

Low Cost Water Level Monitoring



Dr. Russell Clark
Senior Research Scientist

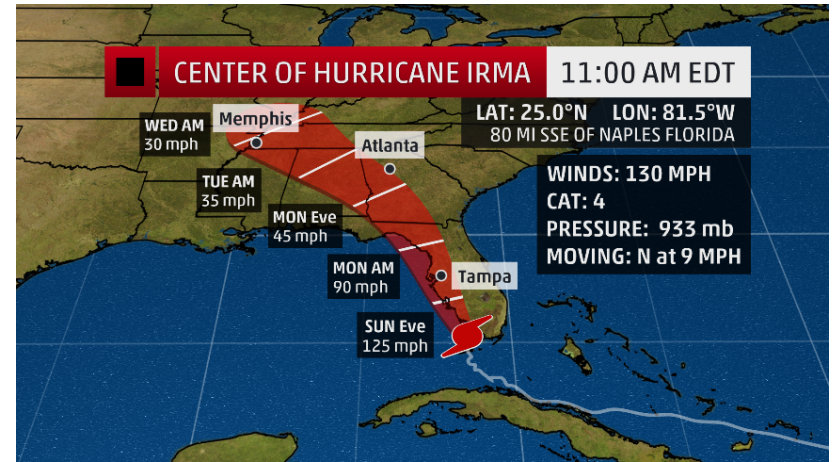
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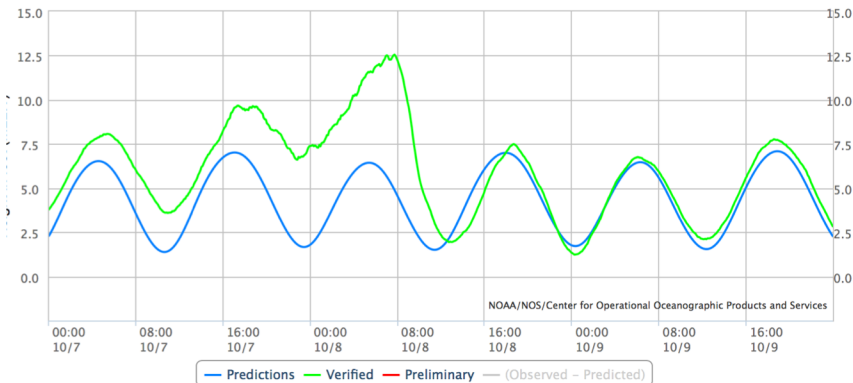


Source: goldenisles.com

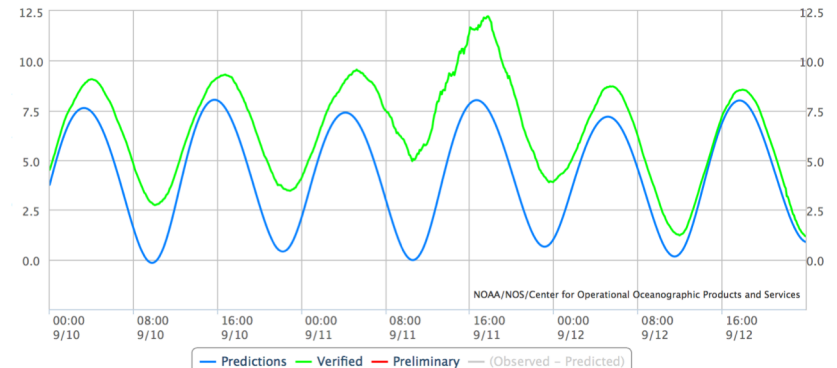
Origin Story – Irma in Theory



NOAA/NOS/CO-OPS
Observed Water Levels at 8670870, Fort Pulaski GA
From 2016/10/07 00:00 GMT to 2016/10/09 23:59 GMT



NOAA/NOS/CO-OPS
Observed Water Levels at 8670870, Fort Pulaski GA
From 2017/09/10 00:00 GMT to 2017/09/12 23:59 GMT



Origin Story – Irma in Reality



It Wasn't Just Us!

North Carolina

- Currituck County
- Town of Duck
- Town of Nags Head
- Dare County
- Hyde County
- Town of Beaufort
- Indian Beach
- Carteret County
- Town of Holden Beach
- Town of St. James
- Town of Sunset Beach
- Ocean Isle Beach
- Village of Bald Head
- Surf City
- Topsail Beach

South Carolina

- Town of Pawleys Island; Georgetown County
- Town of Hilton Head
- City of Beaufort
- City of Folly Beach
- Town of Sullivan's Island
- City of Charleston
- Dorchester County
- Florence County
- Georgetown County
- Horry County
- Marion County
- Richland County

Georgia

- Camden County
- King's Bay Naval Base
- City of Savannah
- Chatham Emergency Management Agency
- City of Tybee Island
- City of Garden City
- City of St Marys
- City of Brunswick
- Harambee House – Citizens for Environmental Justice
- Georgia Department of Natural Resources – Coastal Resources Division
- Skidaway Institute of Oceanography
- The Landings Association
- Bull River Marina
- Ossabaw Island Foundation

Florida

- City of Fernandina Beach
- Town of Palm Beach
- Captiva Island
- Palm Beach County
- City of Jupiter
- Palm Beach County Business Development Board
- City of West Palm Beach
- City of Boca Raton
- City of Fort Pierce
- Miami-Dade County
- City of Coral Gables
- City of Fort Lauderdale
- Monroe County
- Indian River Lagoon National Estuary Program

CBPR: Community-Based Participatory Research

True partners, not just research subjects!

Overcome traditional problems including:

- ✓ Nuances of participation
- ✓ Power and privilege: Who sets the research agenda?
- ✓ Historical and current research abuse/racism
- ✓ Specific university and research team reputation and community relationship
- ✓ Challenge of research team having necessary skills and values (cultural humility, listening, patience)
- ✓ Challenge of individual vs. community benefit
- ✓ Challenge of needs of academics (publishing) vs. community (immediate actions)

Varying Needs and Vocabulary

Municipal Organizations:

- *emergency planning & response*
- *short- and long-term risk assessment and resilience planning*

Educators

- *develop & test educational resources*
- *communication and awareness*

Residents

- *What does this mean for my neighborhood?*
- *Can we get to work, school, hospital, etc.*

Fishing and Boating Community

- *Better local tide information*

Sunny Day Flooding

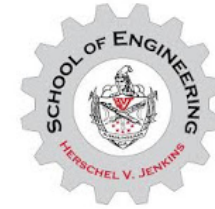
Saturday Morning



Sunday Morning



Educational Partnerships



Sea Level Rise Curriculum



Coastal communities are experiencing an increase in coastal flooding due to storms, king tides, and sea level rise. Educating students on these issues is not only a great science and math exercise, it increases informed-decision making on adapting to climate change-related trends.

- developed by Dr. Alex Robel and Jayma Koval
- webinars for teachers available online at:
<https://secoora.org/education-outreach/sea-level-rise-curriculum/>

"Map Room"

Dr. Yanni Loukissas
Georgia Tech

Community engagement
& curriculum dev't



Community Engagement



[SCC CIVIC-FA Track B] Visualizing Resilience: BIPOC Youth Advocacy through Mapmaking

Led by Dr Allen Hyde, School of History and Sociology

- Harambee House: Dr. Mildred McClain, Dawud Shabaka
- City of Savannah Office of Sustainability: Nick Deffley
- Savannah State: Dr Philip Omunga
- GT Team: Yanni Loukissas, Nisha Botchwey, Kim Cobb, Ruth Yow, Meltem Alemdar, Iris Tien, Russ Clark
- Year long project, funded at \$1M
- Deep educational focus for youth, creating and evaluating new curriculum



Not Always What You Are Looking For

Interesting project but flooding isn't our biggest problem

- Air quality
- Heat extremes
- Soil contamination
- Food deserts
- Lack of transportation
- Access to jobs

A true Community-based Participatory Research Approach means that there are times when your funded project goals aren't a good fit for the community.

That \$500 Sensor is Just The Beginning

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