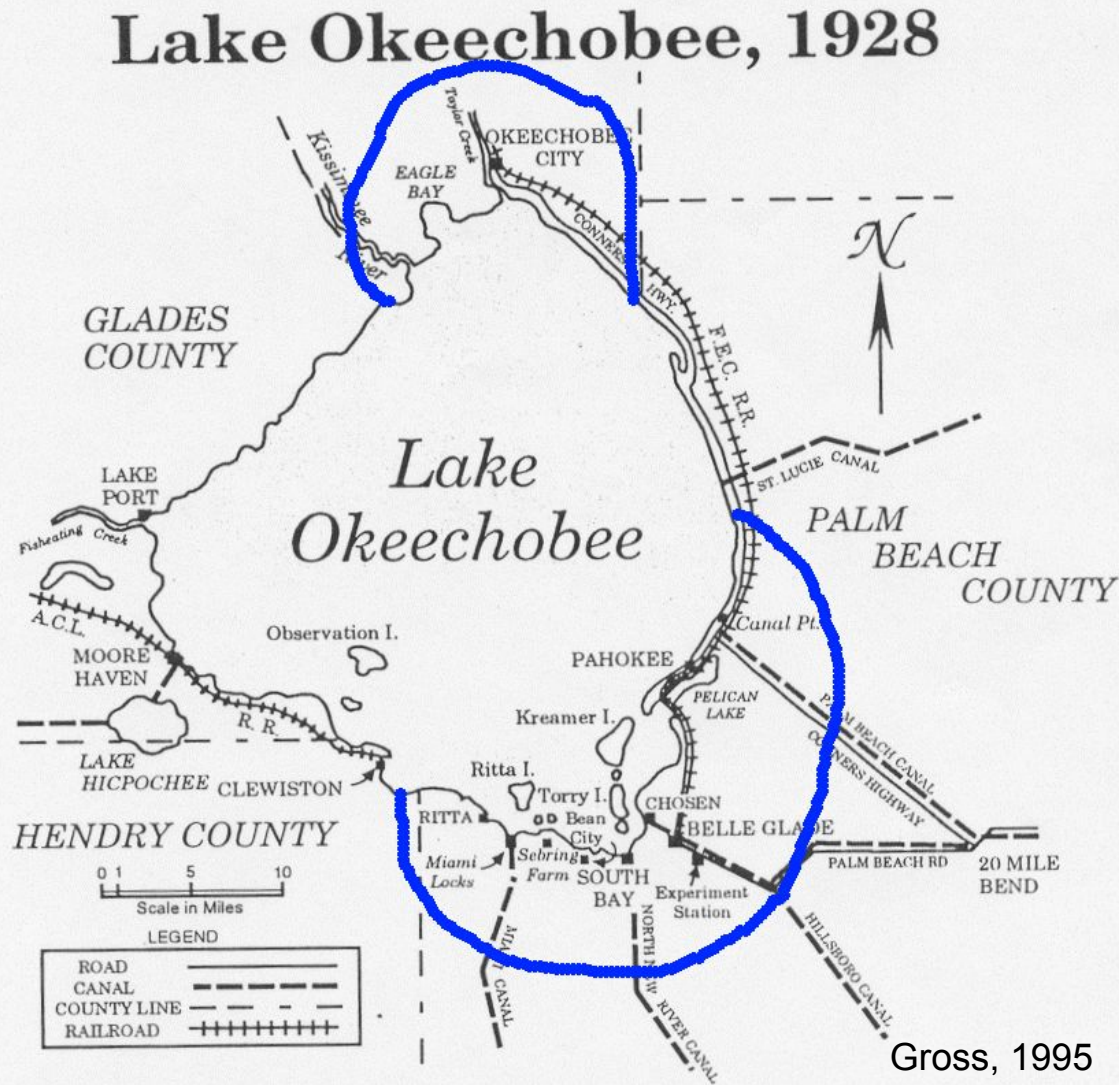


- 730 square miles
- Largest lake in Florida and 9th largest natural freshwater lake in the US
- Historically overflowed southern banks sending sheet flow into the Everglades
- Historical agricultural population
- Increasing lakeside retirement communities

Lake Okeechobee Region Partnerships

- 2 NWS Offices:
 - Miami
 - Melbourne
- U.S. Army Corps of Engineers
- State of Florida
- Seminole Tribe of Florida
- South Florida Water Management District
- 5 Counties:
 - Glades (MFL)
 - Hendry (MFL)
 - Martin (MLB)
 - Okeechobee (MLB)
 - Palm Beach (MFL)
- Media
- Public

The 1928 Hurricane's Impact

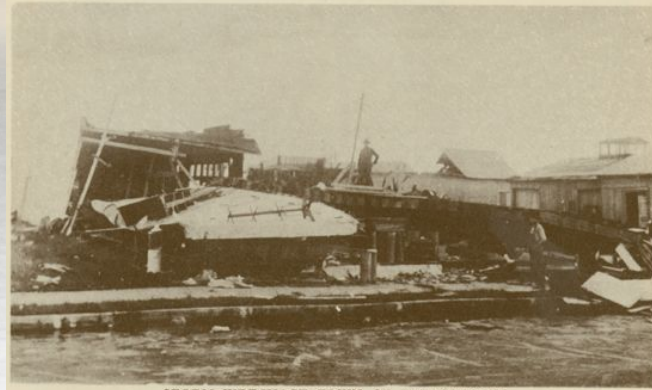


- 1928 “Okeechobee Hurricane” surge overflowed small dike and drowned thousands
- Congress approved Herbert Hoover Dike construction in 1930
- USACE began to regulate lake levels in 1938
 - Between 14 and 17 feet
- Flooding from 1947 “Ft Lauderdale Hurricane” lead to dike expansion to current level

The 1928 Hurricane's Impact



DRAGGING BODIES FROM WATER AT PAHOHEE, IN FLORIDA EVERGLADES.
2300 PERISHED IN HURRICANE OF SEPT. 16, 1928.



STORM WRECKAGE TOWN OF OKEECHOBEE



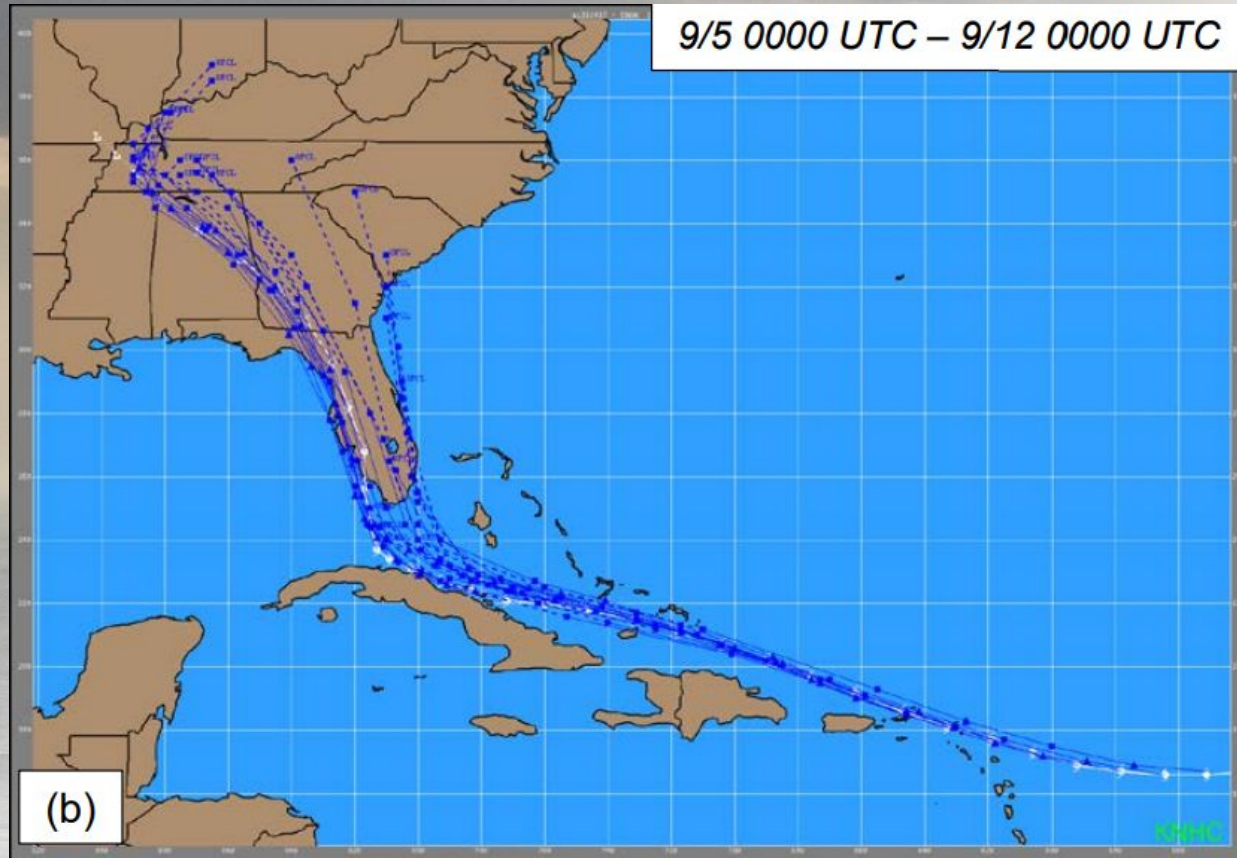
TRUCKS CARRYING COFFINS TO
THE EVERGLADES

PLACE IN BELLE GLADE WHERE A LARGE
NUMBER OF BODIES WERE FOUND



EVERGLADES IN VICINITY OF BELLE
GLADE UNDER WATER

Hurricane Irma



Irma Official Track Forecast
00z 5 Sept to 00z 12 Sept
(National Hurricane Center)

- USACE Emergency Action Plan Update in progress
- Lake Okeechobee Hurricane Monitor developed on the fly for this event



How Do We Bring Everyone Together?

Variety of Information Needs

Variety of Platforms

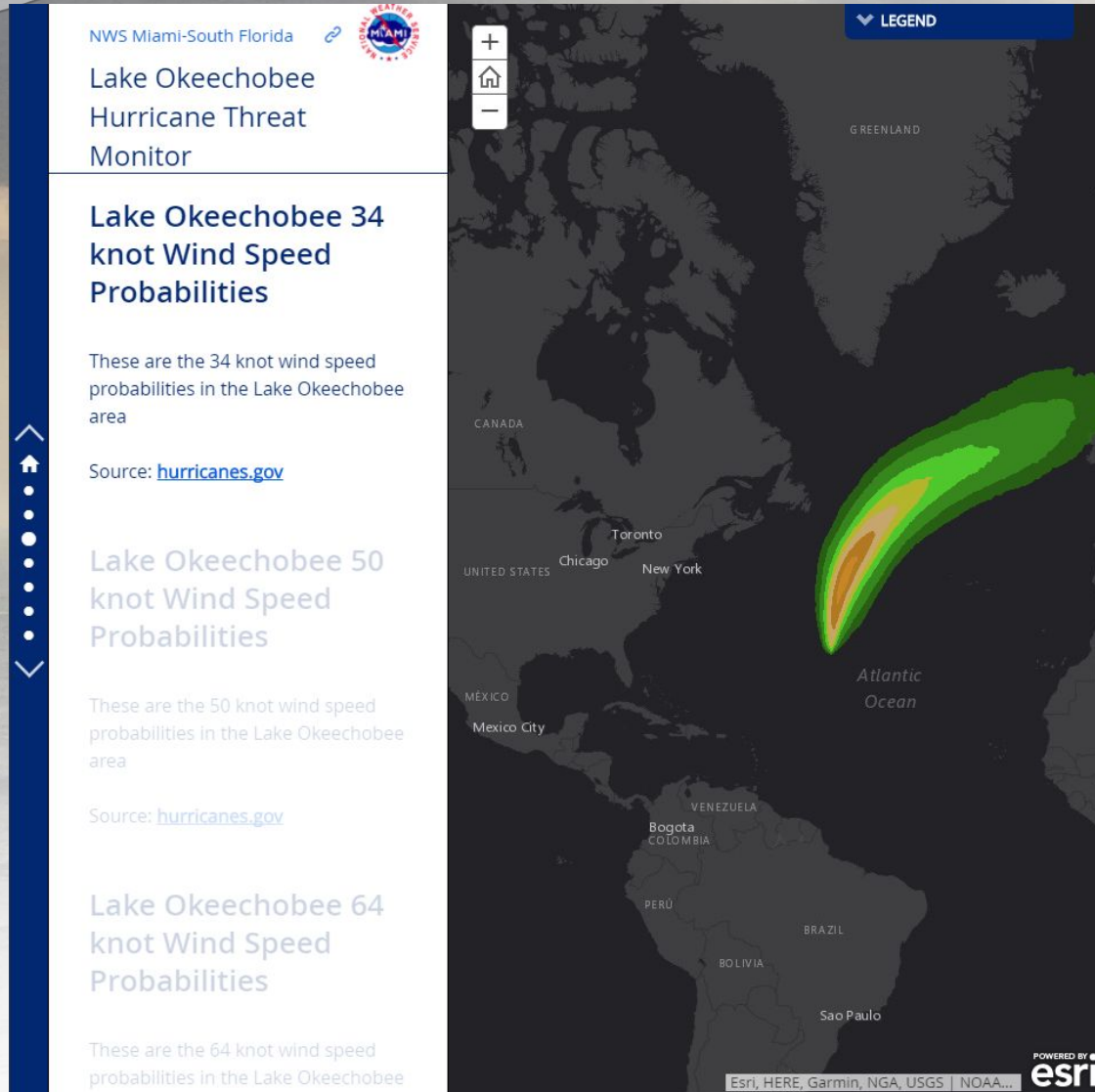
Variety of Operational Settings

Variety of Locations

Shared goal to protect life and property

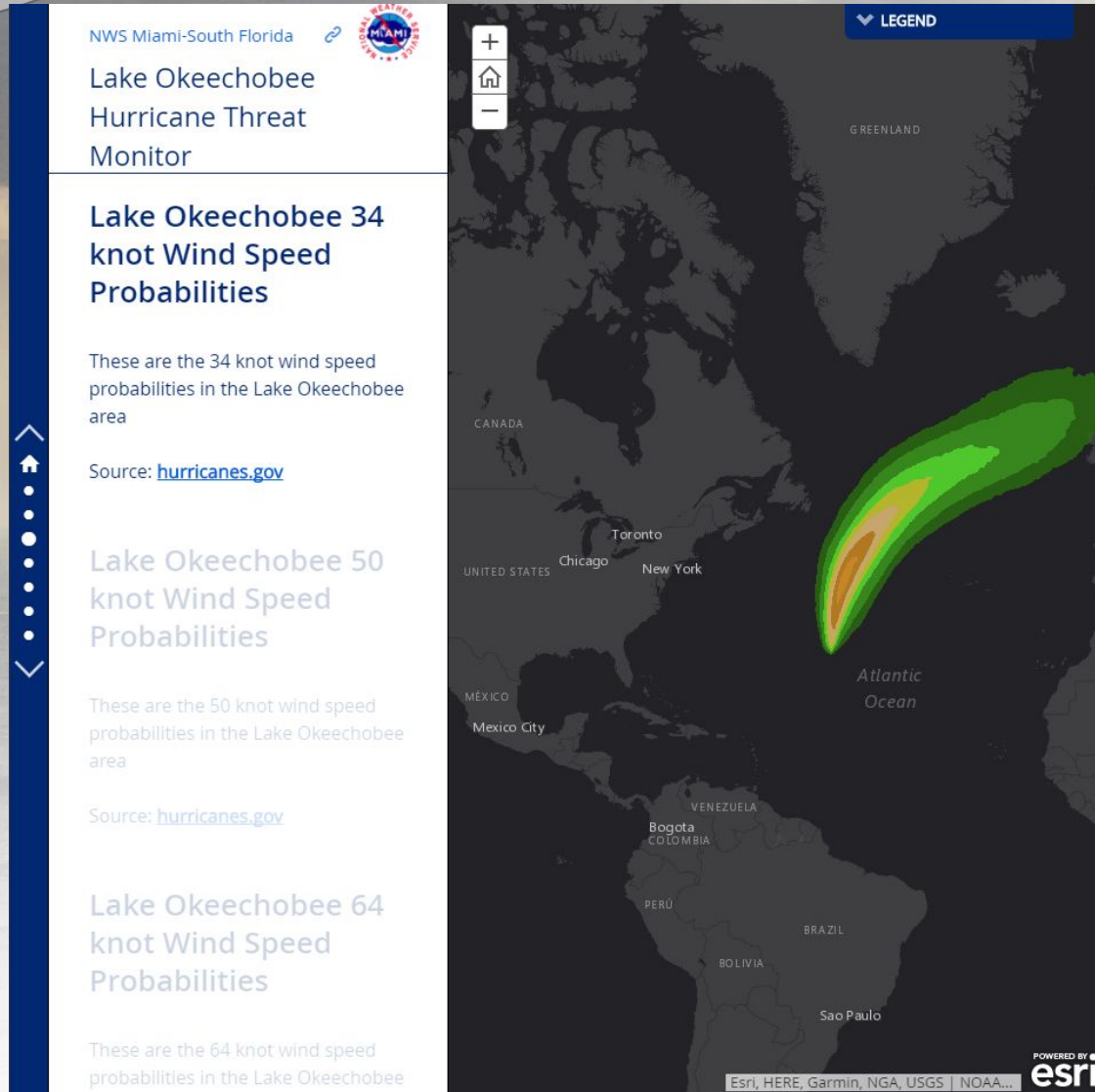
Need to be on the same page

Lake Okeechobee Hurricane Monitor



- Utilizes ArcGIS Online
- Made possible by NOAA ESRI agreement
- Collects GIS data from different parts of NWS and NOAA
 - Heavy focus on probabilistic forecast data
 - Living, breathing data

Lake Okeechobee Hurricane Monitor



- Current Watches, Warnings, & Advisories
- Tropical Weather Outlook
- Hurricane Threat Impact – Wind
- Wind Speed Probabilities
- NDFD Wind Forecast
- Probabilistic Surge – 10% Exceedance

Maximum User Platform Flexibility

- Desktop computers
- Laptop computers
- Tablets
- Mobile phones
- Office users
- Users in Emergency Operations Centers
- Users in the field with mobile devices

Give it a try yourself!

<http://arcg.is/iXW0T>



Looking to the Future

- Improved integration of new data into existing page
 - Growth of storm surge data continues
 - Hurricane Threat & Impact graphics continue to evolve
- Eventual transition from current method of displaying National Digital Forecast Database wind data to something more computationally efficient
- Reiterate user feedback to improve performance



Thank you!

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