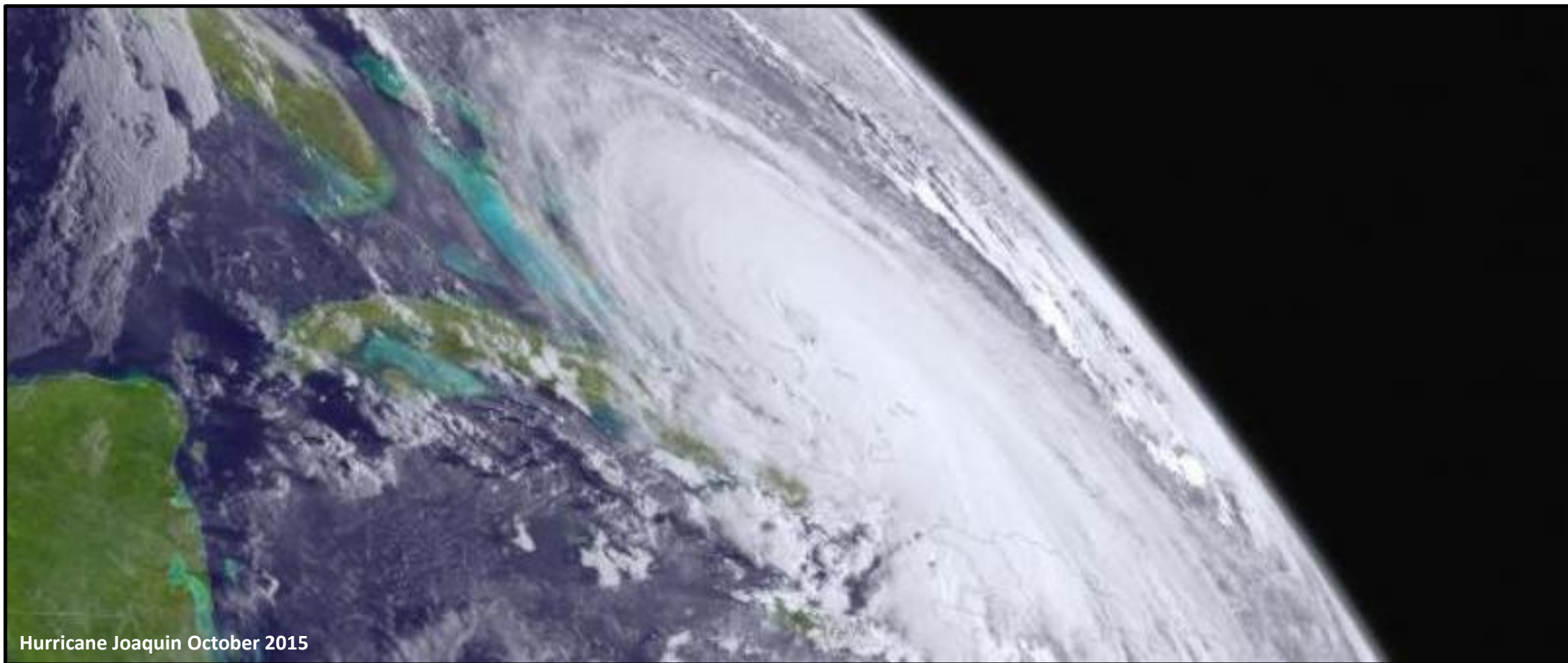




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2016 Hurricane Season

By Andy Patrick, Meteorologist-in-Charge



Hurricane Joaquin October 2015



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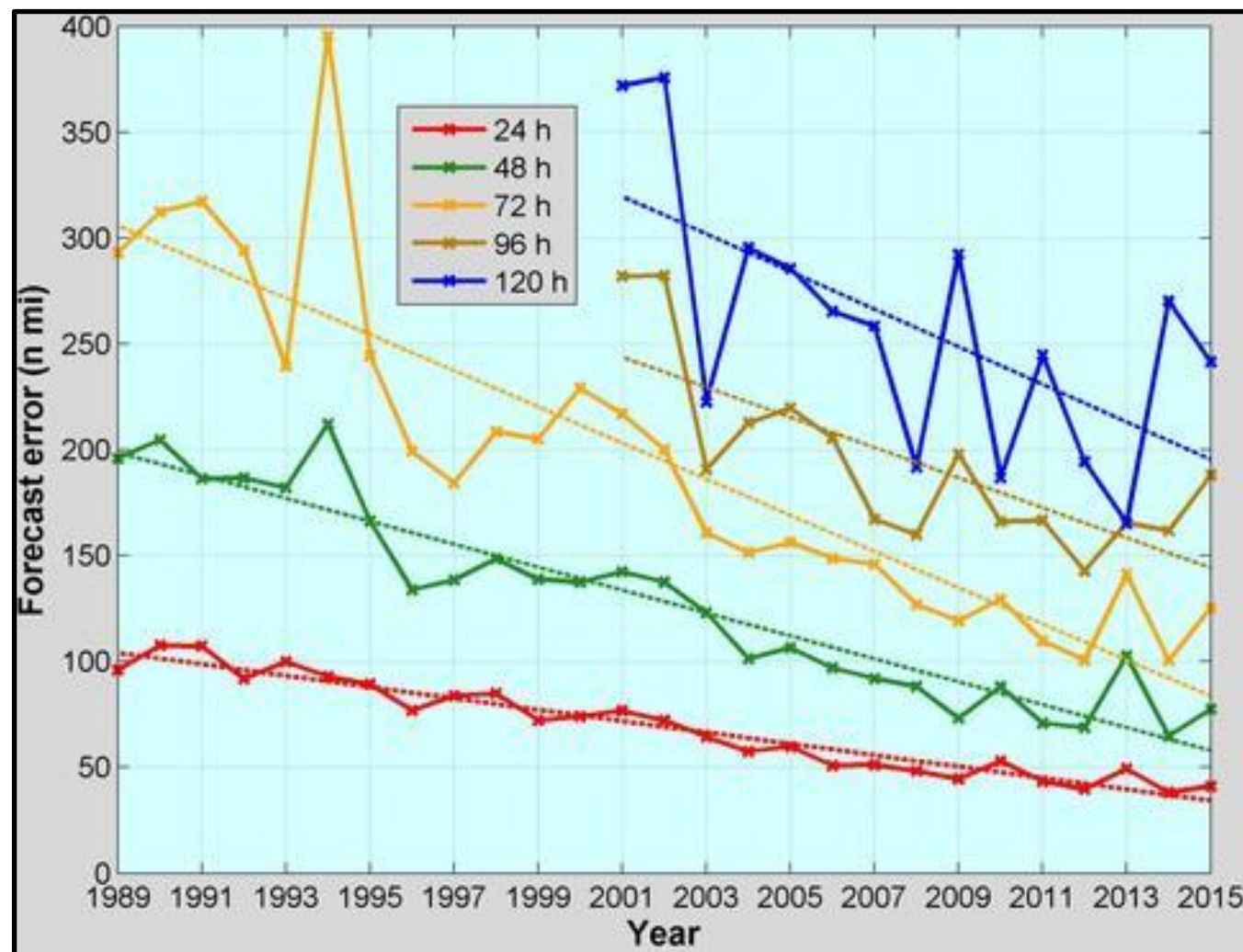


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Track forecasts have been steadily improving for the past 25 years.

2015 Forecast Hour	2015 Forecast Error
24	41.1 nm
48	77.4 nm
72	125.2 nm
96	188.0 nm
120	241.4 nm

NHC Track Verification



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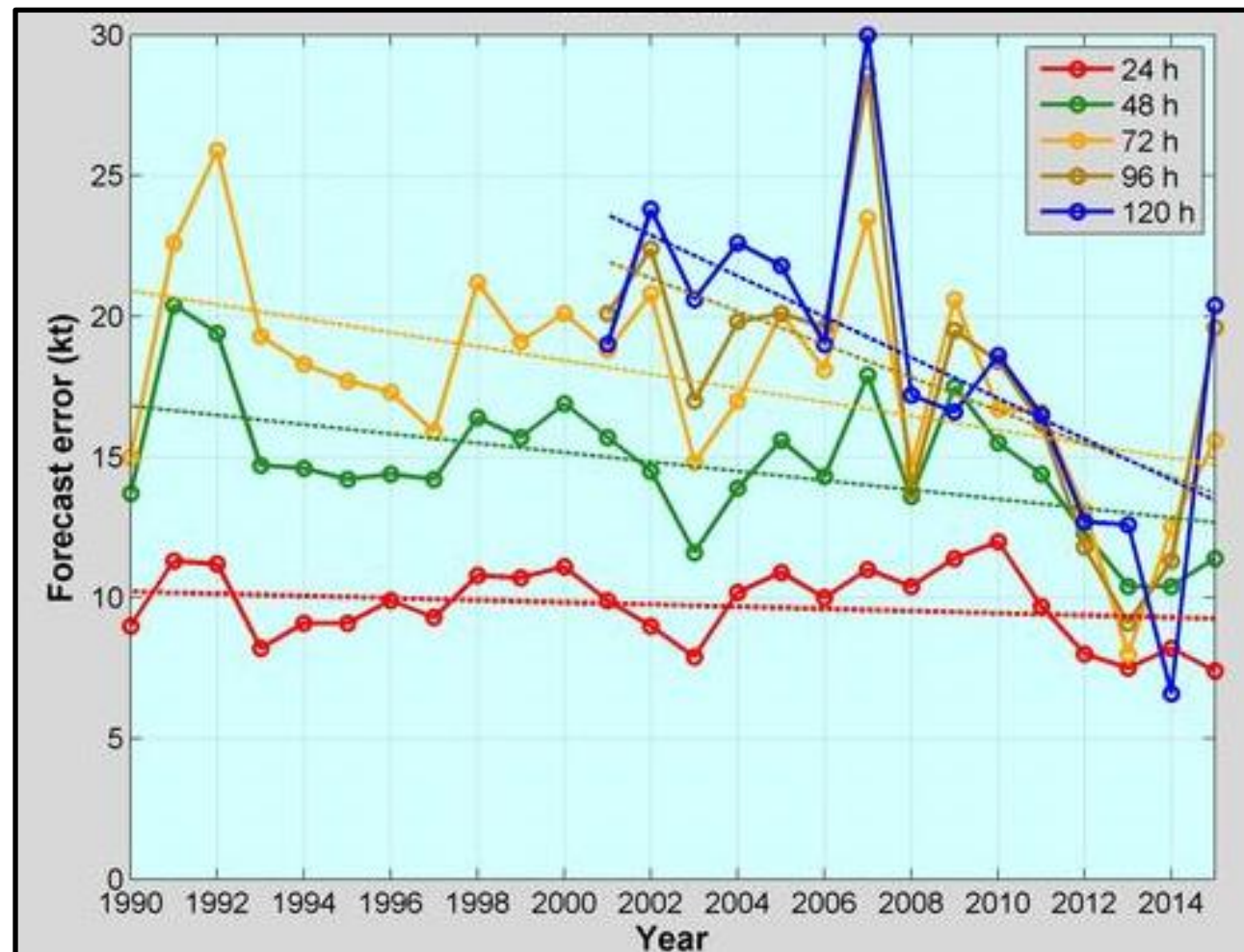


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There was not been significant improvement in intensity forecasts until the 2010-2013 seasons. Fewer events the past two years contribute to the volatility of the graph.

2015 Forecast Hour	2015 Forecast Error
24	7.4 kts
48	11.4 kts
72	15.6 kts
96	19.6 kts
120	20.4 kts

NHC Intensity Verification

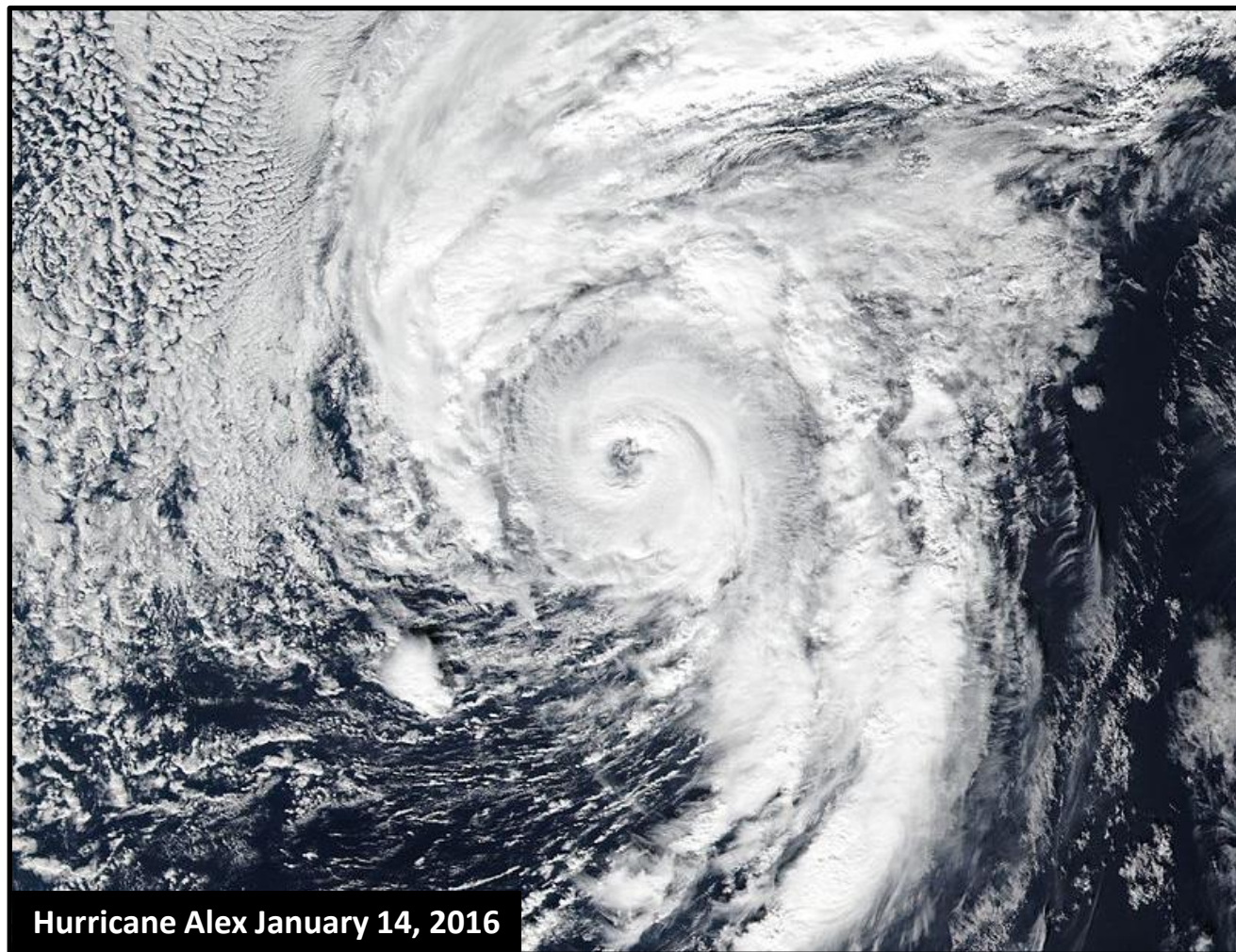




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2016 Atlantic Basin Storm Names

Alex	Hermine	Otto
Bonnie	Ian	Paula
Colin	Julia	Richard
Danielle	Karl	Sharry
Earl	Lisa	Tobias
Fiona	Matthew	Virginie
Gaston	Nicole	Walter



Hurricane Alex January 14, 2016



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Weather Hazards of Tropical Cyclones

- **Storm Surge**: water pushed towards the shore by the force of the winds swirling around the storm. Coastal flooding can be increased if the storm surge arrives during high tide.
- Locally storm surge can go very far inland – north of Interstate 10 in places.



Cameron, LA September 2005



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Weather Hazards of Tropical Cyclones

- **Inland Flooding:** The slower the tropical cyclone is moving, the greater the likelihood of heavy rains causing inland flooding, sometimes hundreds of miles inland.
- Besides flash floods, hurricanes can cause urban flooding and river floods as well.



Buna, TX June 2015



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Weather Hazards of Tropical Cyclones

- **Wind:** Hurricanes are known for their sustained winds, and are rated based on the Saffir-Simpson scale.
- Wind gusts can be as much as 25 to 40% higher than the sustained winds, but typically last for just a few seconds.



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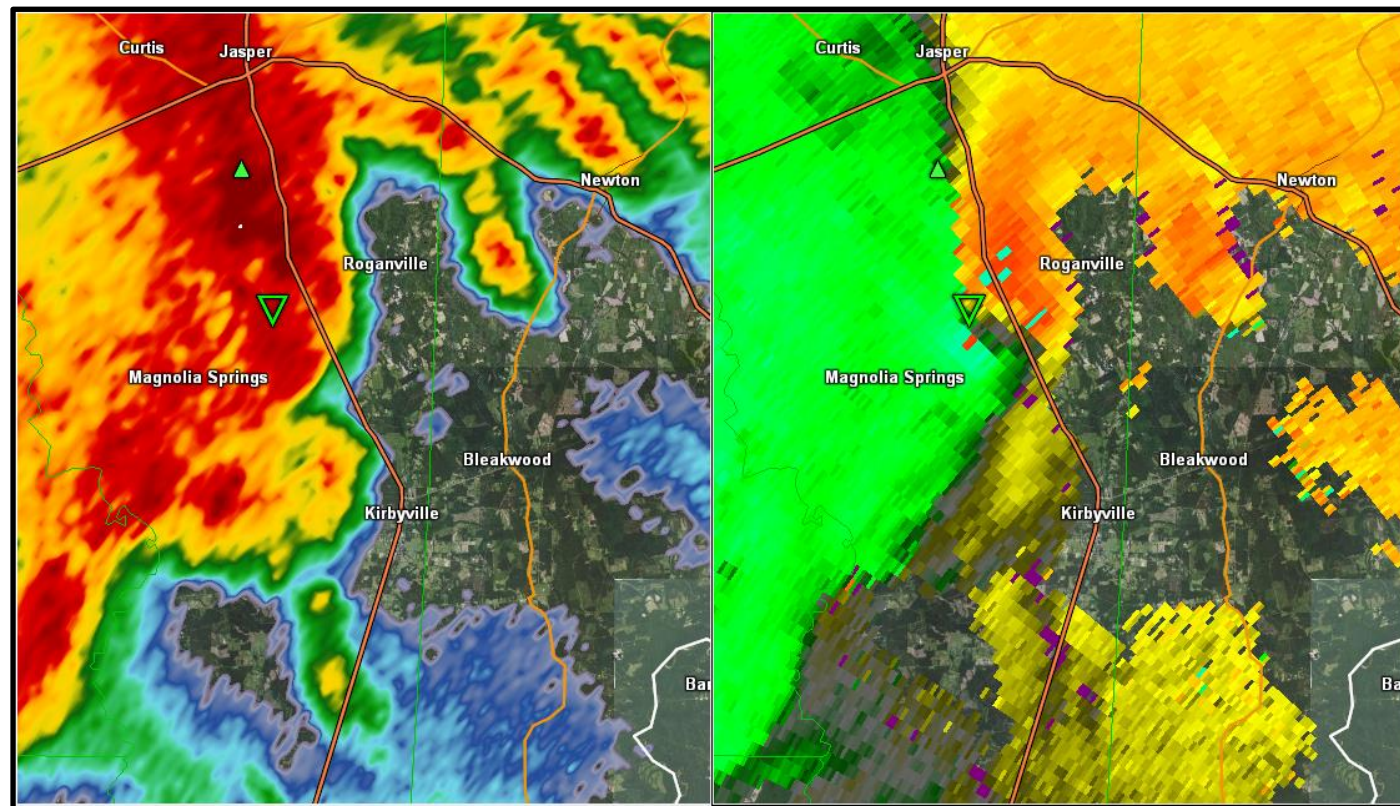
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Weather Hazards of Tropical Cyclones

- **Tornadoes:** An added dimension to the wind threat of tropical cyclones, tornadoes can cause localized areas of extreme damage.
- They are most common in the right front quadrant of the system, in relation to its storm motion.



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The Graphical **Tropical Weather Outlook** has the probabilities tweaked for colors of the risk areas for a tropical cyclone to develop in the next 5 days.

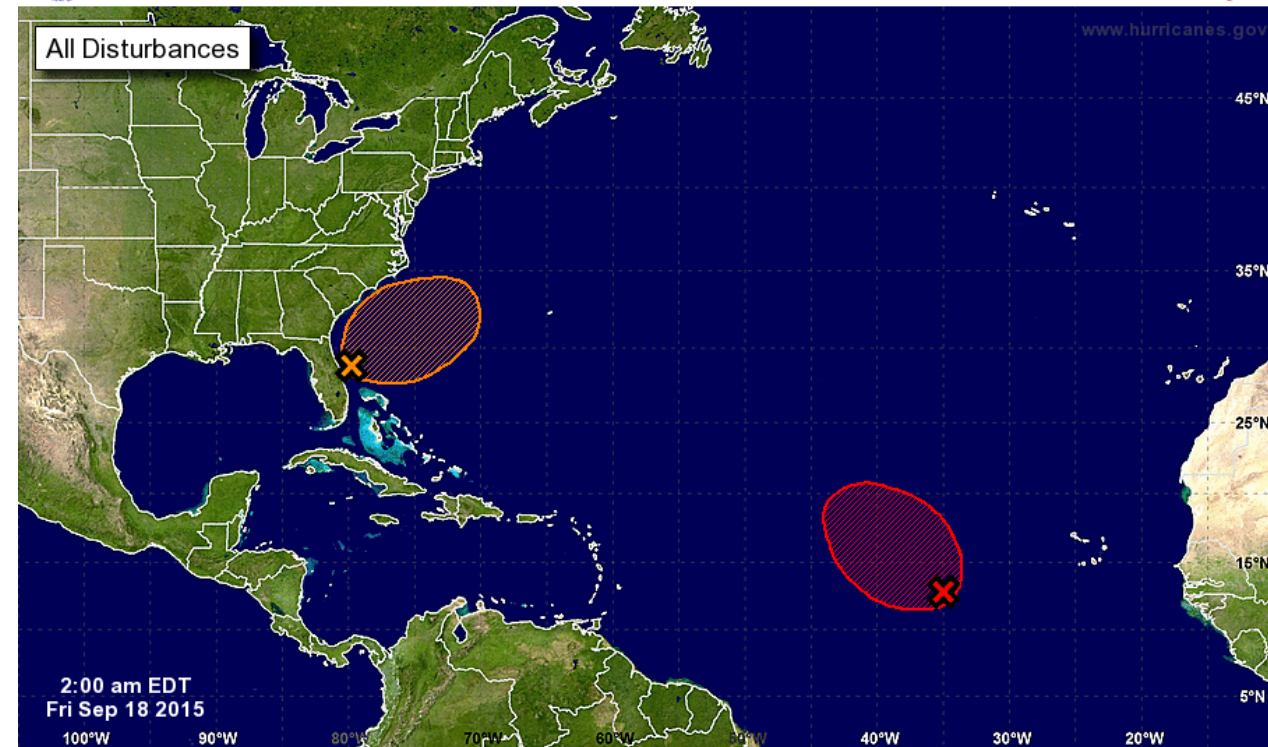
It is issued at 3 am, 7 am, 3 pm, and 7 pm during hurricane season and can be found on our website.

Important NHC Products



Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



Tropical Cyclone Formation Potential for the Five-Day Period Ending at 2:00 am EDT Wed Sep 23 2015

Chance of Cyclone Formation in Five Days: ■ Low < 40% ■ Medium 40-60% ■ High > 60%

X indicates current disturbance location; shading indicates potential formation area.



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Important NHC Products



NHC will issue their forecasts at 4 am, 10 am, 4 pm, and 10 pm, with intermediate forecasts issued when there is a landfall threat.

- **4 am – Full advisory package**
 - 5 am – tropical cyclone update
 - 6 am - tropical cyclone update
 - **7 am – Intermediate advisory**
 - 8 am - tropical cyclone update
 - 9 am - tropical cyclone update
- **10 am – Full advisory package**
 - 11 am - tropical cyclone update
 - Noon - tropical cyclone update
 - **1 pm – Intermediate advisory**
 - 2 pm - tropical cyclone update
 - 3 pm - tropical cyclone update



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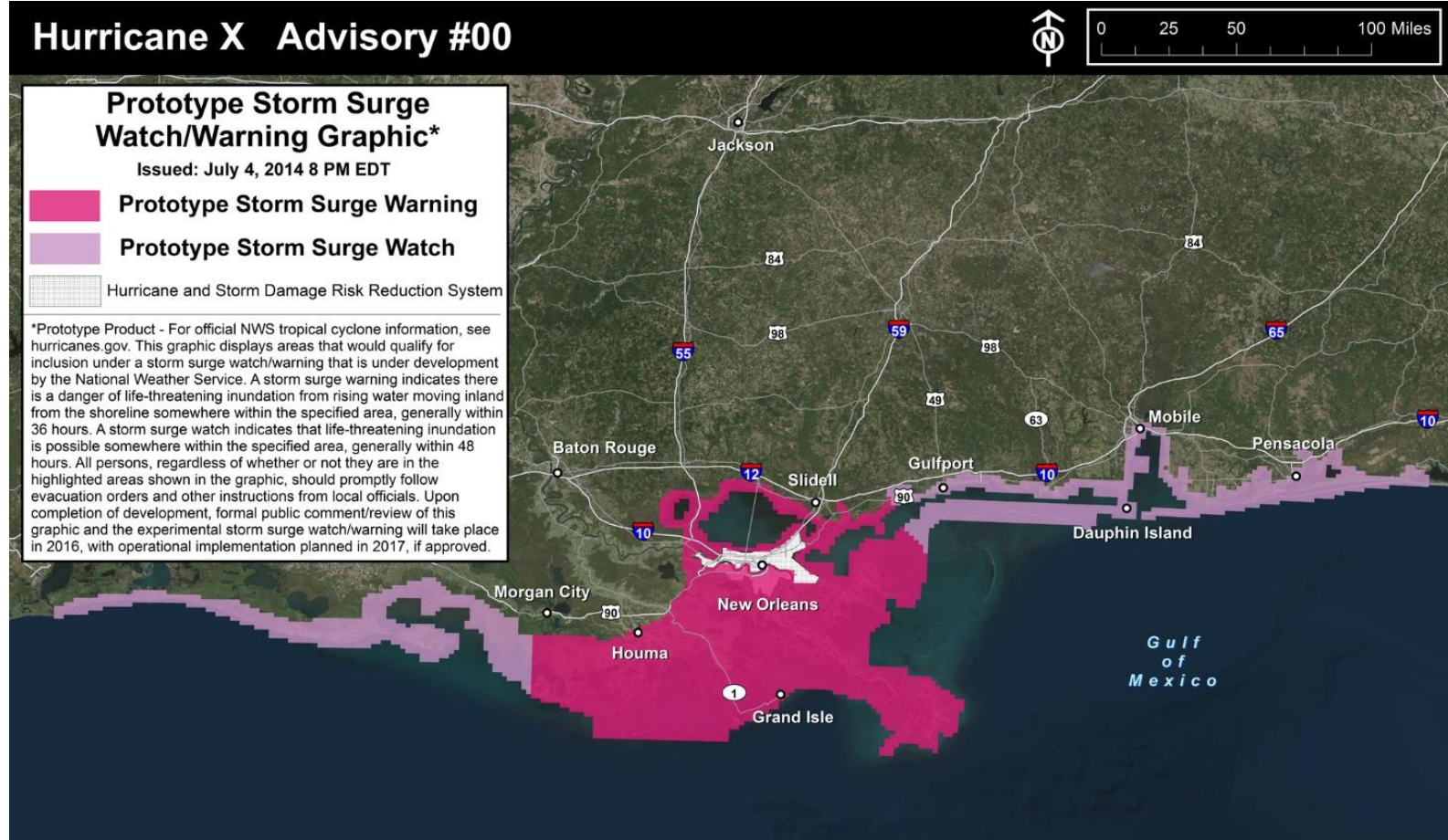
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Experimental NHC Products

A prototype storm surge watch/warning was introduced in 2015.

It is produced as a collaboration of NHC and local NWS meteorologists.

Intended to enhance public response to local officials evacuation decisions.



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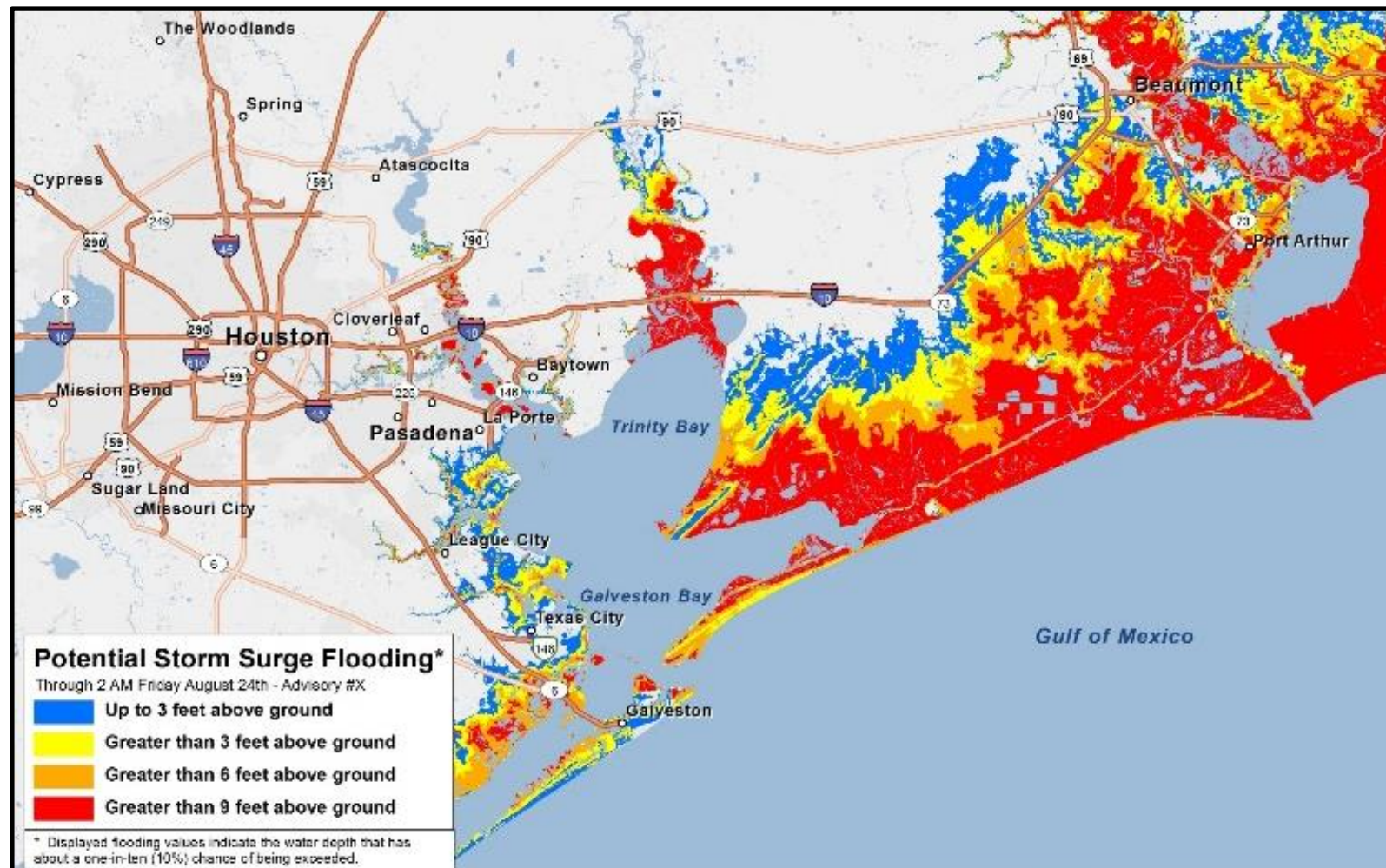


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Experimental NHC Products

The **potential storm surge flooding map** will show the height above ground level that water could reach.

It will be issued 60-90 minutes after the NHC advisories.



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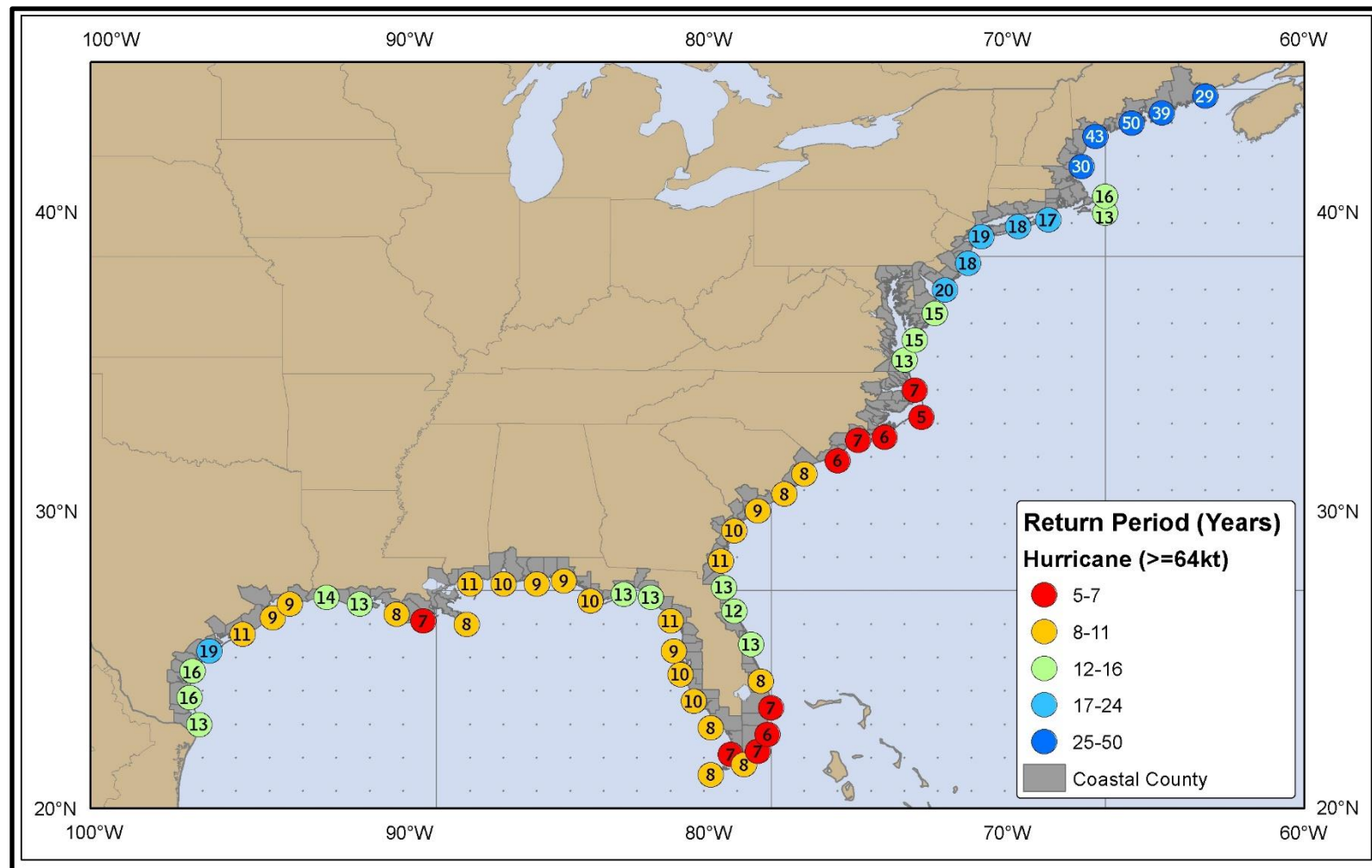
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2016 Atlantic Basin Forecast

We typically see a hurricane within 50 miles of us every 9 to 14 years. The last one to hit Texas was Hurricane Ike in 2008. The last one in Louisiana was Hurricane Isaac in 2012.



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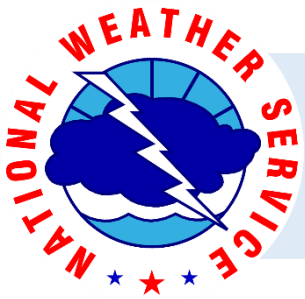
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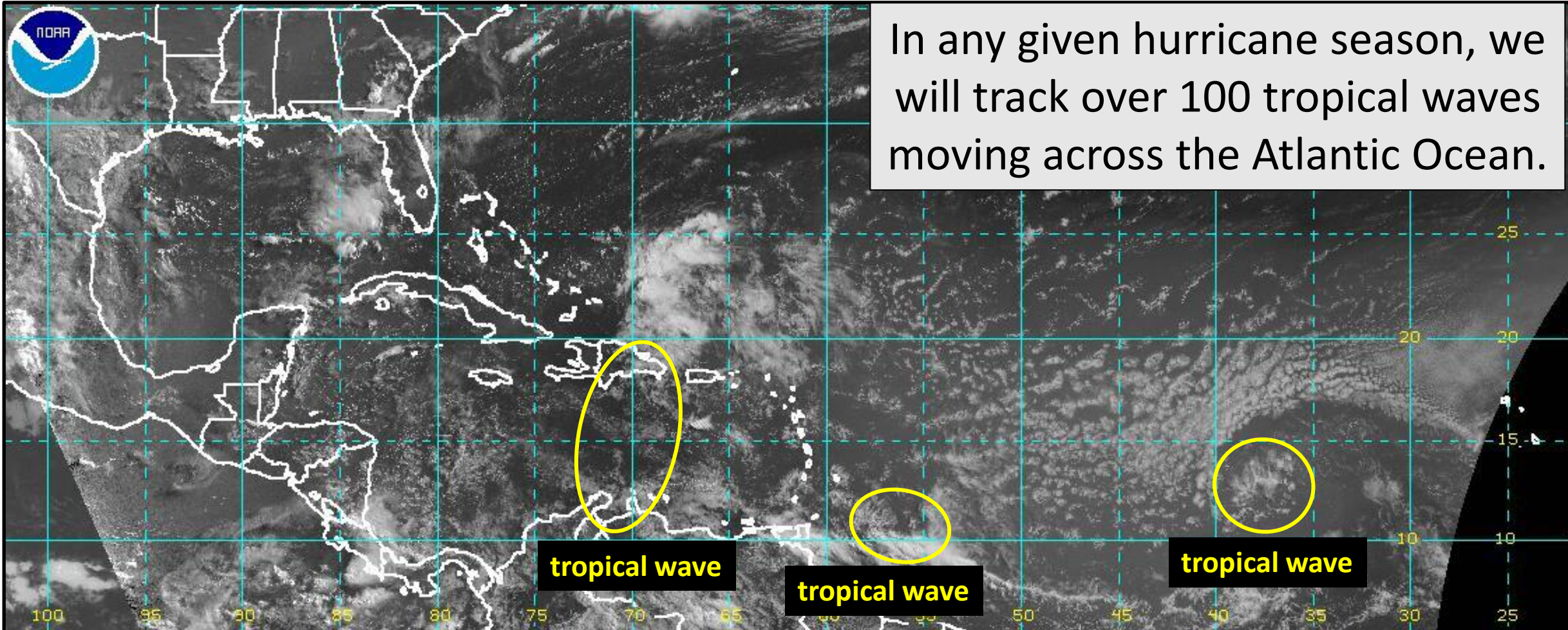


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2016 Atlantic Basin Forecast



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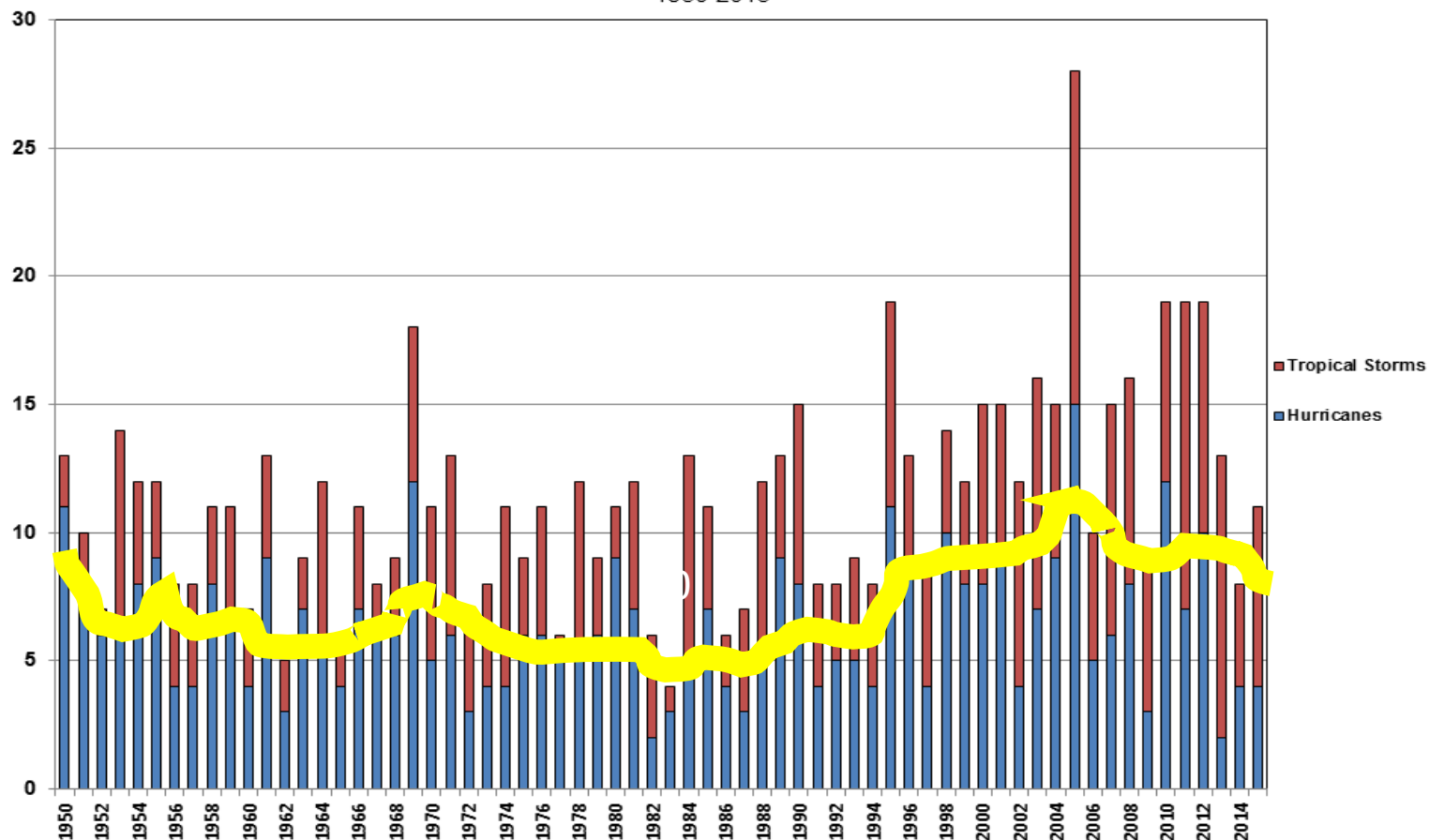


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2016 Atlantic Basin Forecast

There is a cycle of active and inactive hurricane seasons in the Atlantic basin, including the Gulf of Mexico. We have been in a more active period since 1995.

North Atlantic Basin
Number of Tropical Storms and Hurricanes
1950-2015



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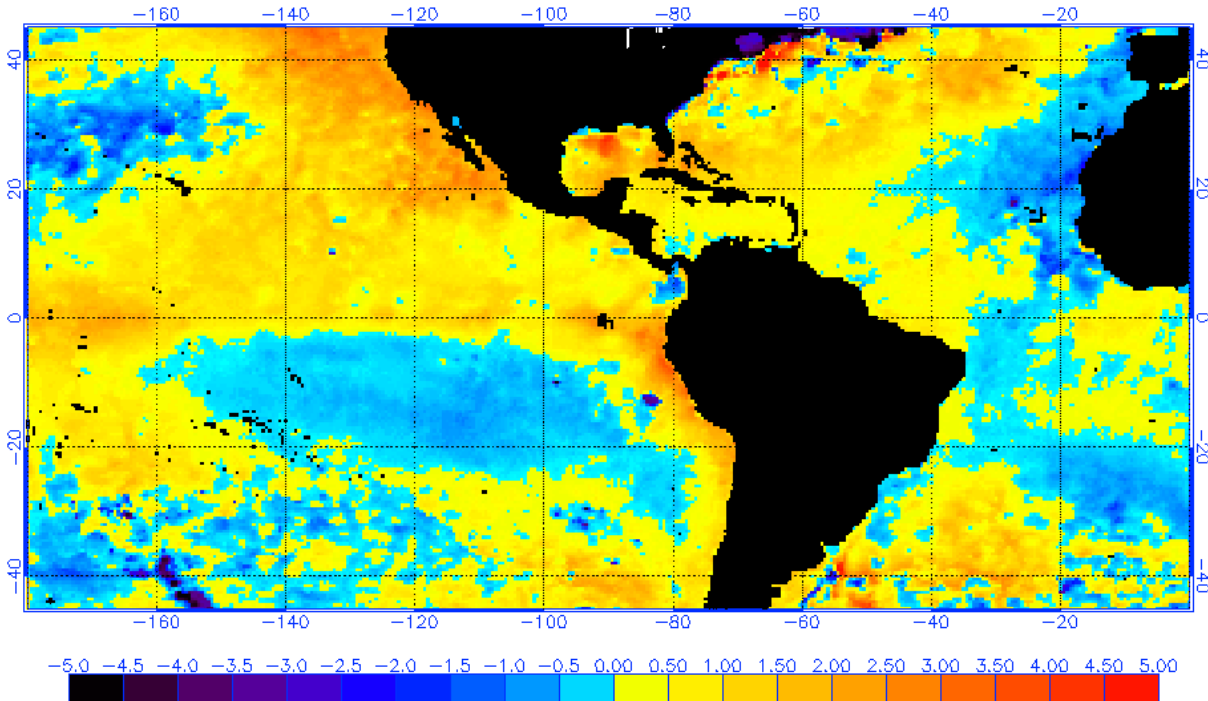
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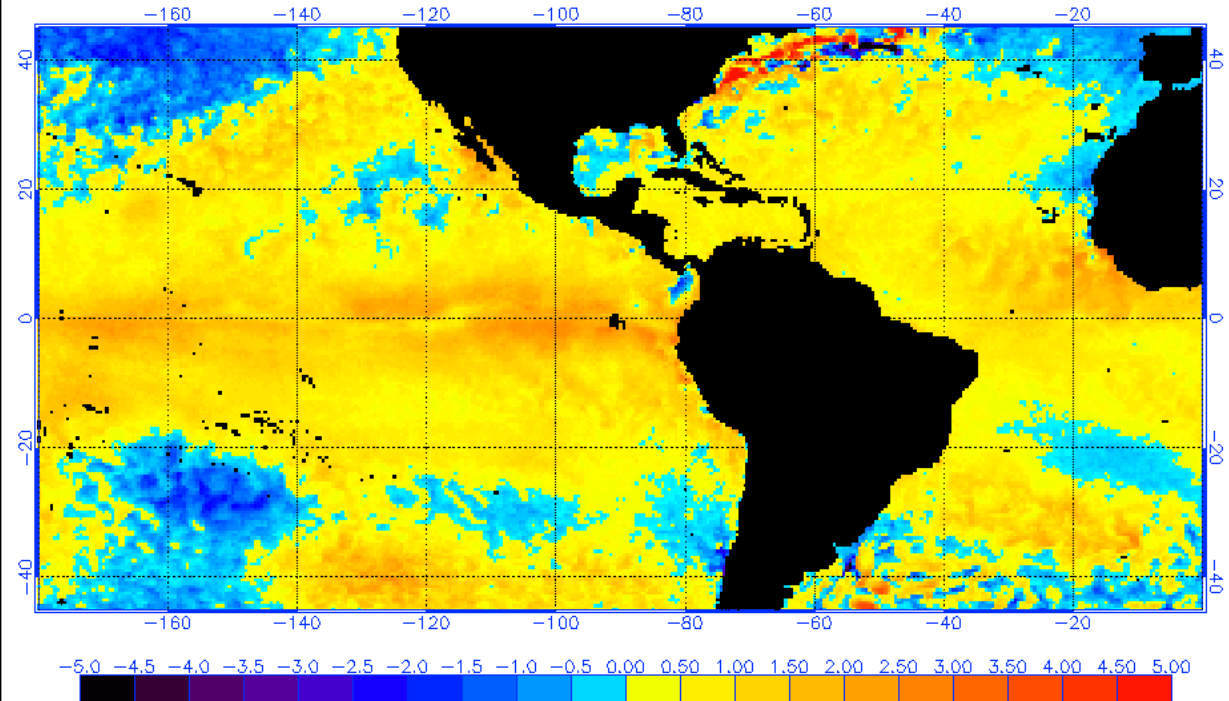
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2016 Atlantic Basin Forecast

NOAA/NESDIS SST Anomaly (degrees C), 3/30/2015



NOAA/NESDIS SST Anomaly (degrees C), 3/28/2016



Water temperatures are warmer in 2016 than 2015 in the tropical Atlantic Ocean, which could be a signal of a more active season.



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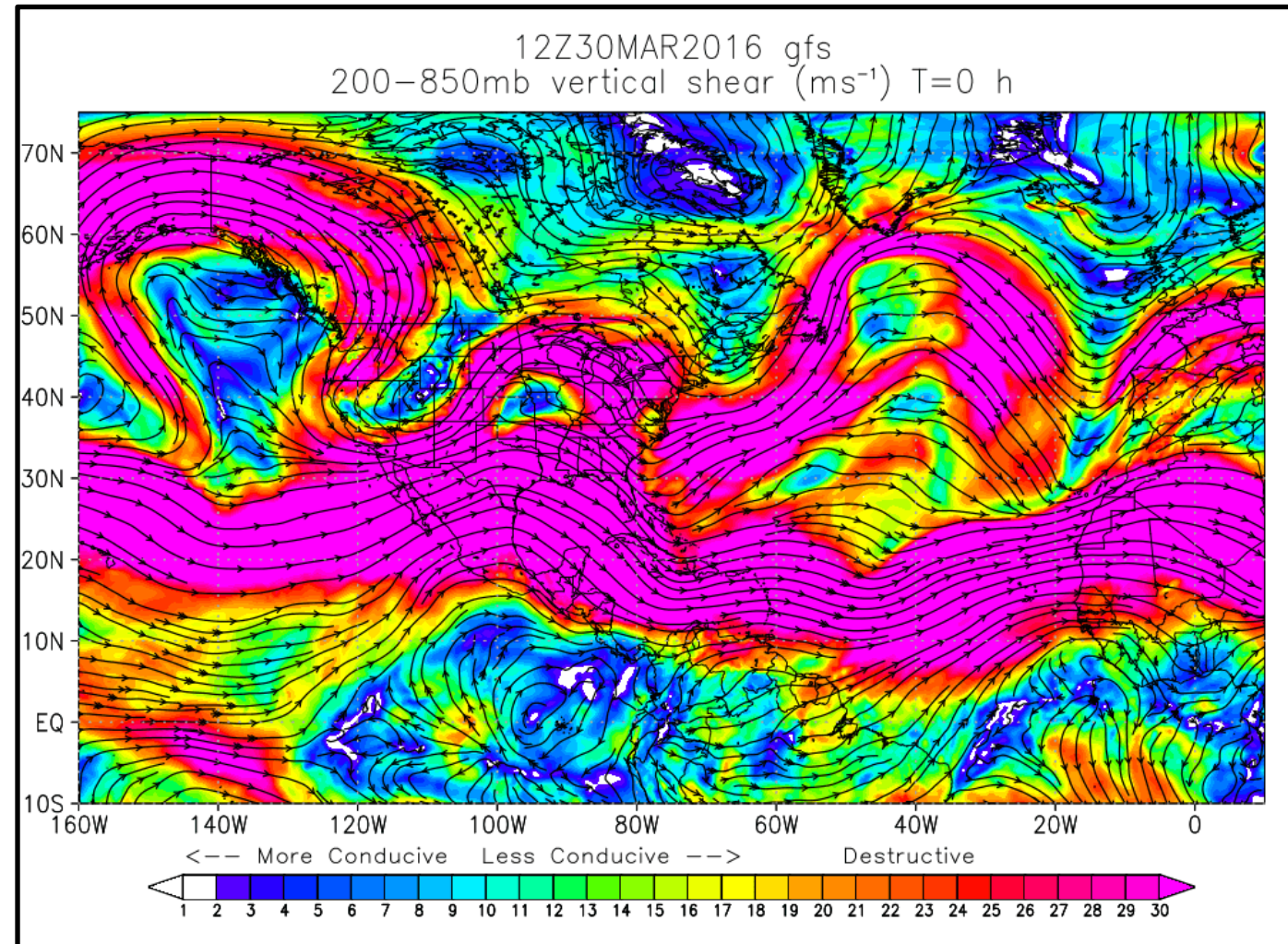
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High wind shear inhibits development of tropical cyclones. It can change from one day to the next. This time of year, wind shear is typically strong over the tropical Atlantic Ocean, Caribbean Sea, and Gulf of Mexico.

2016 Atlantic Basin Forecast



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April 2016 Hurricane Prediction (Klotzbach)

- Named storms: 12 (12)
- Hurricanes: 5 (6.5)
- Major Hurricanes: 2 (2)
- Major Hurricane striking U.S. : 50% (52%)
- Major Hurricane striking U.S. Gulf Coast 29% (30%)
- Hurricane striking East Coast and Florida: 30%
(31%)
- Accumulated Cyclone Energy (ACE) : 95 % (103%)

** NOAA will be release their prediction around the 3rd week of May*



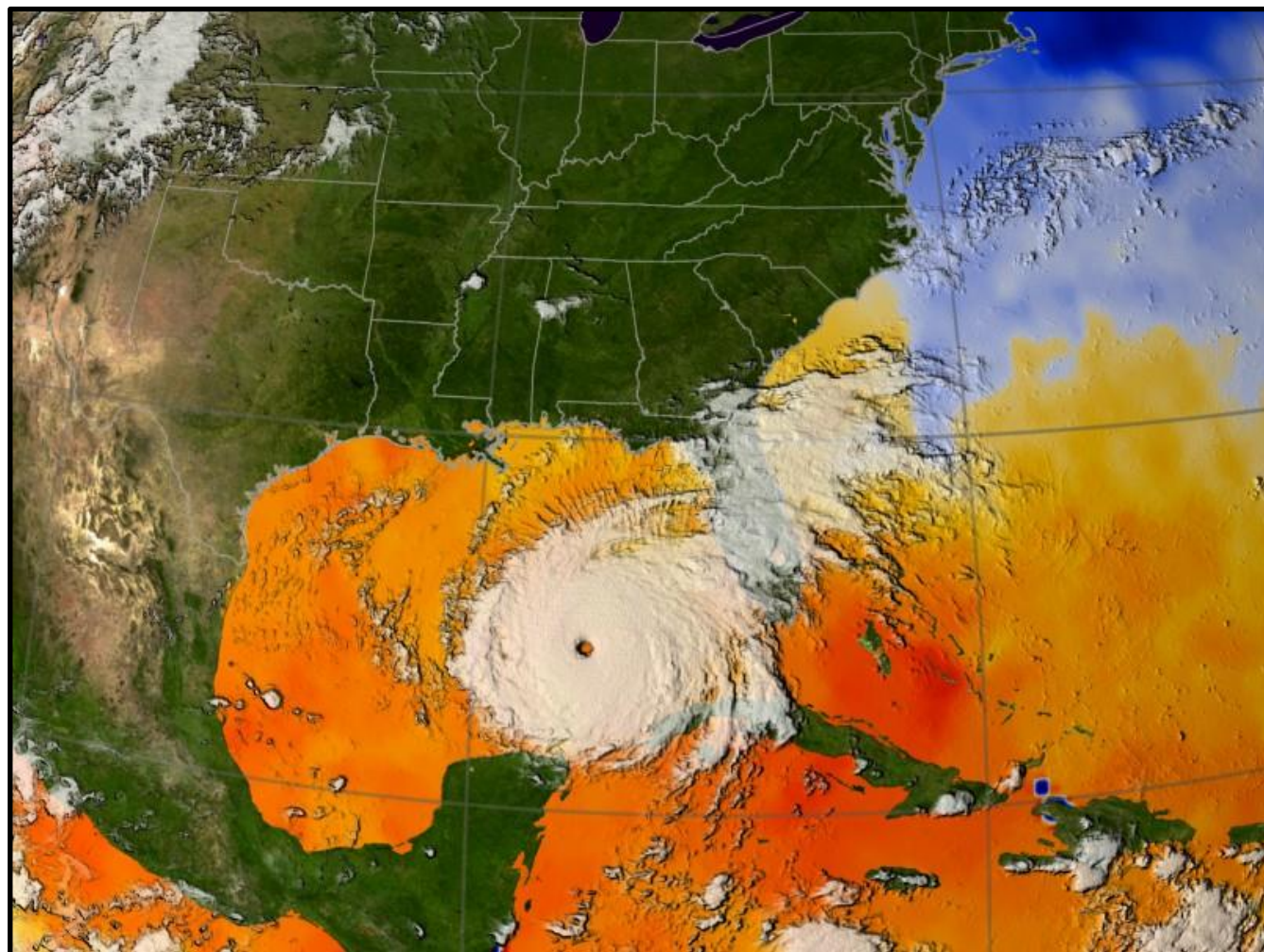
National Weather Service
Lake Charles, Louisiana

2016 Hurricane Season

By Andy Patrick, Meteorologist-in-Charge

Keep up with NWS Lake Charles
through the links listed below...

Or call me at 337.477.5285 x1.



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