



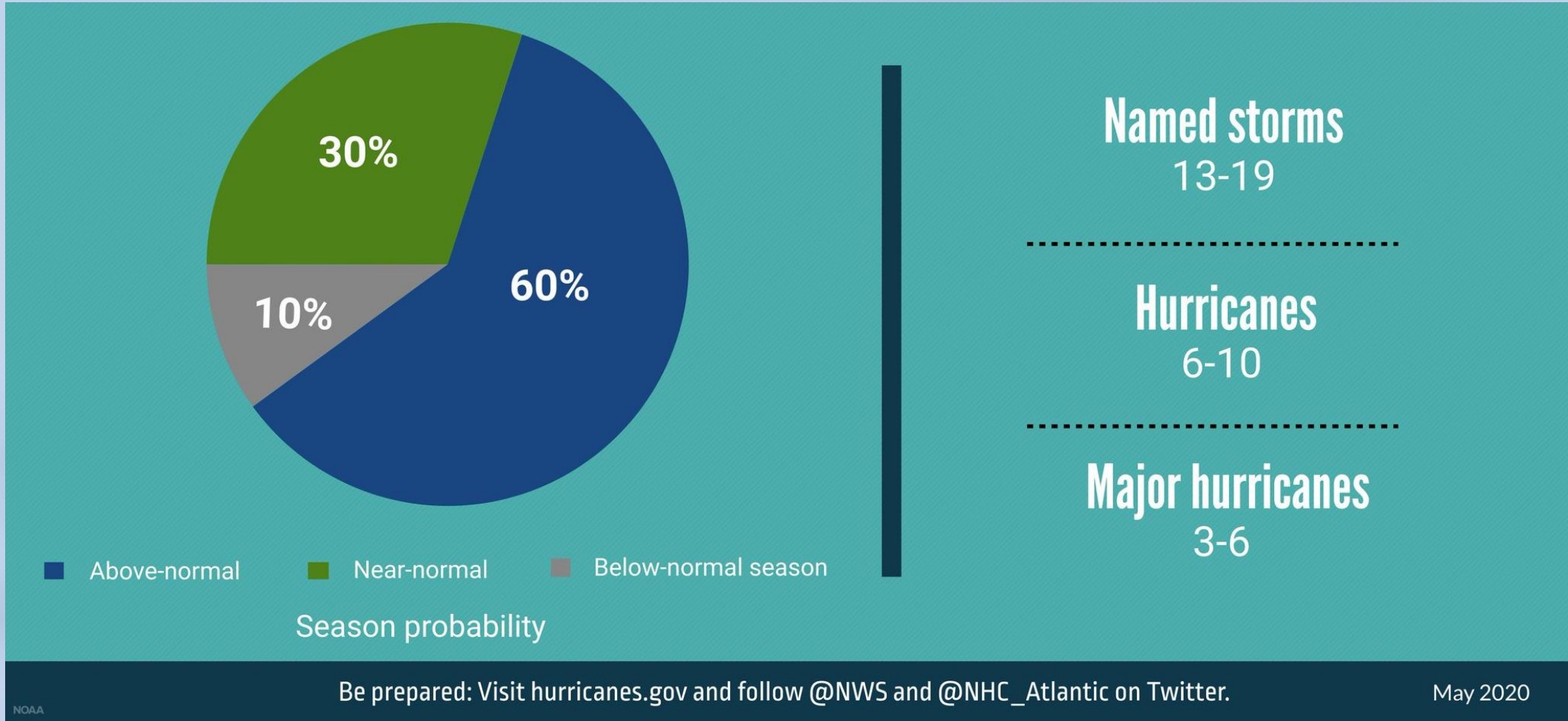
Hurricane Season Preparedness 2020

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2020 Atlantic Basin Seasonal Outlook



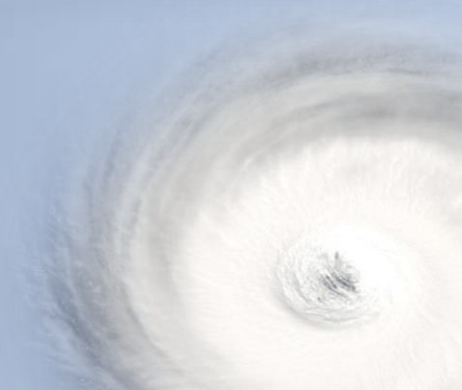
CAUTION It only takes one storm to make a “bad” season





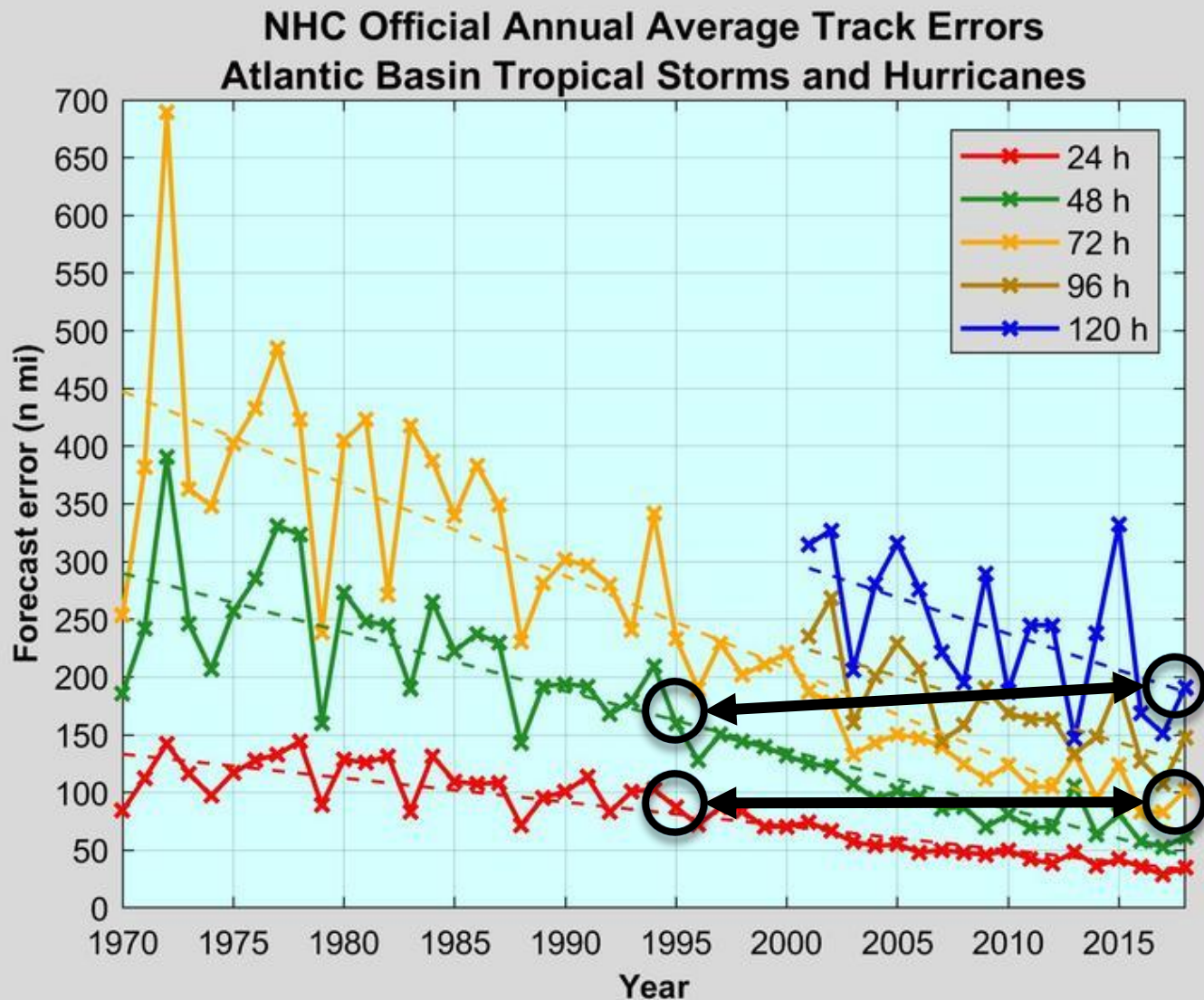
Seasonal Outlook Limitations

- Seasonal outlooks do NOT tell you:
 - Where storms will make landfall
 - How strong they will be at landfall
- Seasonal forecasts only give a general idea of the potential for overall basin activity
- Reality: We have to plan as though we will be impacted EVERY year

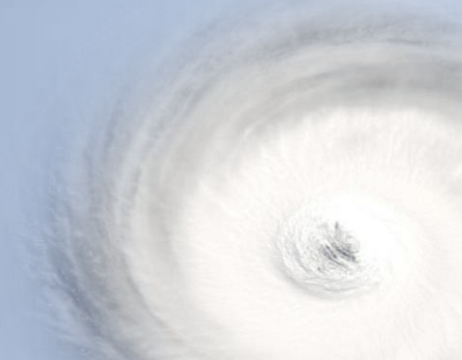




Forecast Accuracy Trends - Track

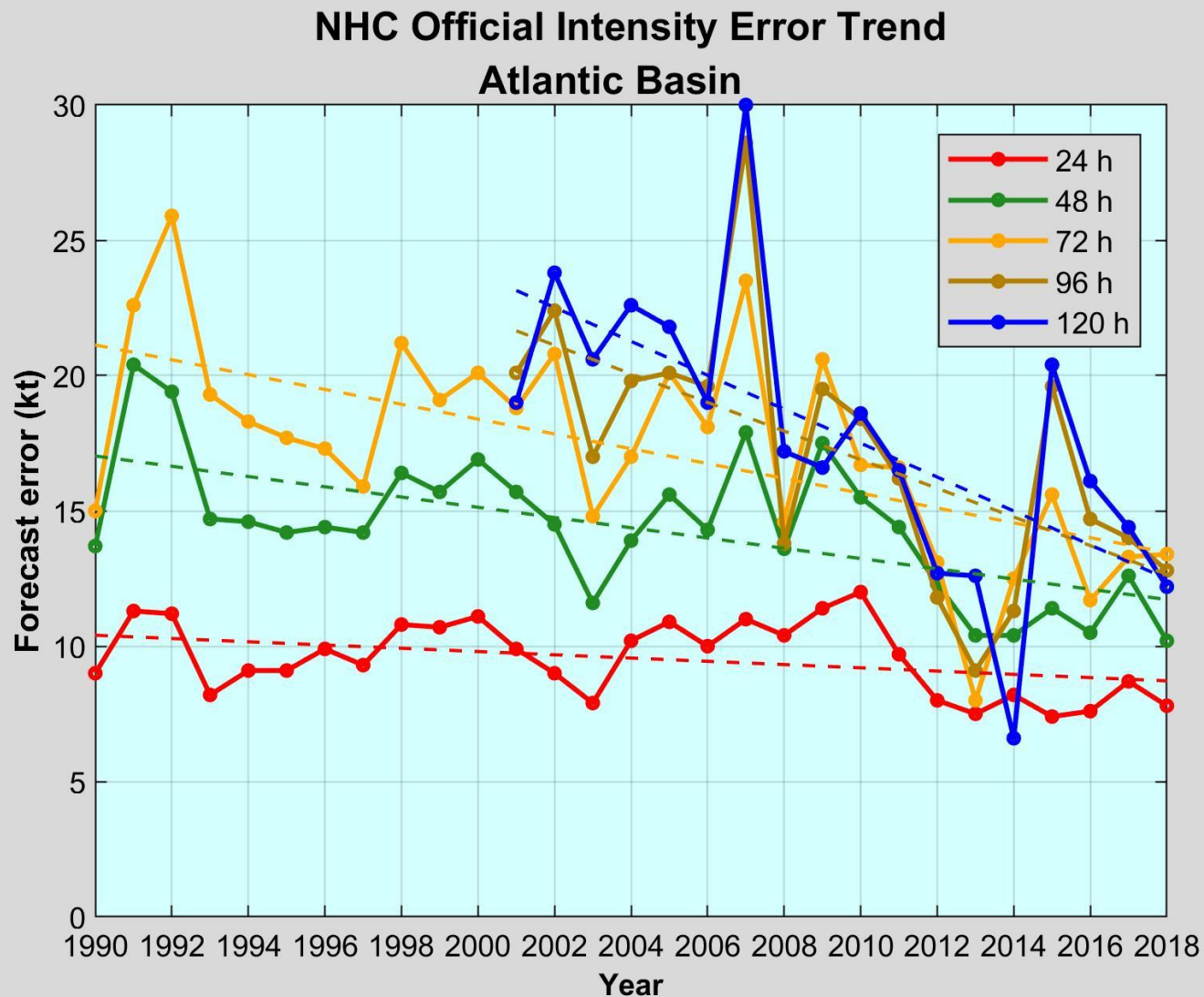


- Track forecast errors have a noticeable downward trend
- A 5-day forecast now is roughly as accurate as a 2-day forecast was in the mid 90s
- A 3-day forecast now is roughly as accurate as a 1-day forecast was in the mid 90s

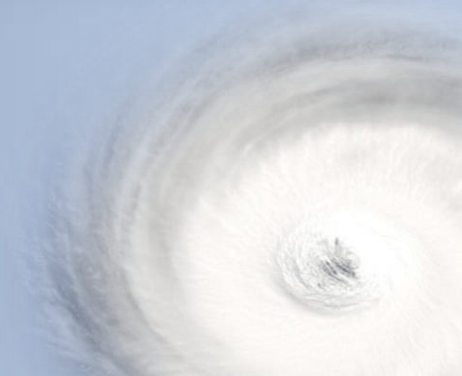




Forecast Accuracy Trends - Intensity



- Intensity forecasts are also improving, but not as quickly as track forecasts
- More noticeable improvement at longer lead times
- One limiting factor? Rapid Intensification





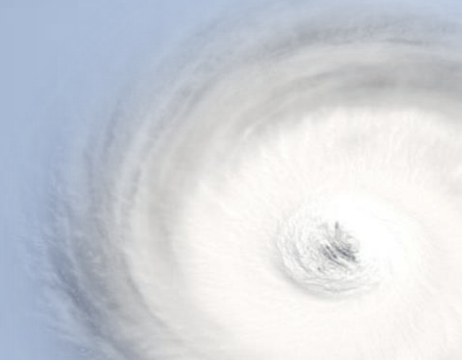
Rapid Intensification

Rapid Intensification: A 30 knot (35 mph) or greater increase in the maximum sustained winds of a tropical cyclone in a 24-hour period



Hurricane Michael (2018)

- Began rapidly intensifying shortly after formation
- Went through a few rapid intensification cycles
- Was still rapidly intensifying at landfall



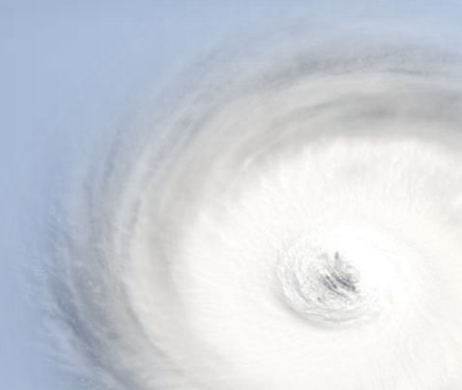


Rapid Intensification

We can recognize the conditions favorable for rapid intensification but are less skilled at determining:

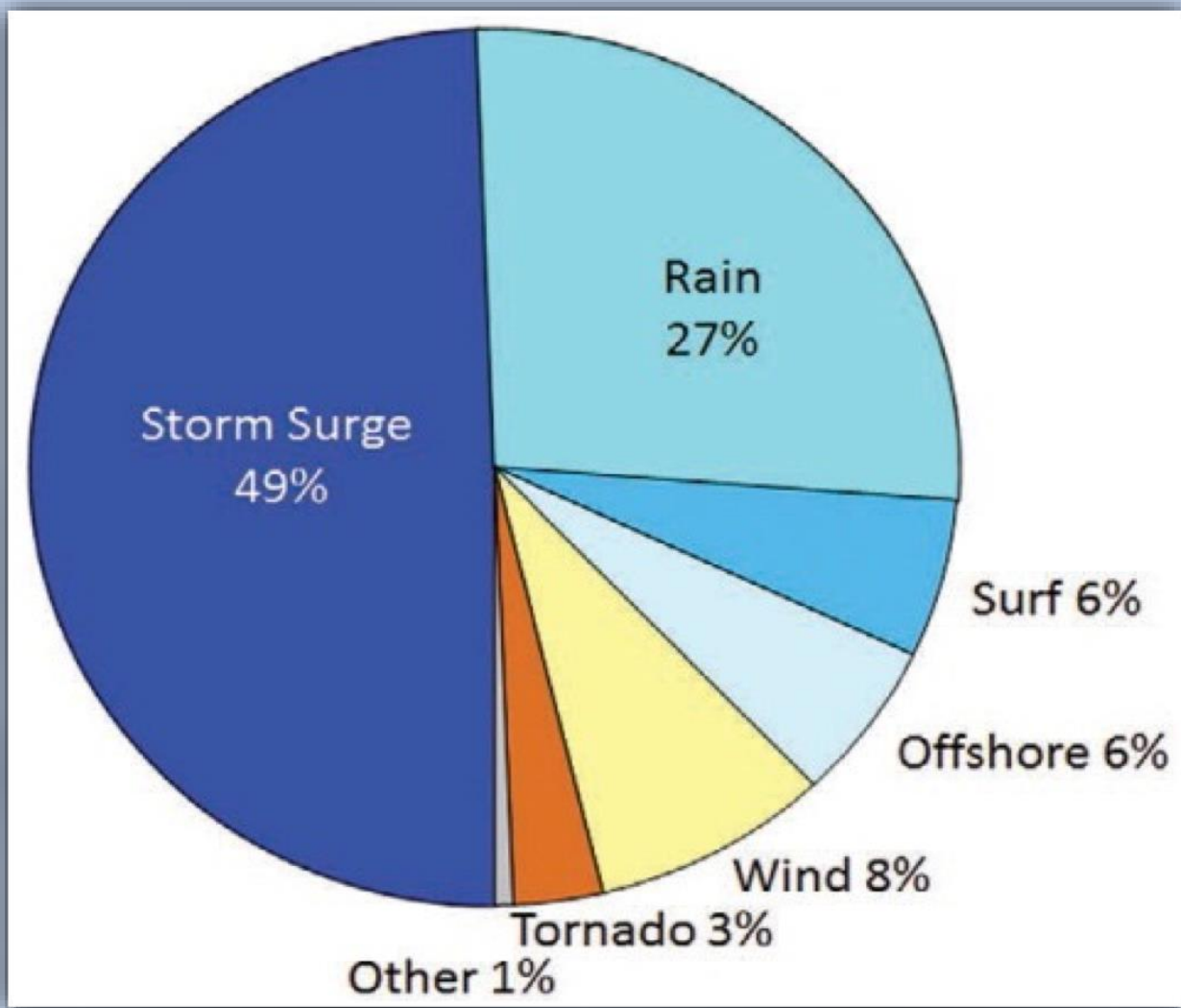
- When rapid intensification will begin
- How quickly the intensity will increase
- How long the rapid intensification will last

These all have significant implications on the intensity forecast

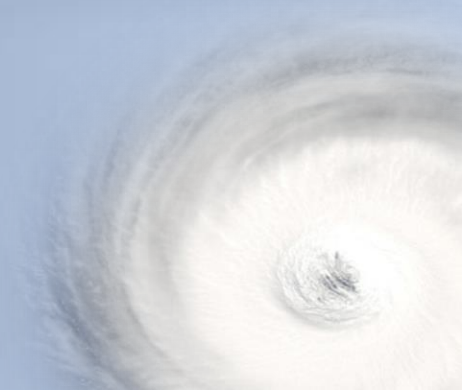




Atlantic Tropical Cyclone Deaths By Hazard



- Water kills!
- Water (both storm surge and fresh water flooding) is responsible for over 75% of direct fatalities
- But category (wind) gets most of the focus

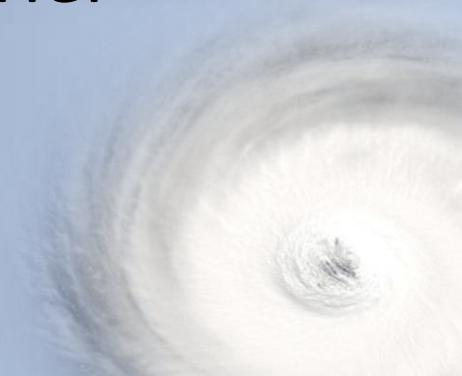




Factors Influencing Storm Surge

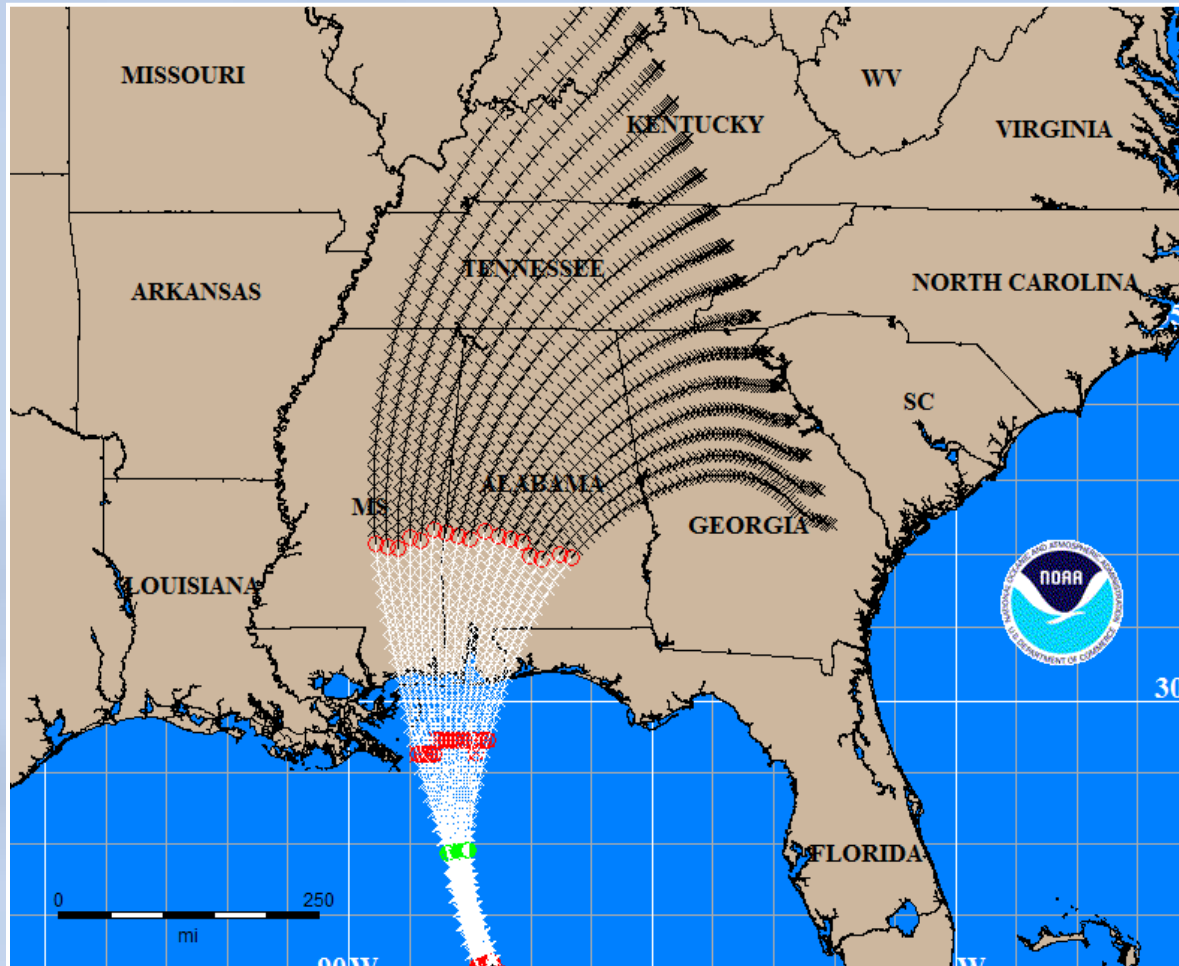
1. Where the circulation center crosses the coast
2. Direction of storm motion relative to the coast
3. Wind strength (storm intensity)
4. Radius of maximum winds
5. Overall size of storm (outer wind radii)
6. Slope of the continental shelf
7. Shape of the coastline and other coastal features (barrier islands, bays, rivers, levees, etc)

...It's Complicated!





Storm Surge Forecasts – Accounting for Error

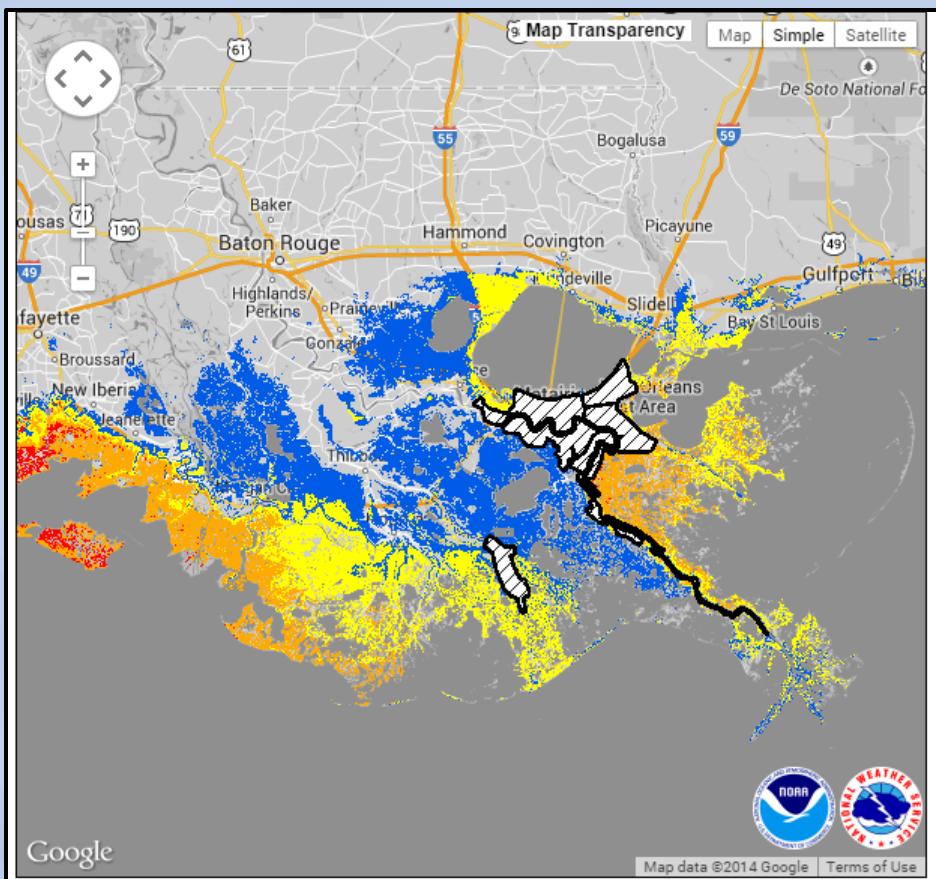


- So how do we account for these many error sources when forecasting storm surge?
- Probability!
- Run the storm surge model 1000 times and account for reasonable errors in
 - Forward speed
 - Angle of Approach/landfall location
 - Storm Intensity
 - Storm size





Storm Surge Communication – Inundation Map



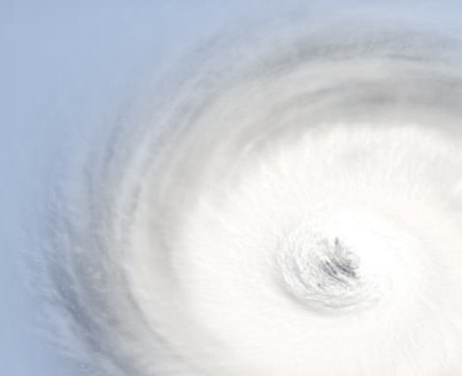
Potential Storm Surge Flooding*

	Up to 3 feet above ground
	Greater than 3 feet above ground
	Greater than 6 feet above ground
	Greater than 9 feet above ground
	Levee protected area Consult local officials for flood risk

*Displayed flooding values indicate the water depth that has about a 1-in-10 (10%) chance of being exceeded.

The potential storm surge hazard is not depicted within certain levee-protected areas, such as the Hurricane and Storm Damage Risk Reduction System in Louisiana. A diagonal hatch pattern is used to display these areas on the map. These areas are highly complex, and local officials are best equipped to forecast and monitor the threat of storm surge flooding inside these areas. Customers are asked to consult local officials for flood risk inside these leveed areas.

- Represents the “reasonable worst case” scenario for each point
- These are the values you should prepare for
- Values on the map only have a 10% chance of being exceeded

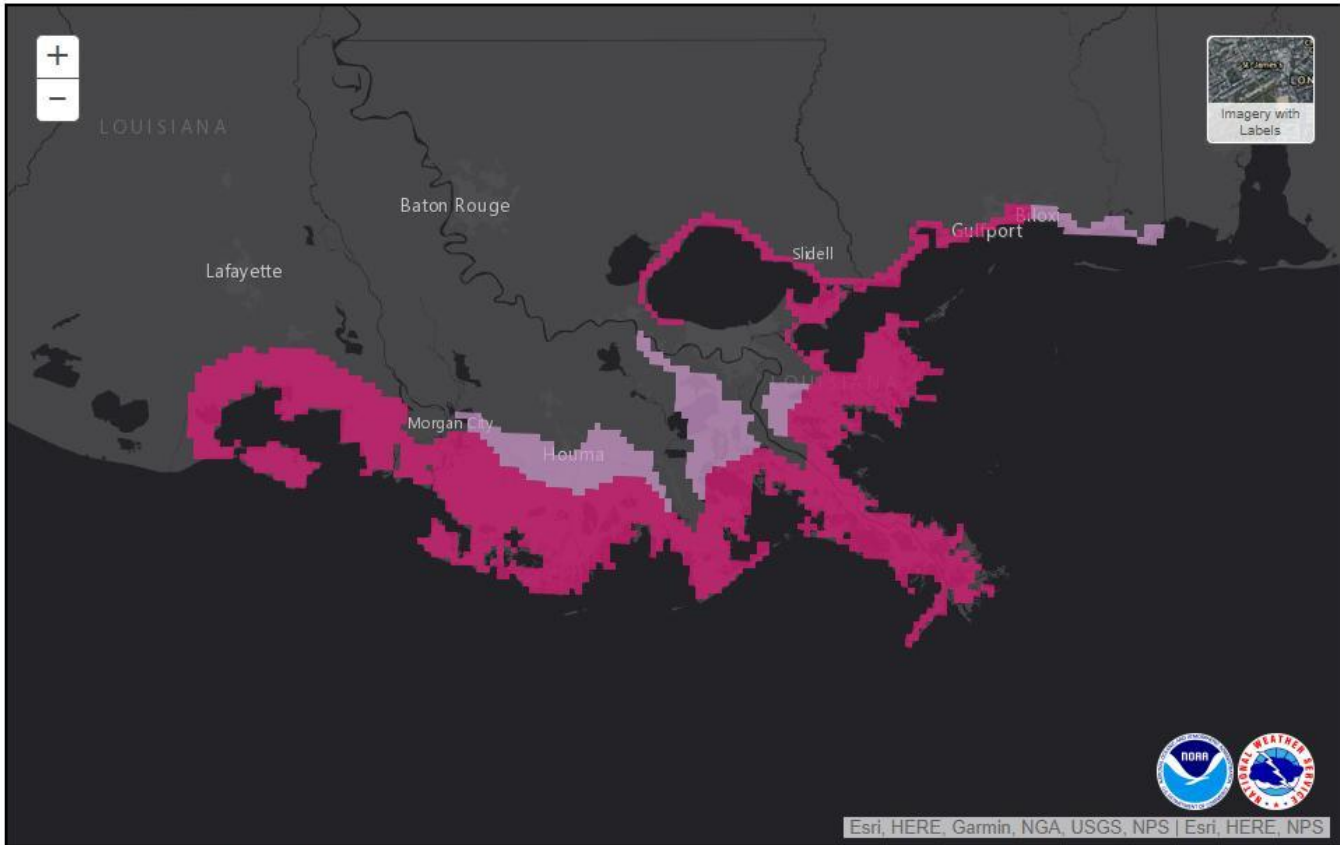




Storm Surge Watch/Warning Graphic

Storm Surge Watch/Warning Graphic*

Tropical Storm Barry
Advisory 009 Issued: 10:00 AM CDT Fri Jul 12



Storm Surge Warning
Storm Surge Watch

- **Storm Surge Watch**
There is a *possibility* of life-threatening storm surge inundation within **48 hours**
- **Storm Surge Warning**
There is a *danger* of life-threatening storm surge inundation within **36 hours**

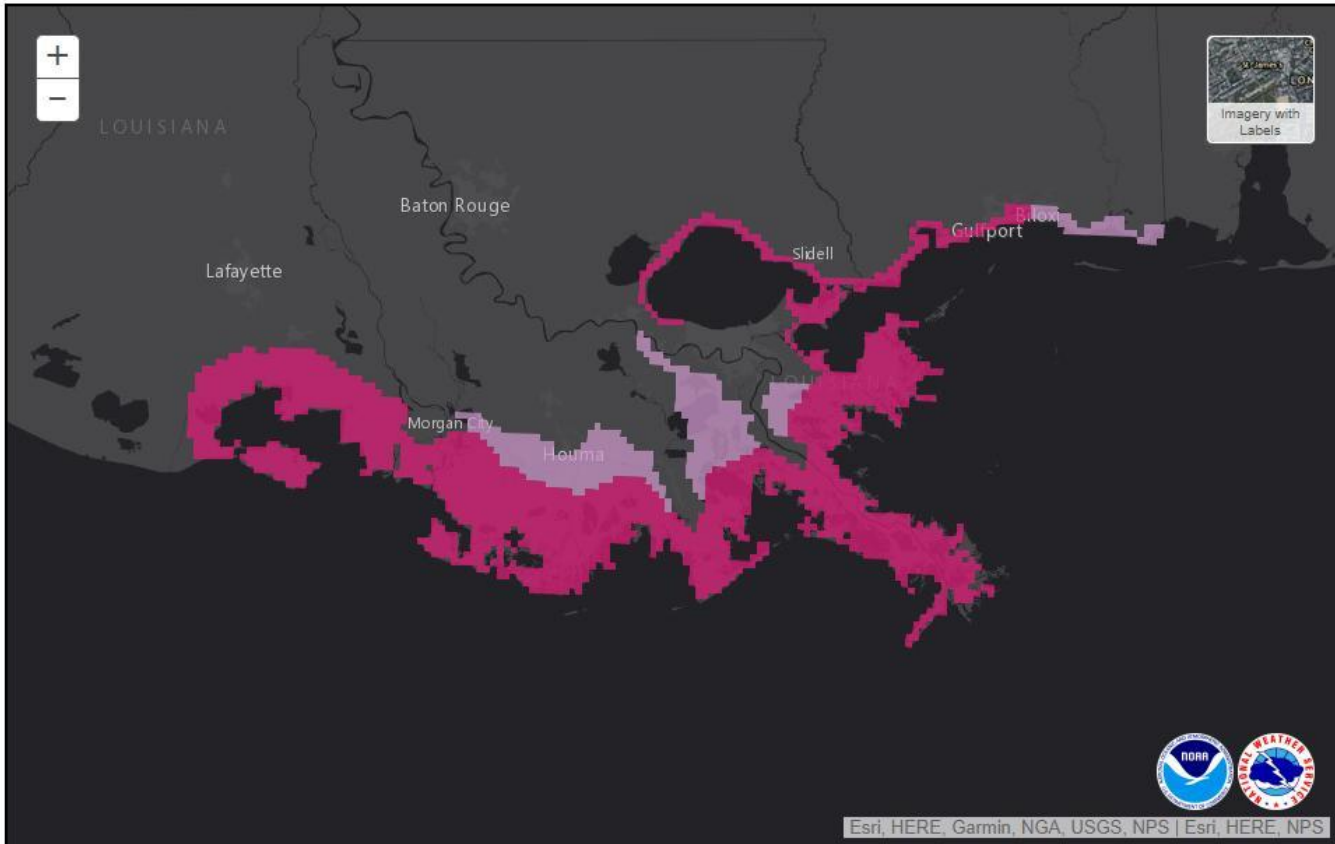




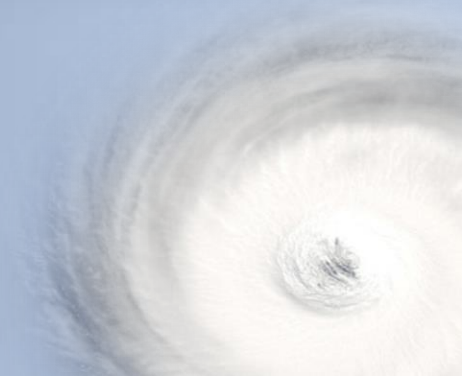
Storm Surge Watch/Warning Graphic

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- Storm Surge Warnings WILL be tone alerted on NOAA Weather Radio
- Storm Surge Warnings MAY be tone alerted via the Wireless Emergency Alert (WEA) system





Some Final Thoughts...

- It only takes one storm affecting your area to make the season a “bad” one, so we need to plan and prepare every year
- Every storm is different. Pay attention to the latest forecasts to determine the greatest threats – if there are questions, just ask!
- In a social media world, it’s important to get your information from reliable, trustworthy sources
- Remember that timelines need to be adaptable and you won’t always have 5 days of lead time
- Hurricanes are stressful and impacts can be confusing. Let us help you!





National Weather Service New Orleans/Baton Rouge

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