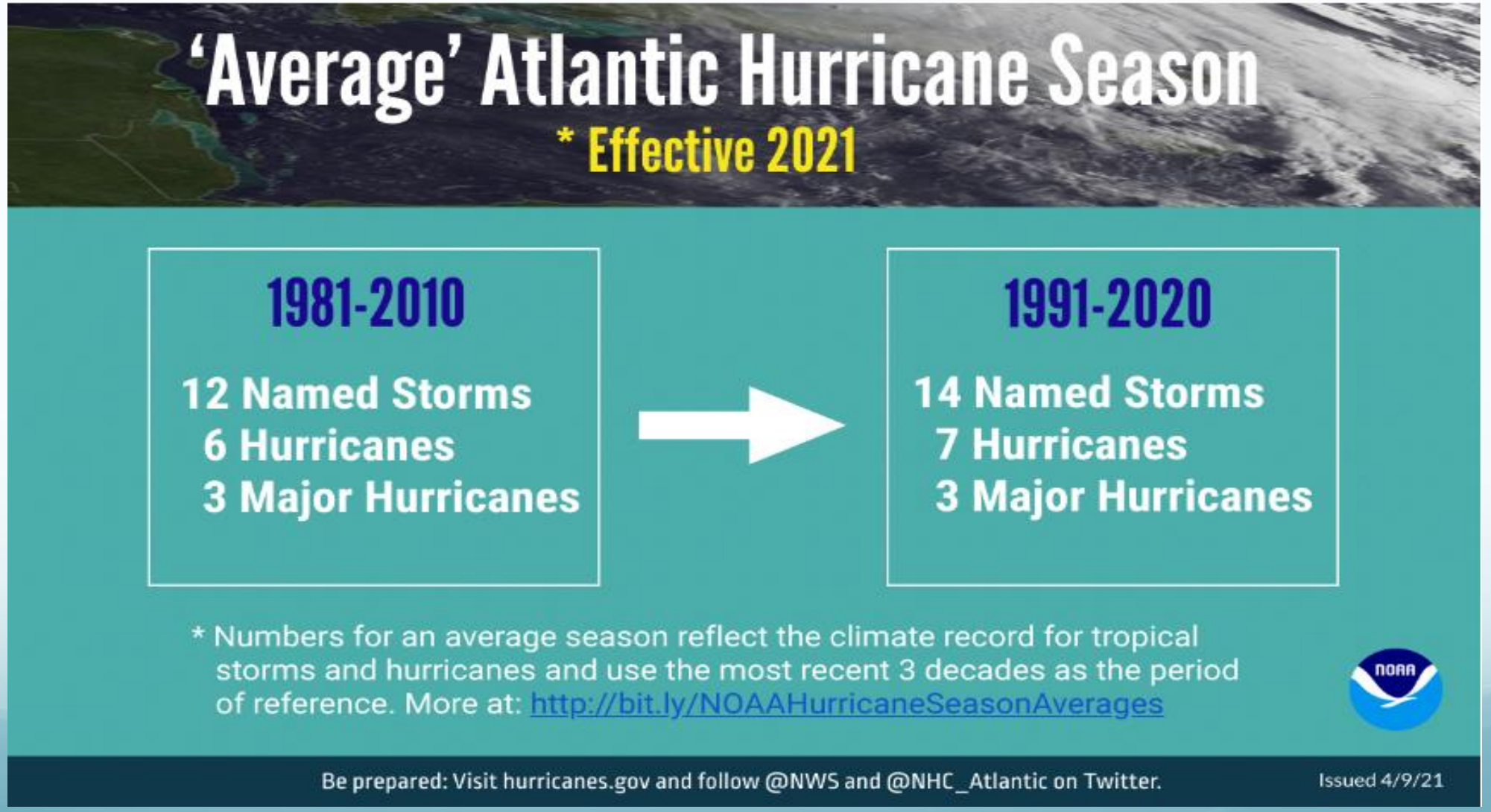
Hurricane Climatology

Presenter: Meteorologist Stephen Shiveley

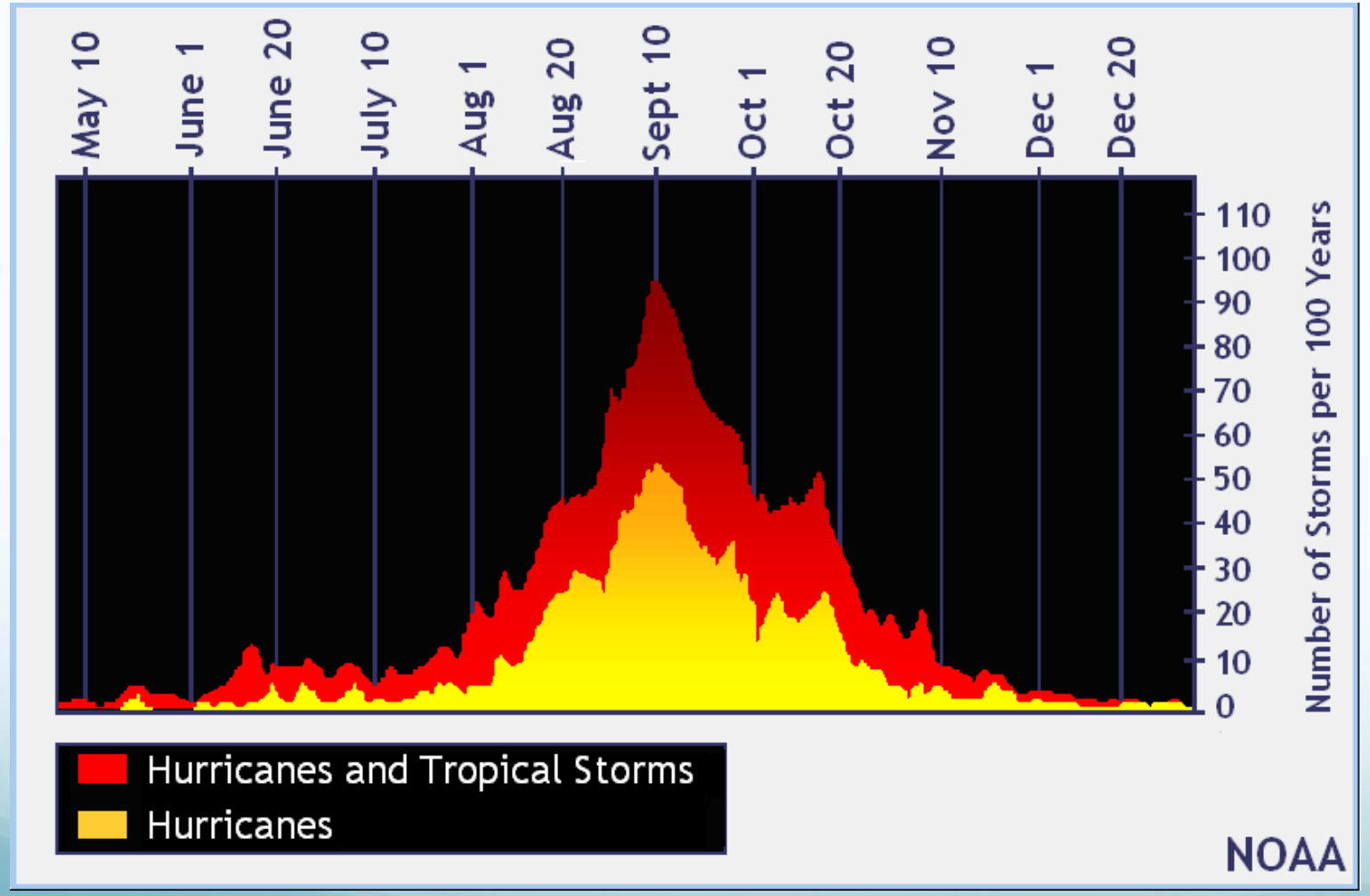
Hurricane 30 Year Average Change



Why The Change

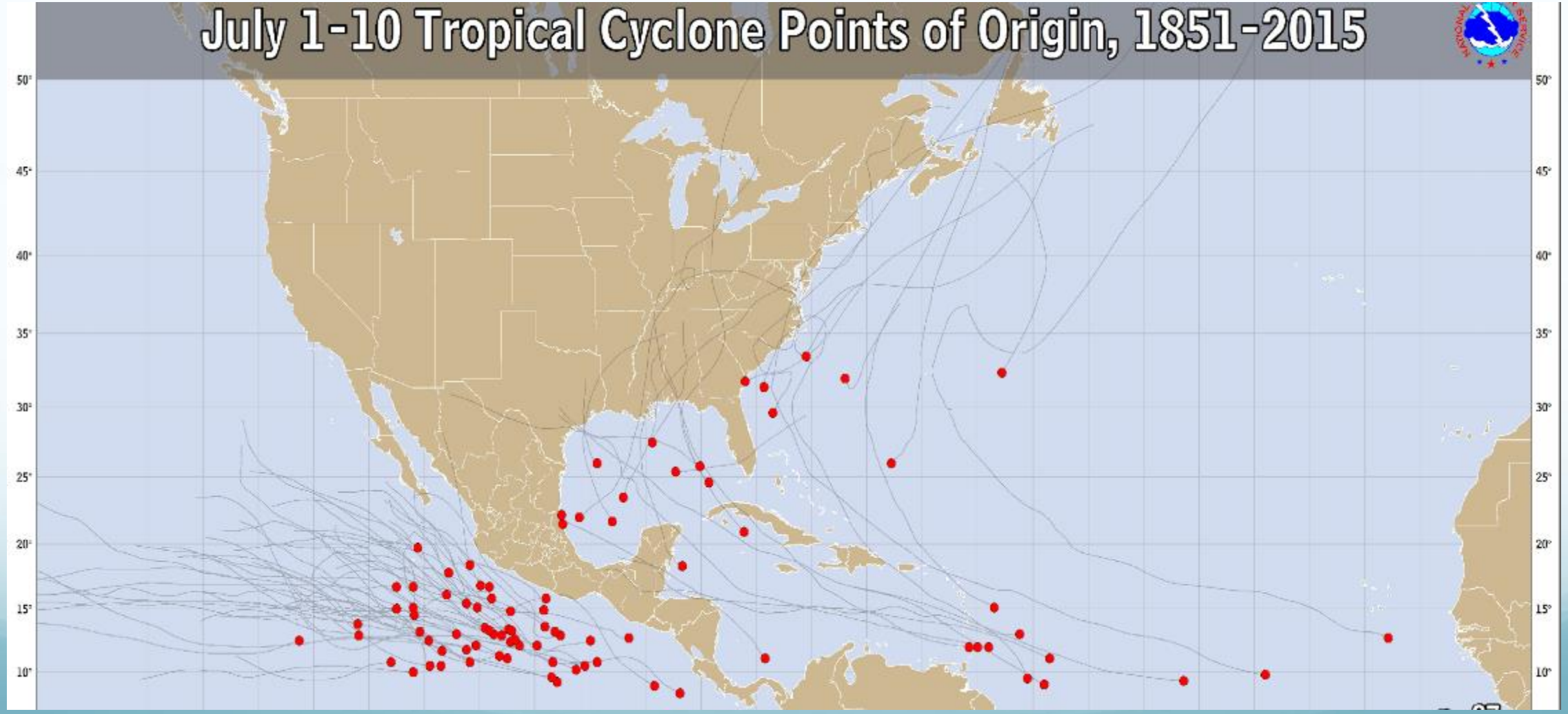
- Overall improvement in observing platforms including next gen environmental satellites and continued hurricane reconnaissance.
- May also be due to warming ocean and atmosphere which are influenced by climate change.

Hurricane climatology

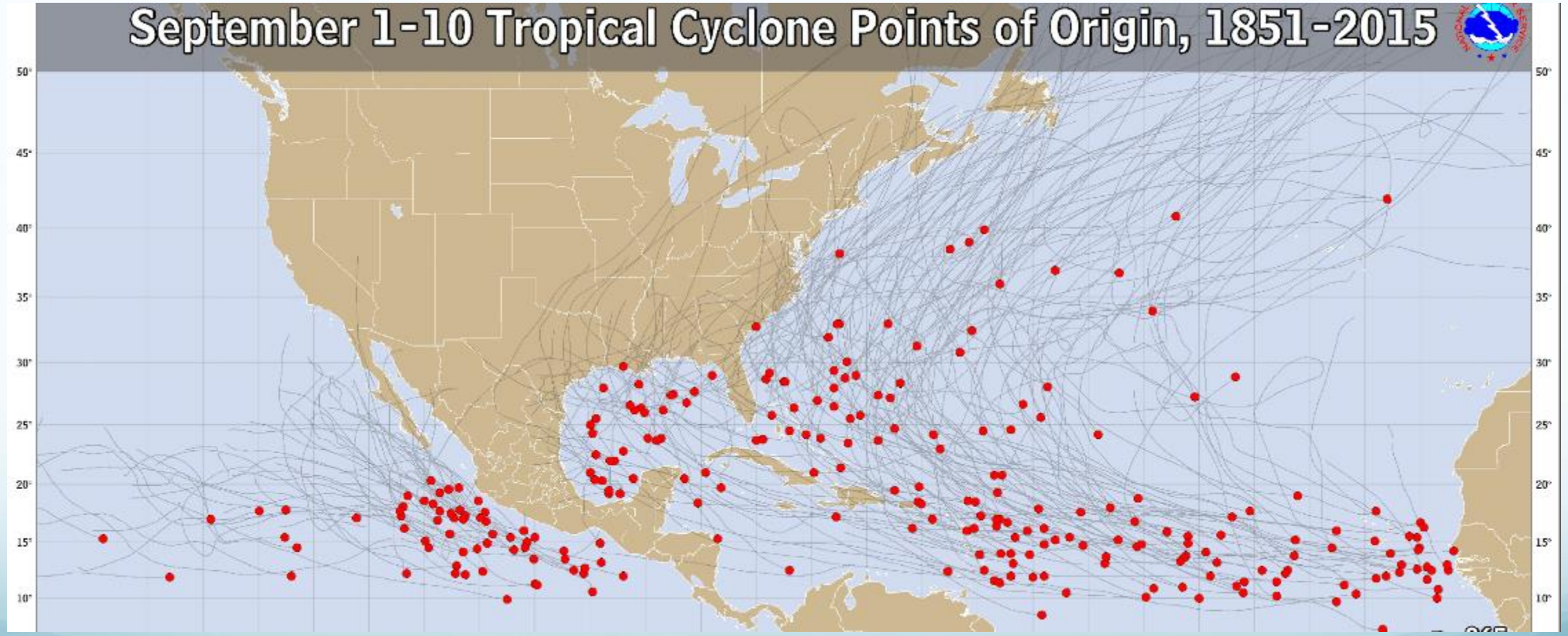


- Peak Season Sept 10th
- Secondary Peak in mid Oct
- However hurricanes can form anytime during (or even outside) of Hurricane season

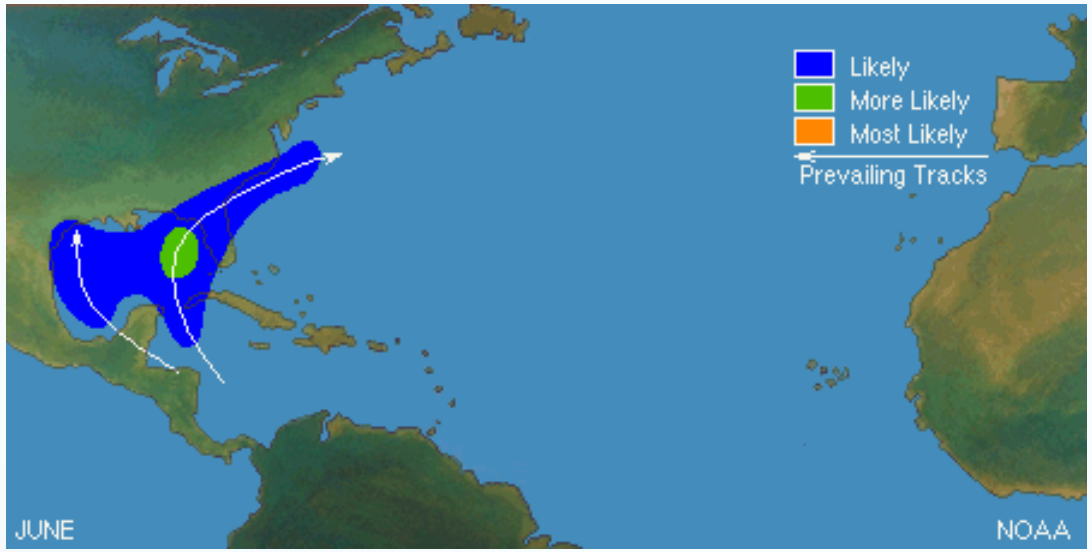
Tropical tracks July 1st-July 10th



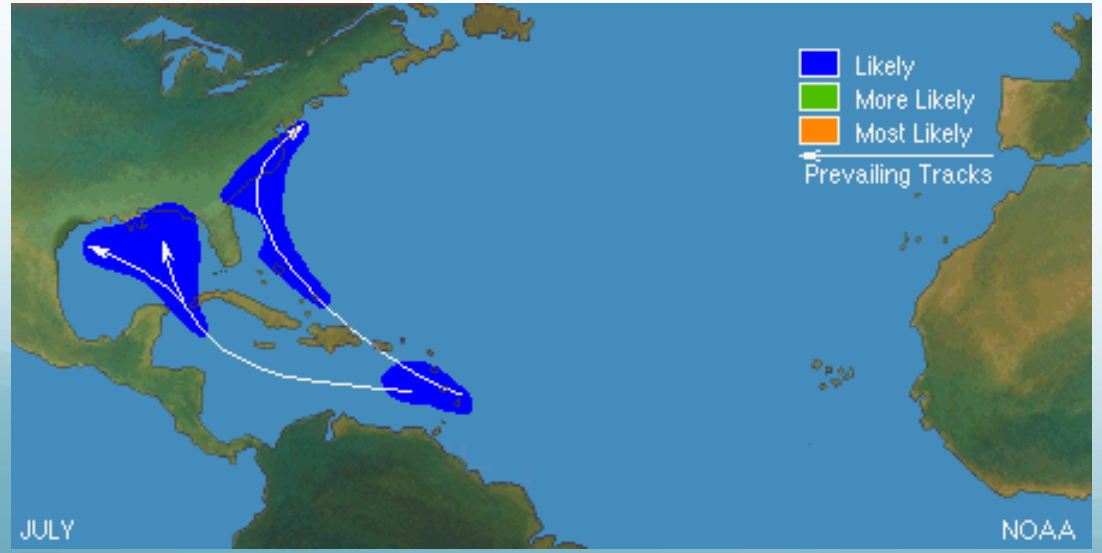
Tropical Tracks Sept 1st-sept 10th



Early Season Origins and Tracks

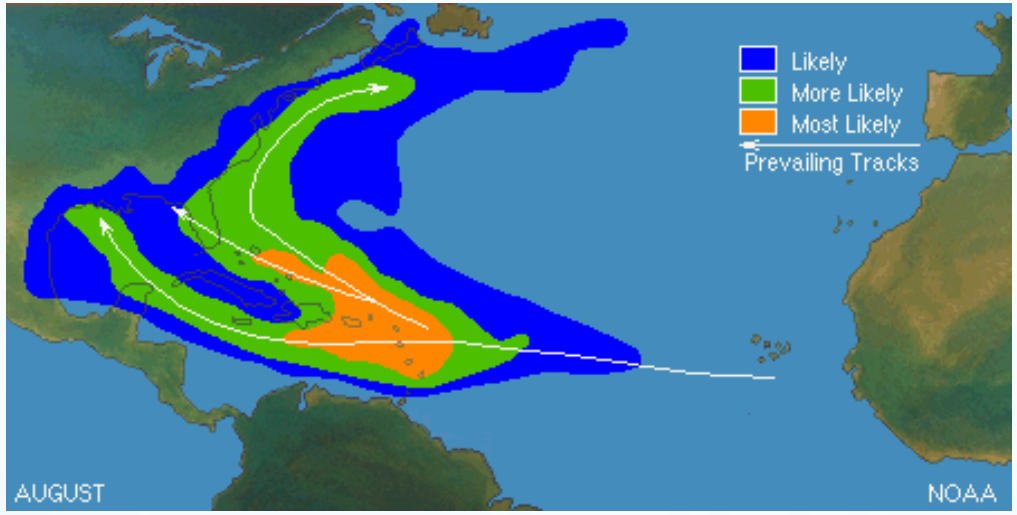


- June- Formation tends to happen in the southern Caribbean Sea and head north.
- Tends to produce our “sloppy” hybrid tropical system

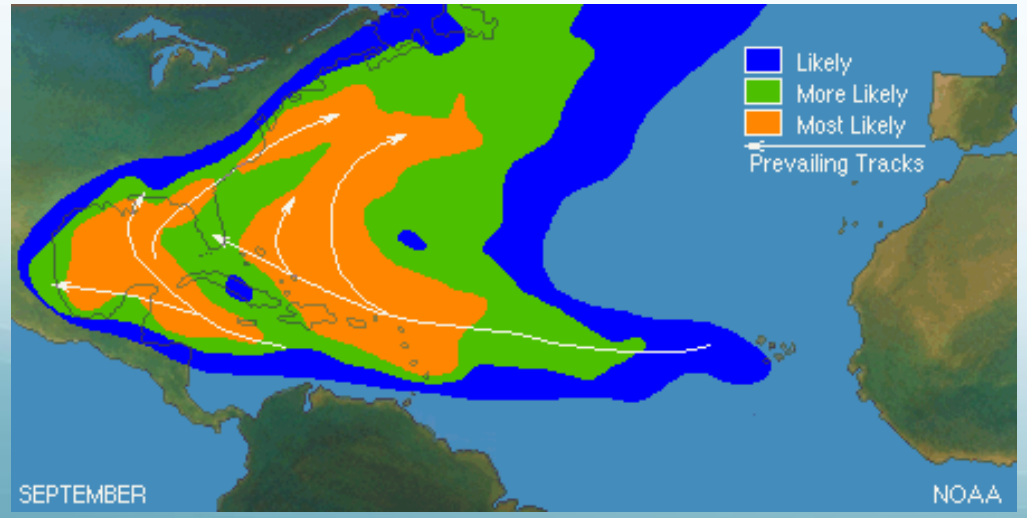


- July- Formation tends to be near the Lesser Antilles
- Once formed they normal head either in the Gulf or along the Atlantic Coast

Peak Season Origins and Tracks

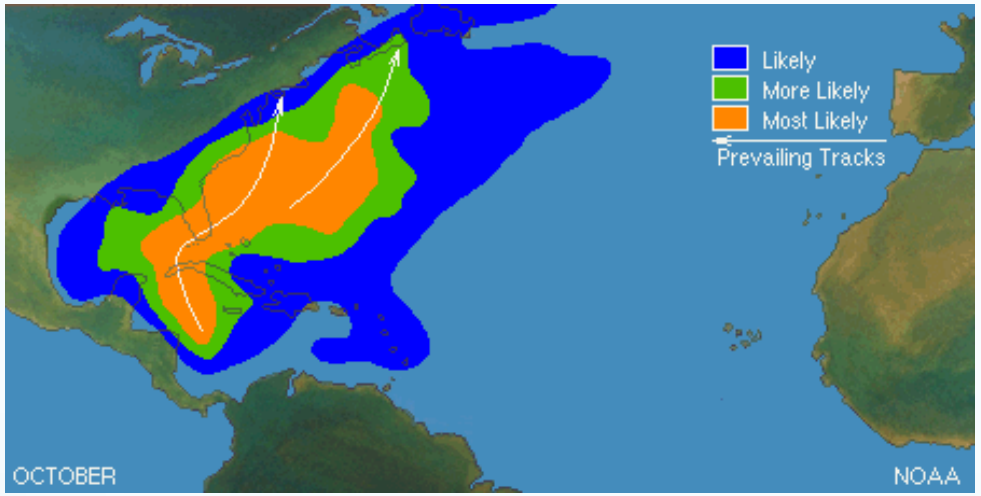


- August- Formation typical happens off the African Coast Line
- Systems tend to move across westerly across Atlantic before turning north. The big question is always WHEN will they turn north

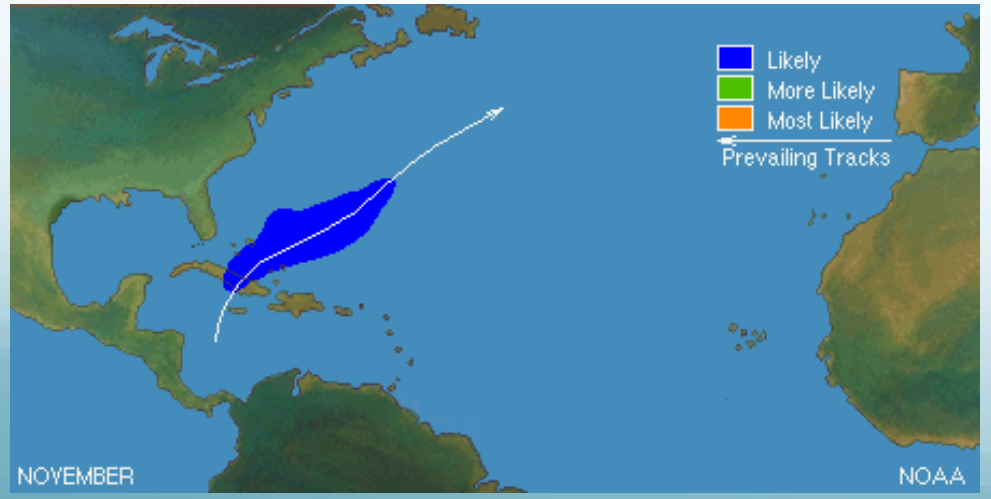


- September- Formation off the African Coast or in southern Caribbean.
- Most likely area to hit is pretty much anywhere there is a coastline.

Late Season Origins and Tracks

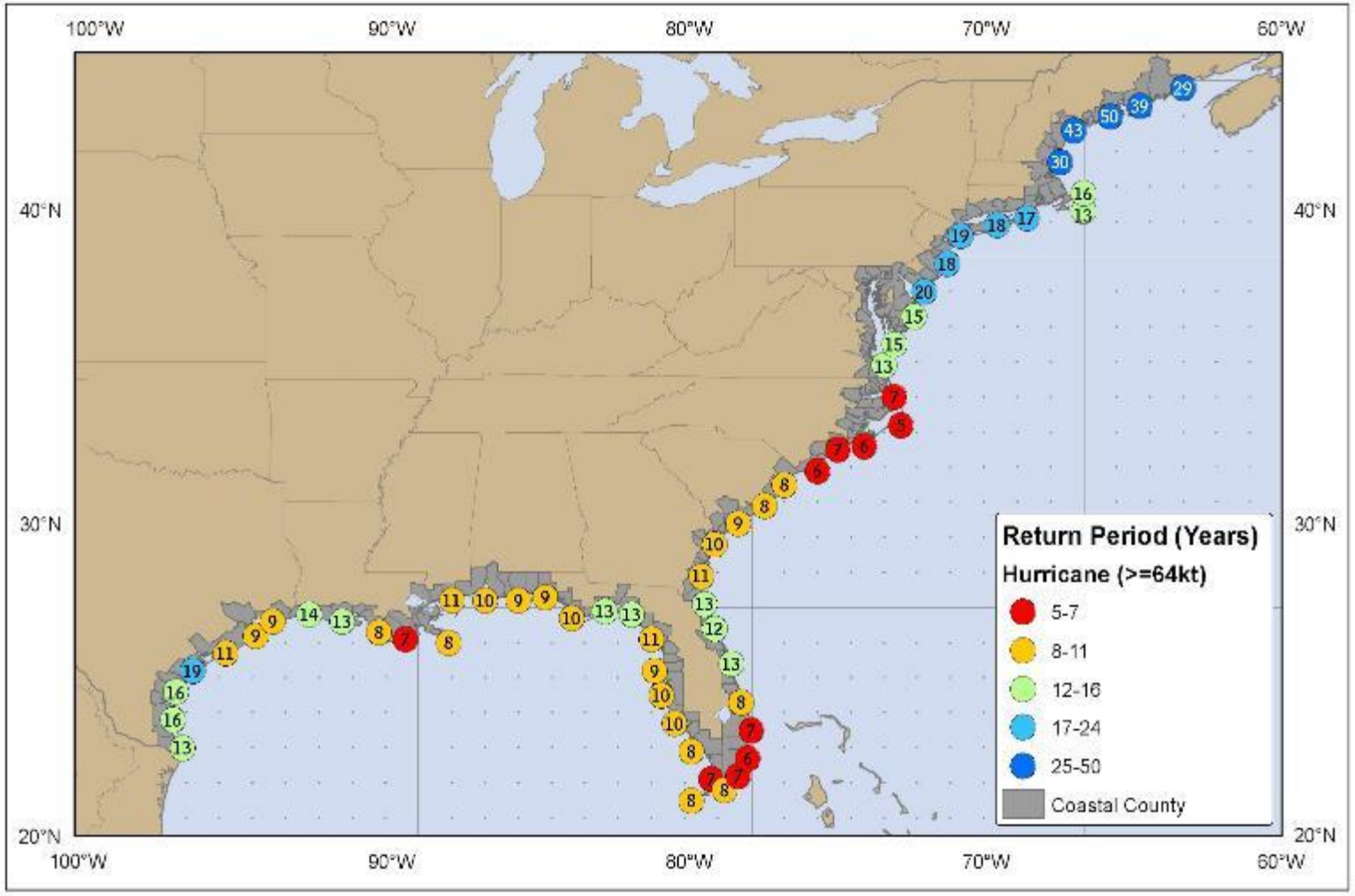


- October- Formation typical happens in southern Caribbean
- Systems will head north and tend to head in a north to northeasterly direction



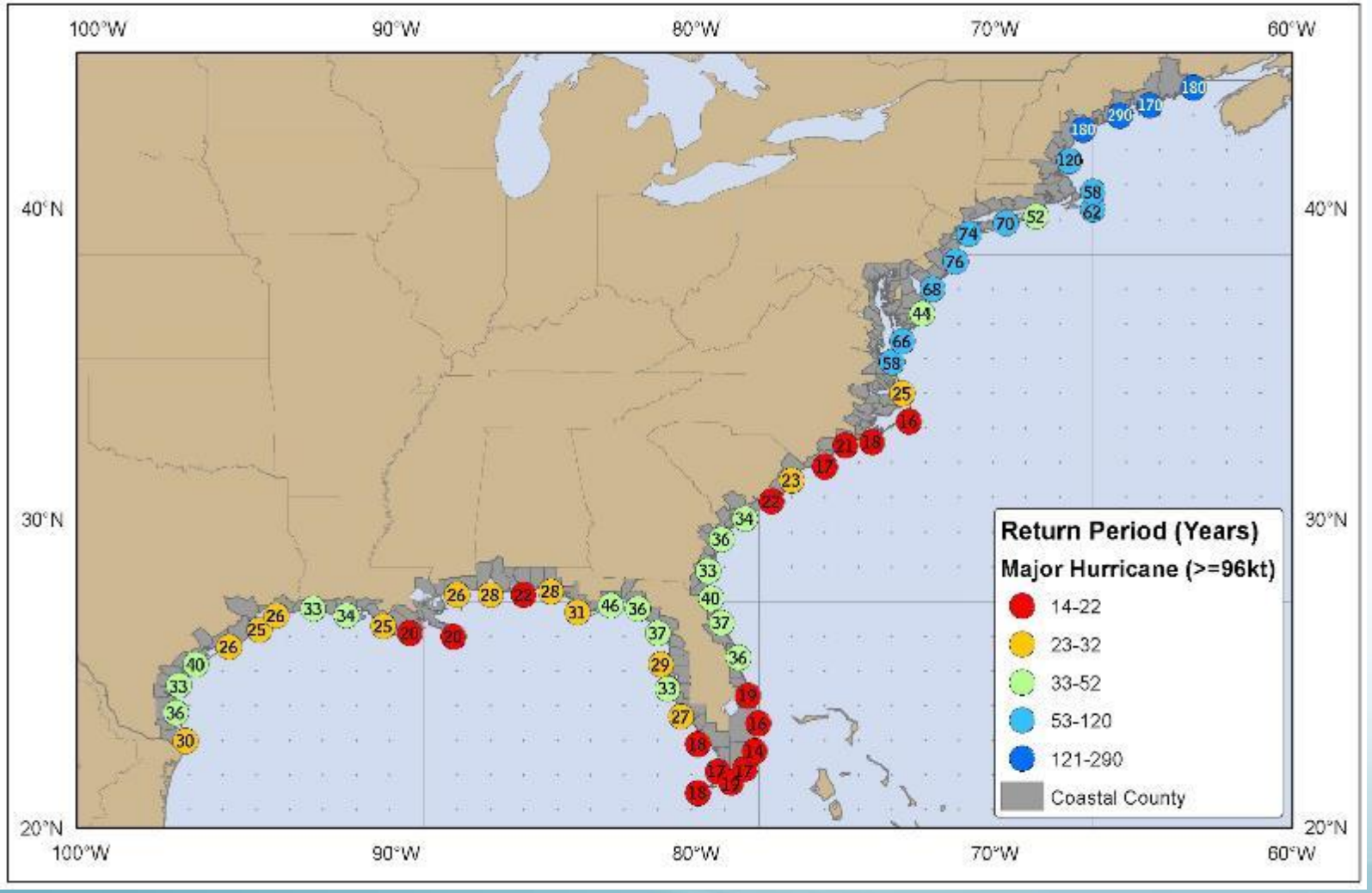
- November- Once again formation in southern Caribbean
- Systems will head northeast out to sea.

How Often Do We Get Hit



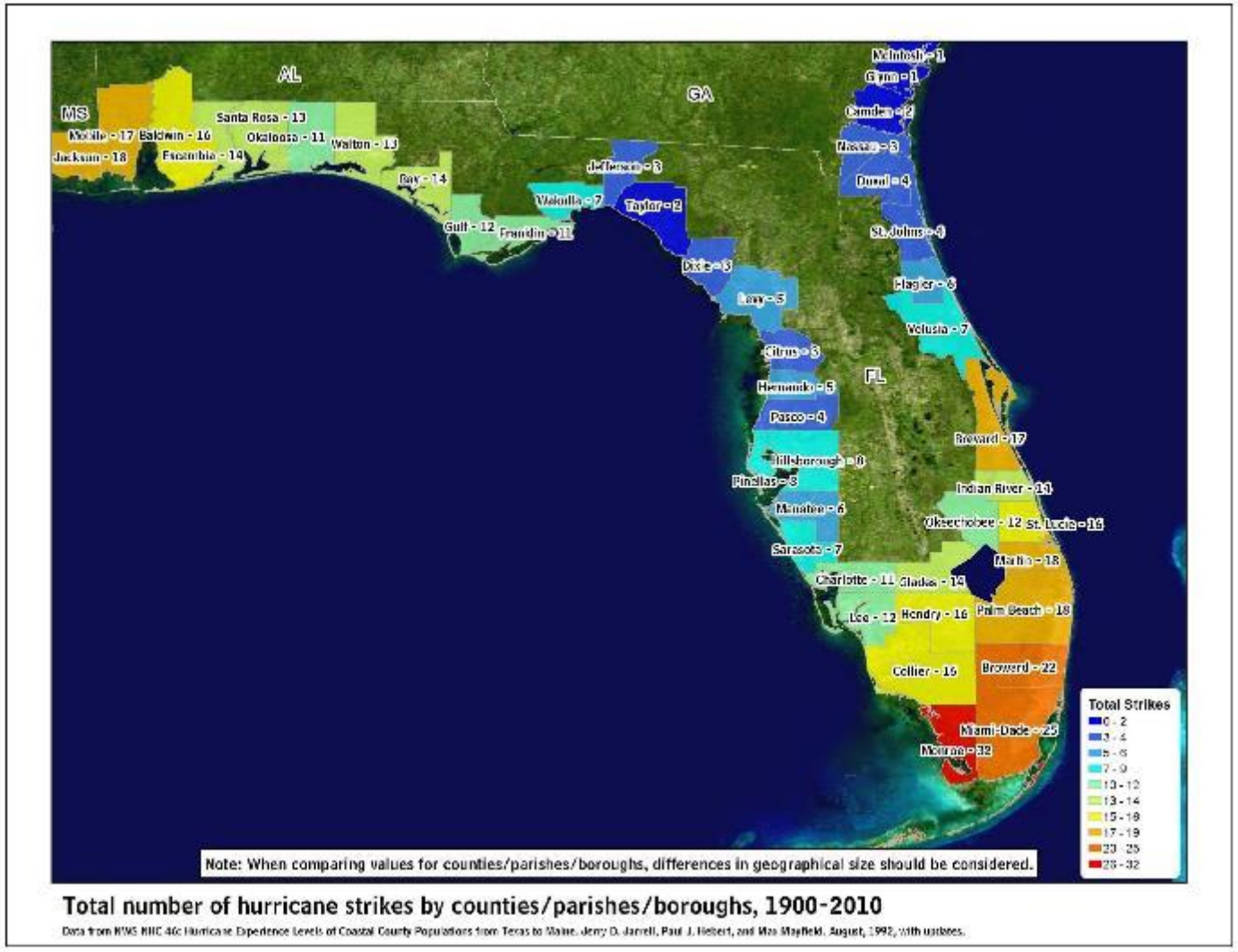
- On average areas on the west coast of Florida get a direct hit from a hurricane every 8 to 10 years

How Often Do We Get By Major Hurricane



- On average areas on the west coast of Florida get a direct hit from a major hurricane every 30 years

Total Number of Strikes from 1900-2010

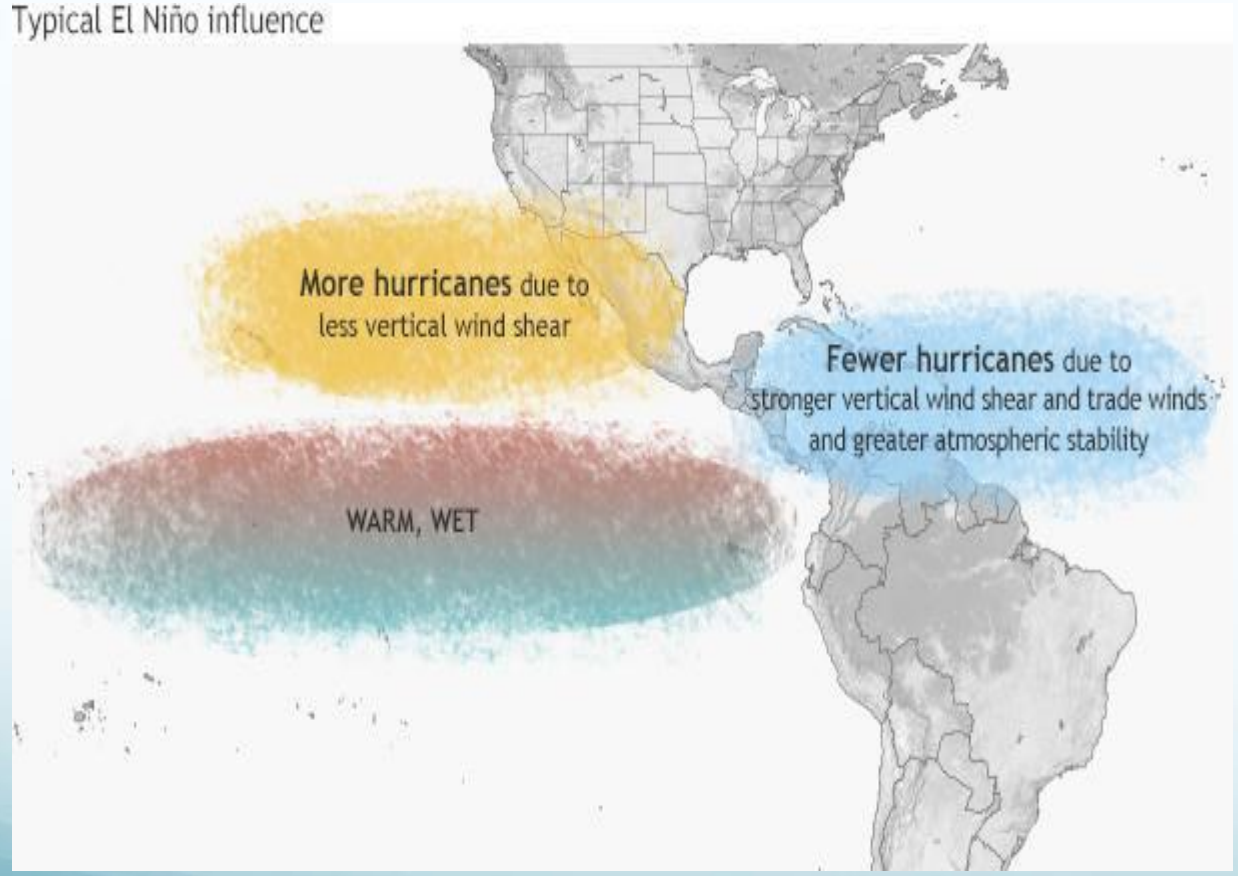


Total number of hurricane strikes by counties/parishes/boroughs, 1900-2010

Data from NWS NHC 40c Hurricane Experience Levels of Coastal County Populations from Texas to Maine. Jerry D. Jarrell, Paul J. Hebert, and Max Mayfield. August, 1992, with updates.

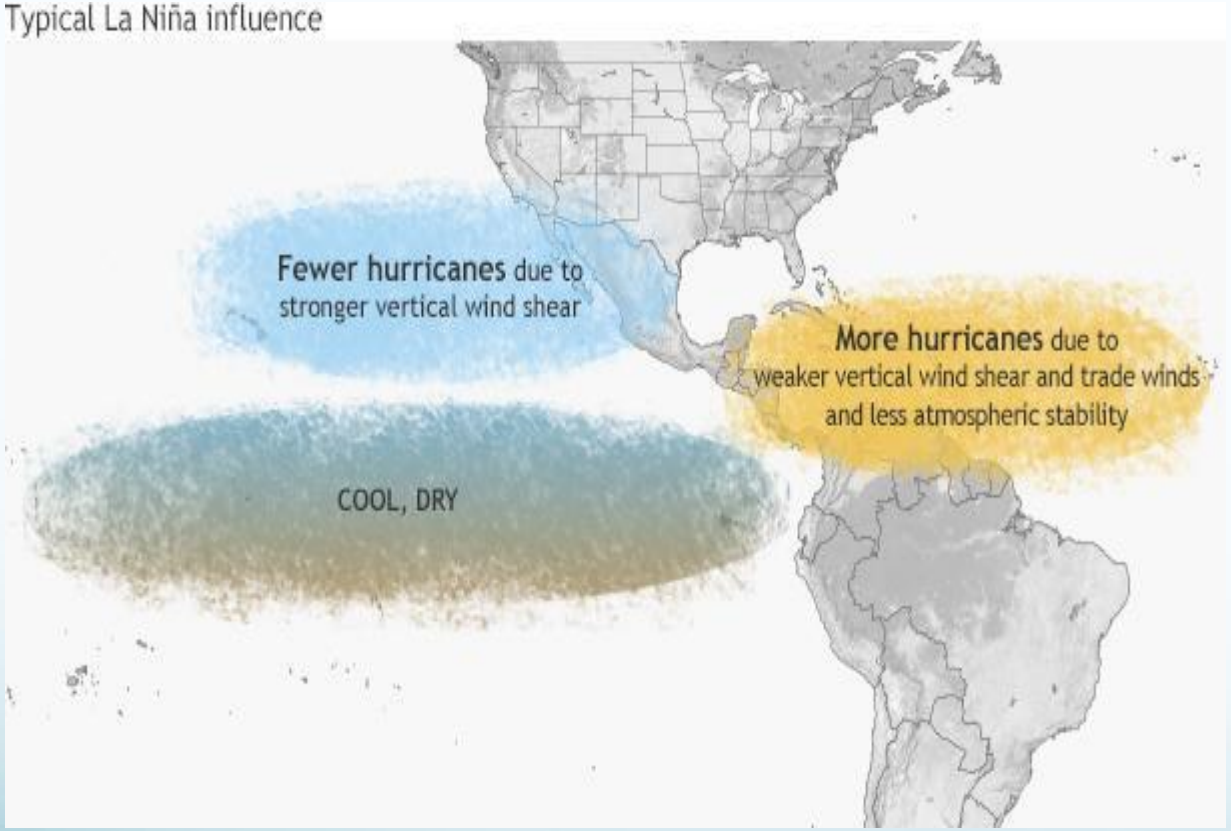
- Southwest Florida has been hit the most in our area.
- The numbers go down as we farther north
- This is due to the shape of the west coast and weather patterns that tend to keep them away.

El Nino and Hurricanes



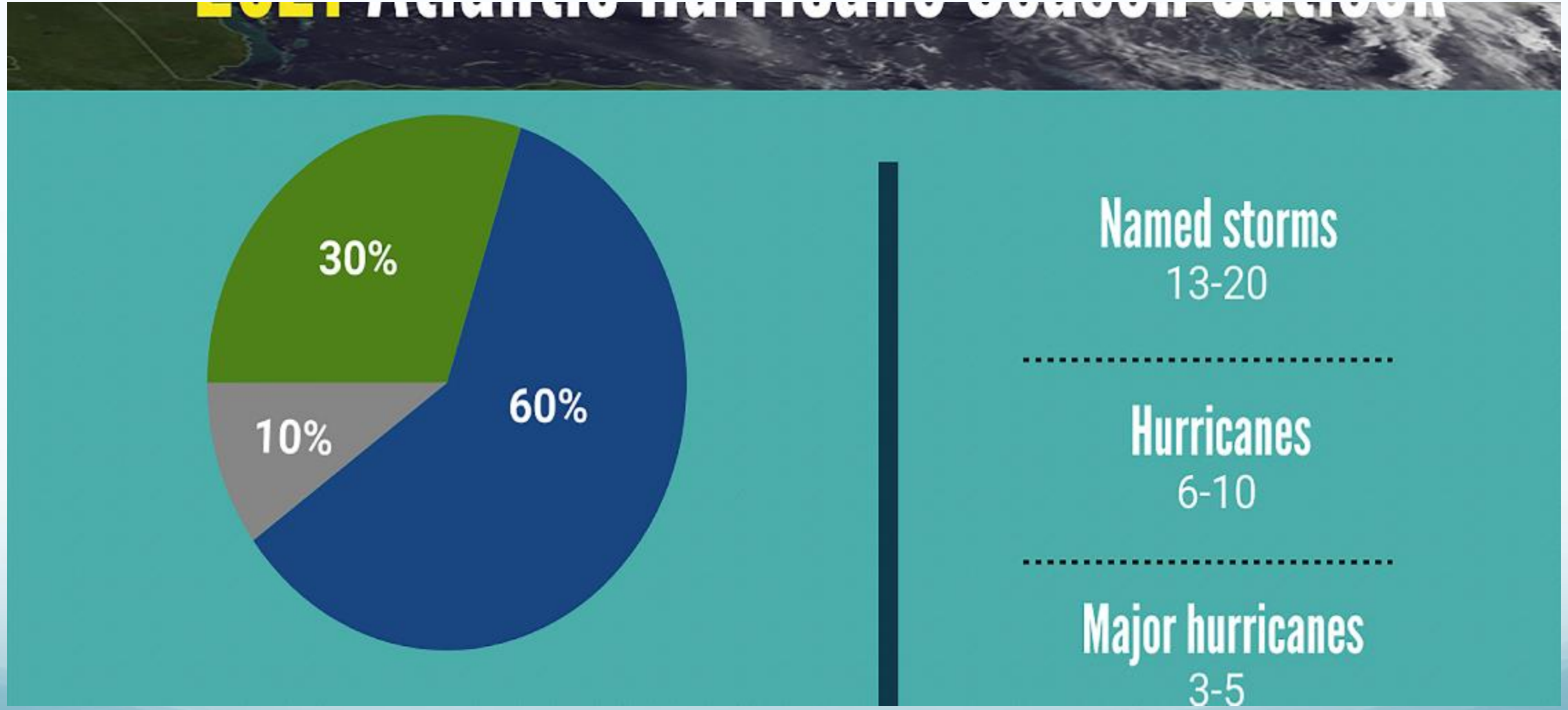
- El Nino means warmer waters along the west coast of the Americas
- Causes stronger vertical wind shear and more atmospheric stability
- This results in few hurricanes

La Nina and Hurricanes

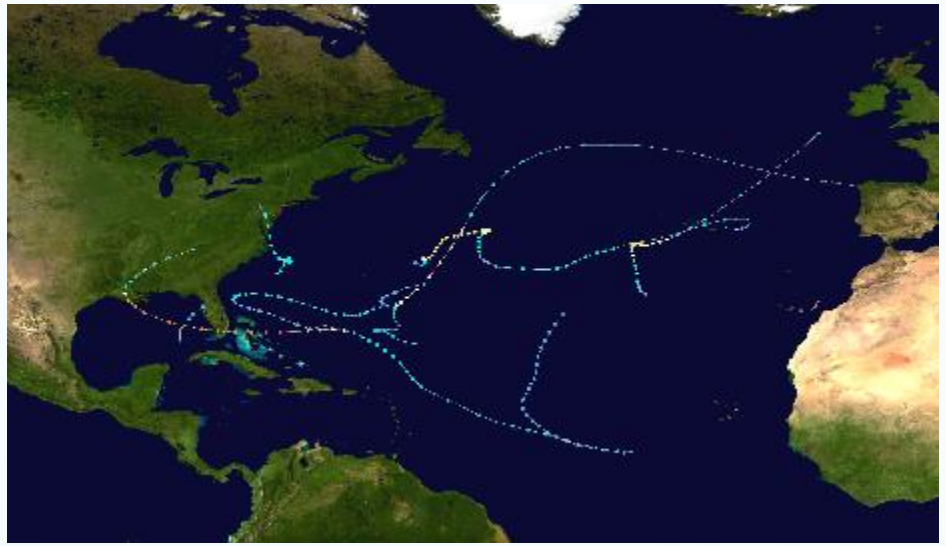


- La Nina pushes warmer water towards Asia
- Causes weaker vertical wind shear and less atmospheric stability
- This results in more hurricanes

Hurricane Season Outlook



Numbers Don’t Matter Because It Only Takes One



- 1992 season well below average
- However, it had Hurricane Andrew the most costliest hurricane at that time

- 2010 season third most active on record
- No landfalling US Hurricane