

# Hurricane Climatology

Presenter: Meteorologist Stephen Shiveley

# Hurricane 30 Year Average Change

## 'Average' Atlantic Hurricane Season \* Effective 2021

**1981-2010**

**12 Named Storms  
6 Hurricanes  
3 Major Hurricanes**



**1991-2020**

**14 Named Storms  
7 Hurricanes  
3 Major Hurricanes**

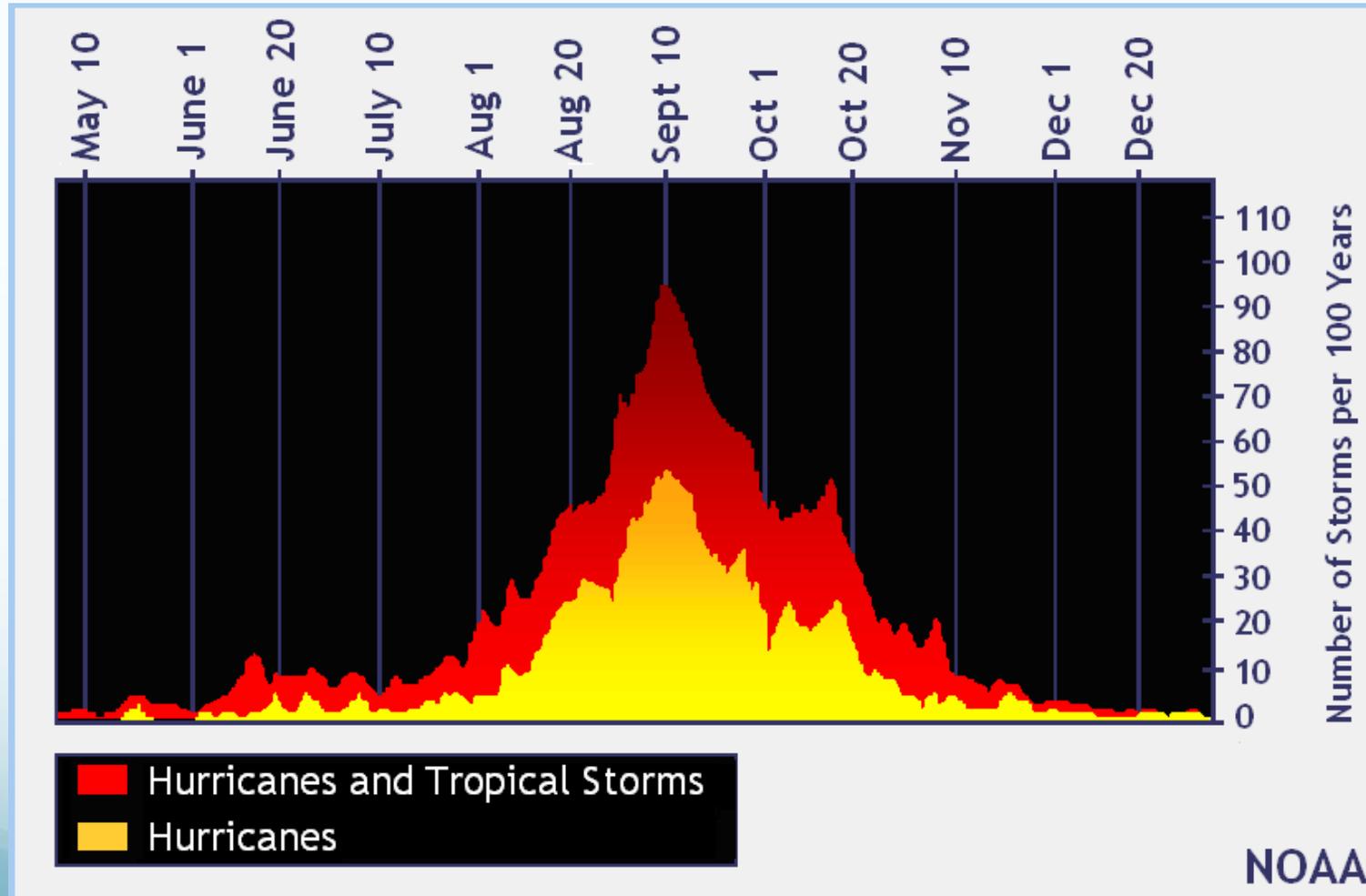
\* Numbers for an average season reflect the climate record for tropical storms and hurricanes and use the most recent 3 decades as the period of reference. More at: <http://bit.ly/NOAAHurricaneSeasonAverages>



# Why The Change

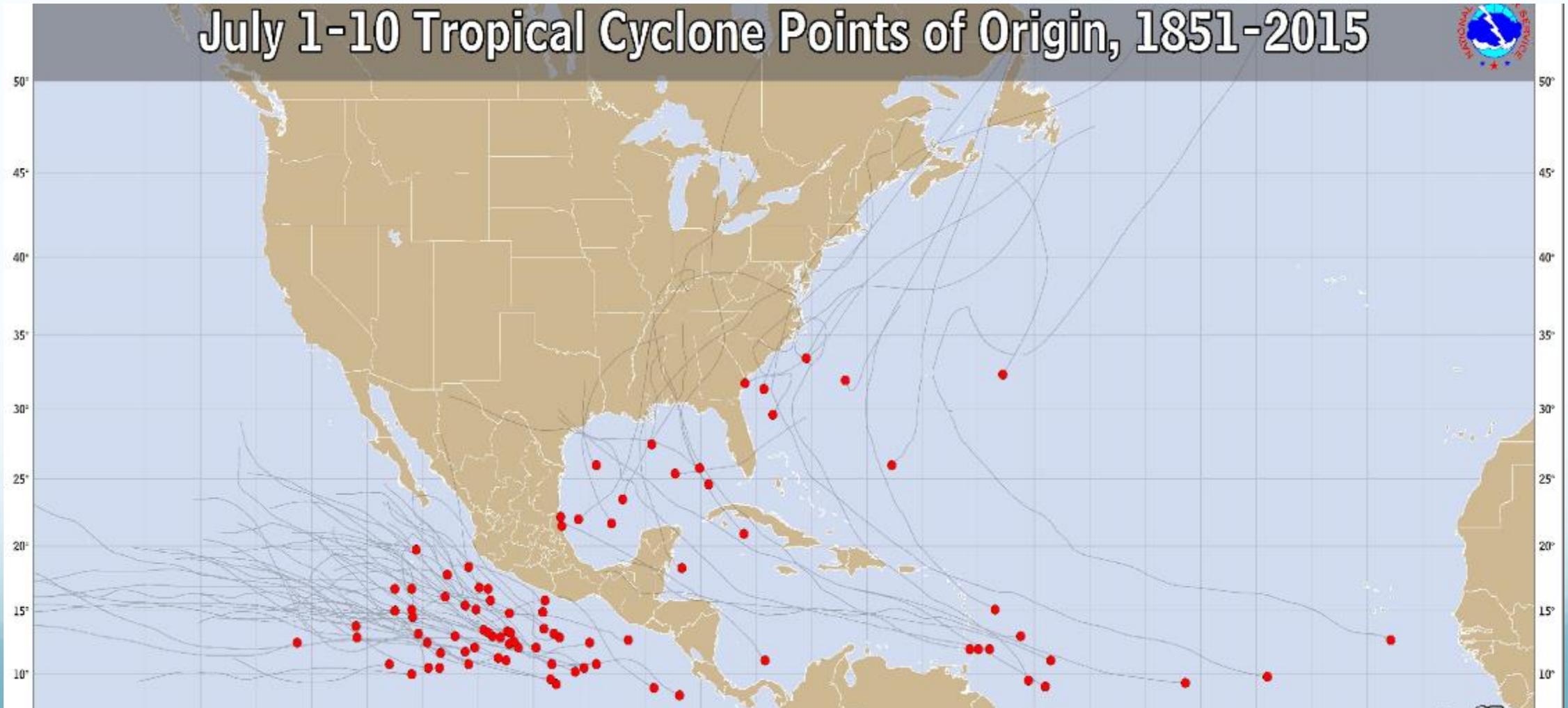
- Overall improvement in observing platforms including next gen environmental satellites and continued hurricane reconnaissance.
- May also be due to warming ocean and atmosphere which are influenced by climate change.

# Hurricane climatology

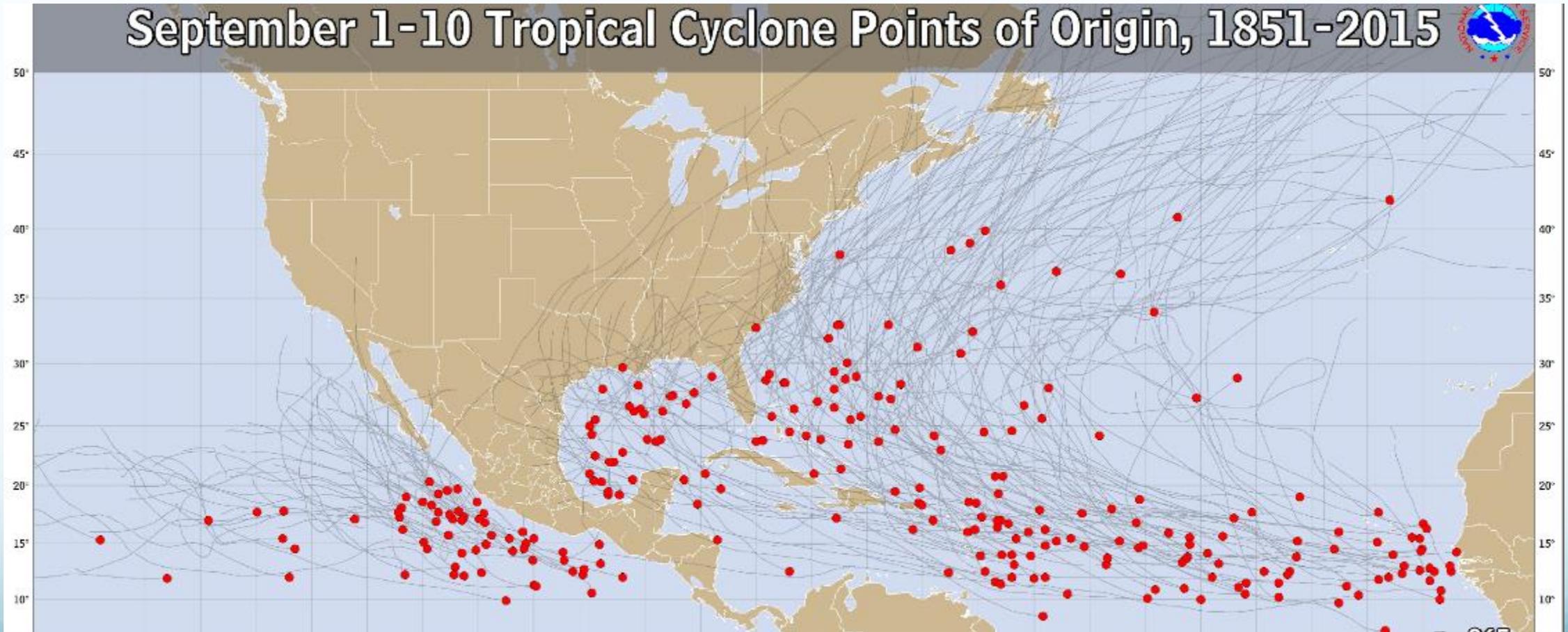


- Peak Season Sept 10<sup>th</sup>
- Secondary Peak in mid Oct
- However hurricanes can form anytime during (or even outside) of Hurricane season

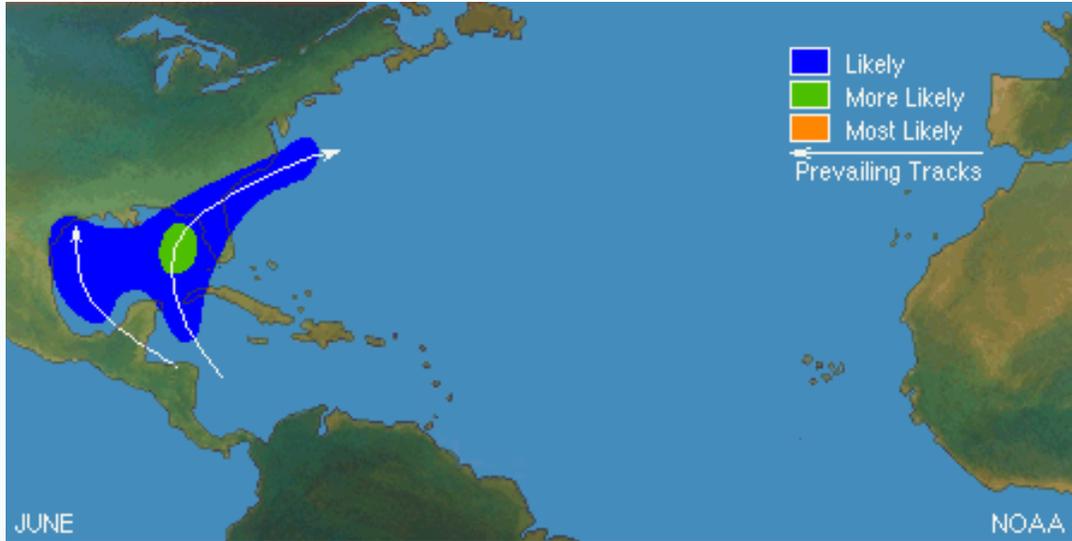
# Tropical tracks July 1<sup>st</sup>-July 10<sup>th</sup>



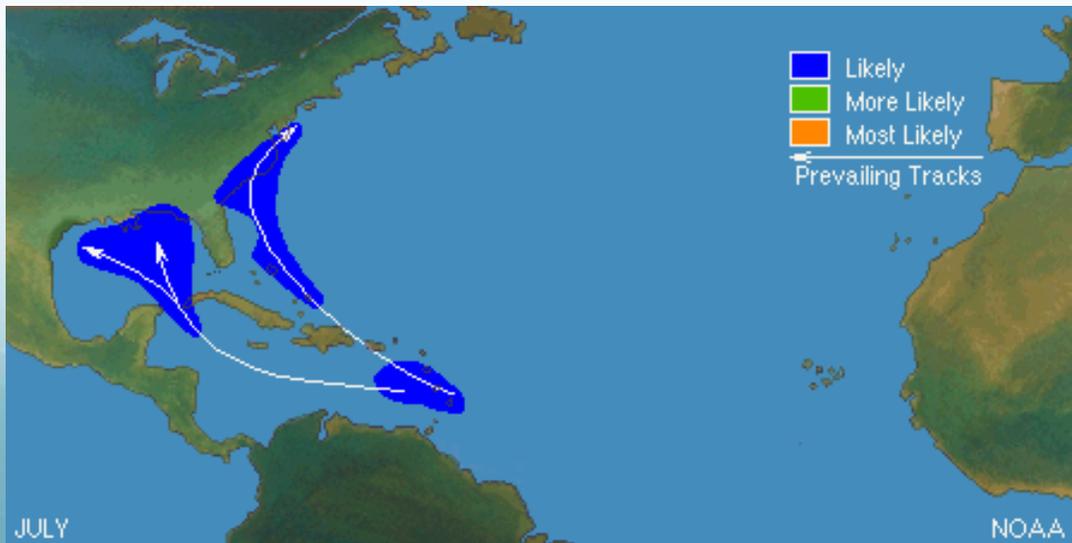
# Tropical Tracks Sept 1<sup>st</sup>-sept 10<sup>th</sup>



# Early Season Origins and Tracks

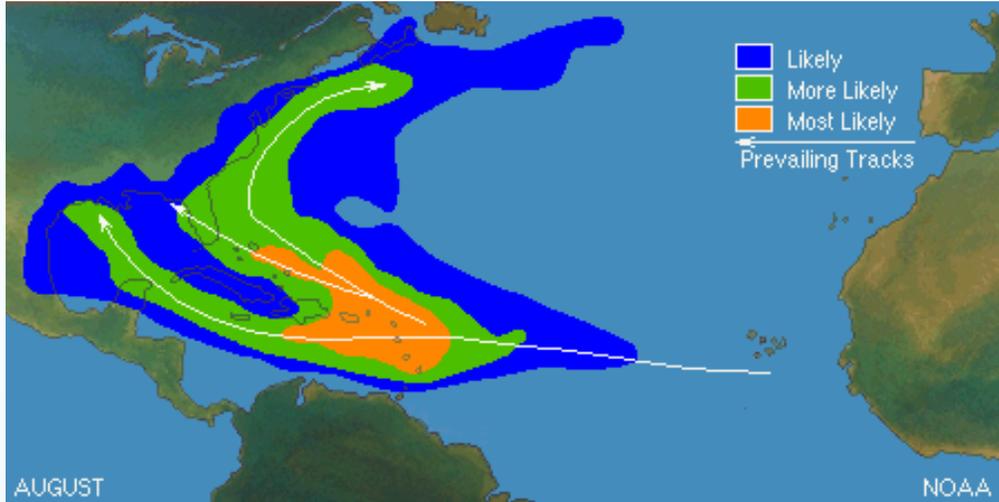


- June- Formation tends to happen in the southern Caribbean Sea and head north.
- Tends to produce our “sloppy” hybrid tropical system

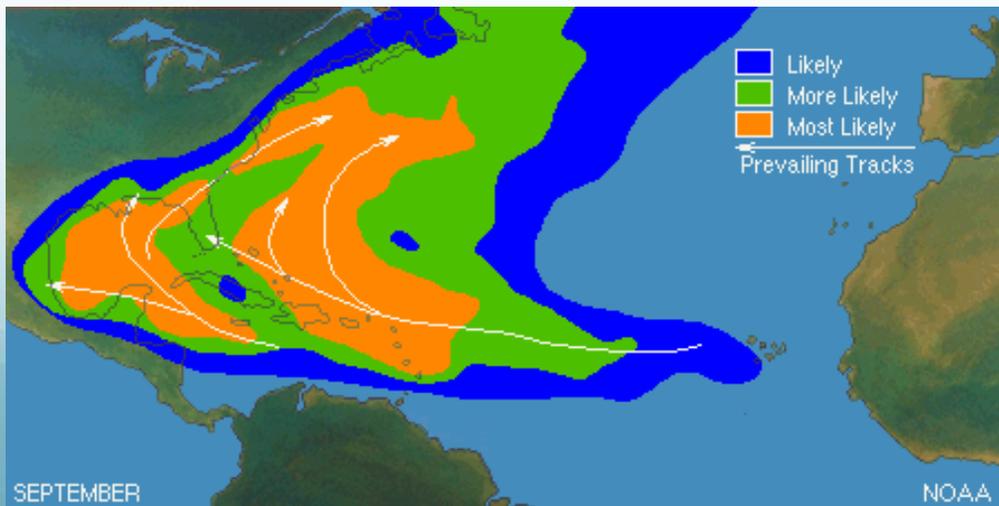


- July- Formation tends to be near the Lesser Antilles
- Once formed they normal head either in the Gulf or along the Atlantic Coast

# Peak Season Origins and Tracks

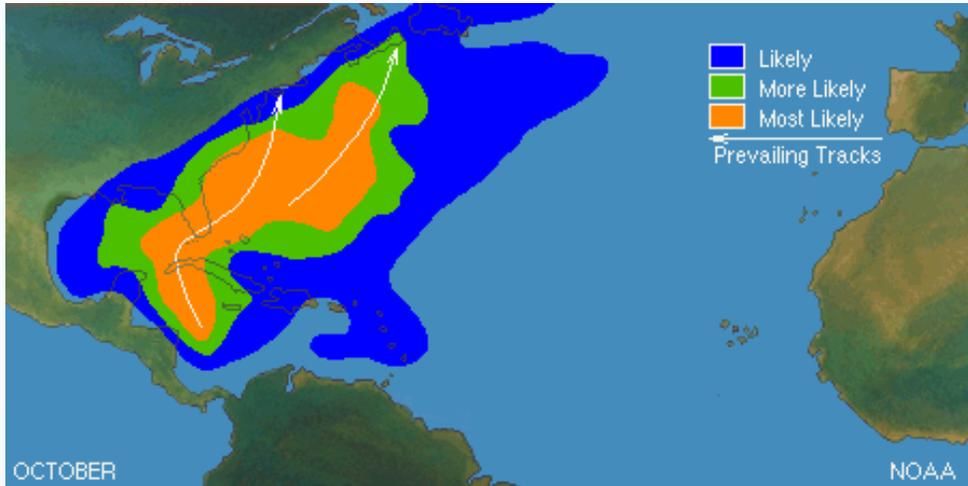


- August- Formation typical happens off the African Coast Line
- Systems tend to move across westerly across Atlantic before turning north. The big question is always WHEN will they turn north

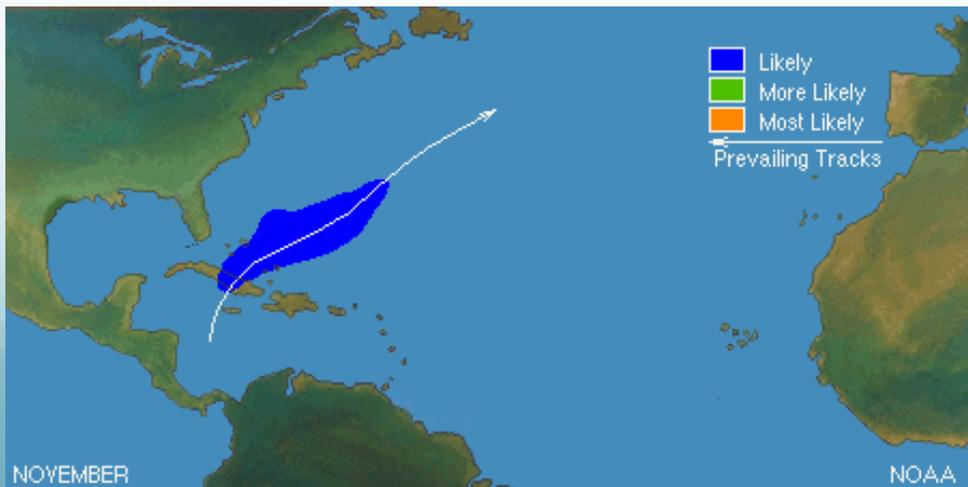


- September- Formation off the African Coast or in southern Caribbean.
- Most likely area to hit is pretty much anywhere there is a coastline.

# Late Season Origins and Tracks

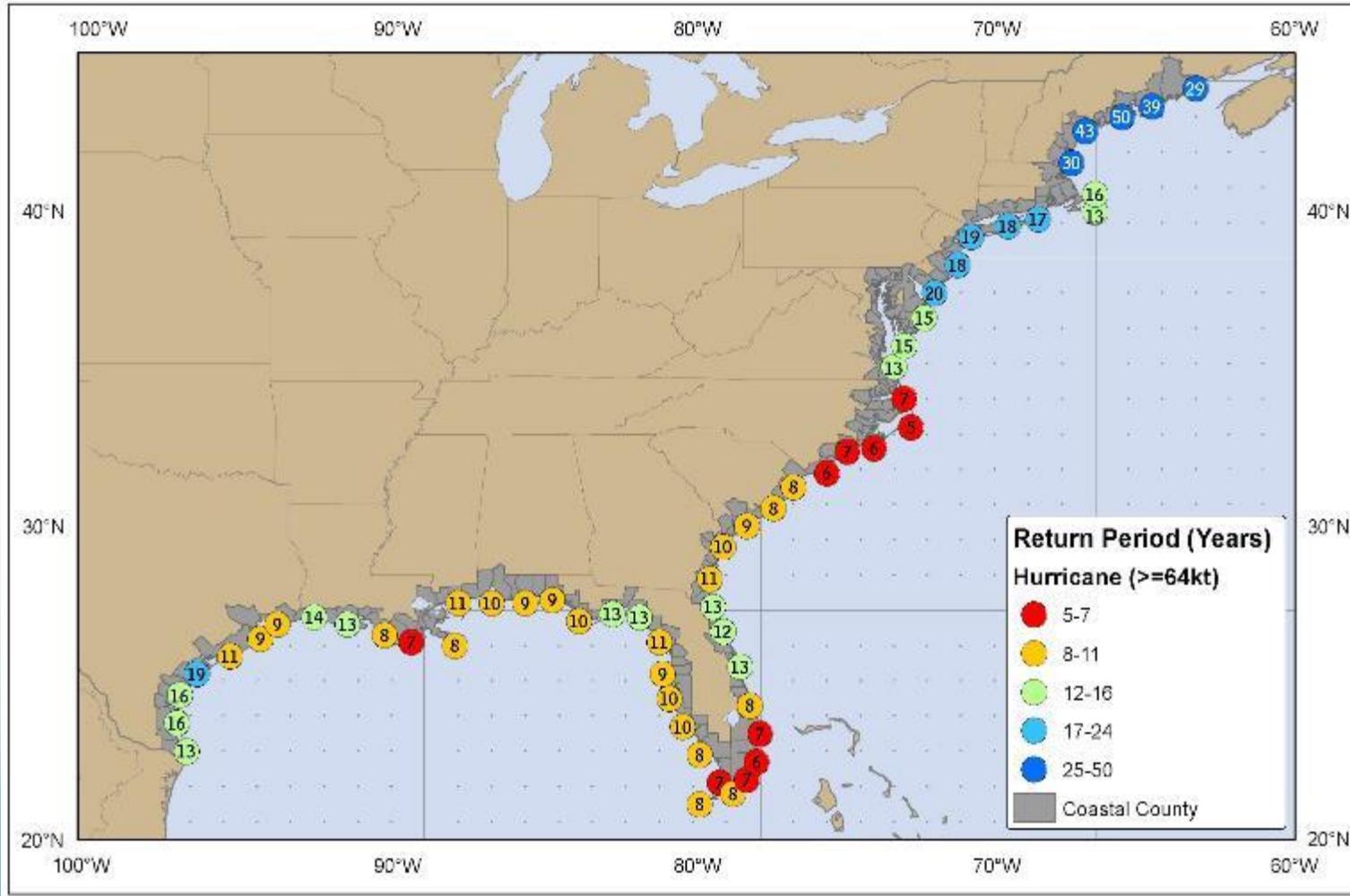


- October- Formation typical happens in southern Caribbean
- Systems will head north and tend to head in a north to northeasterly direction



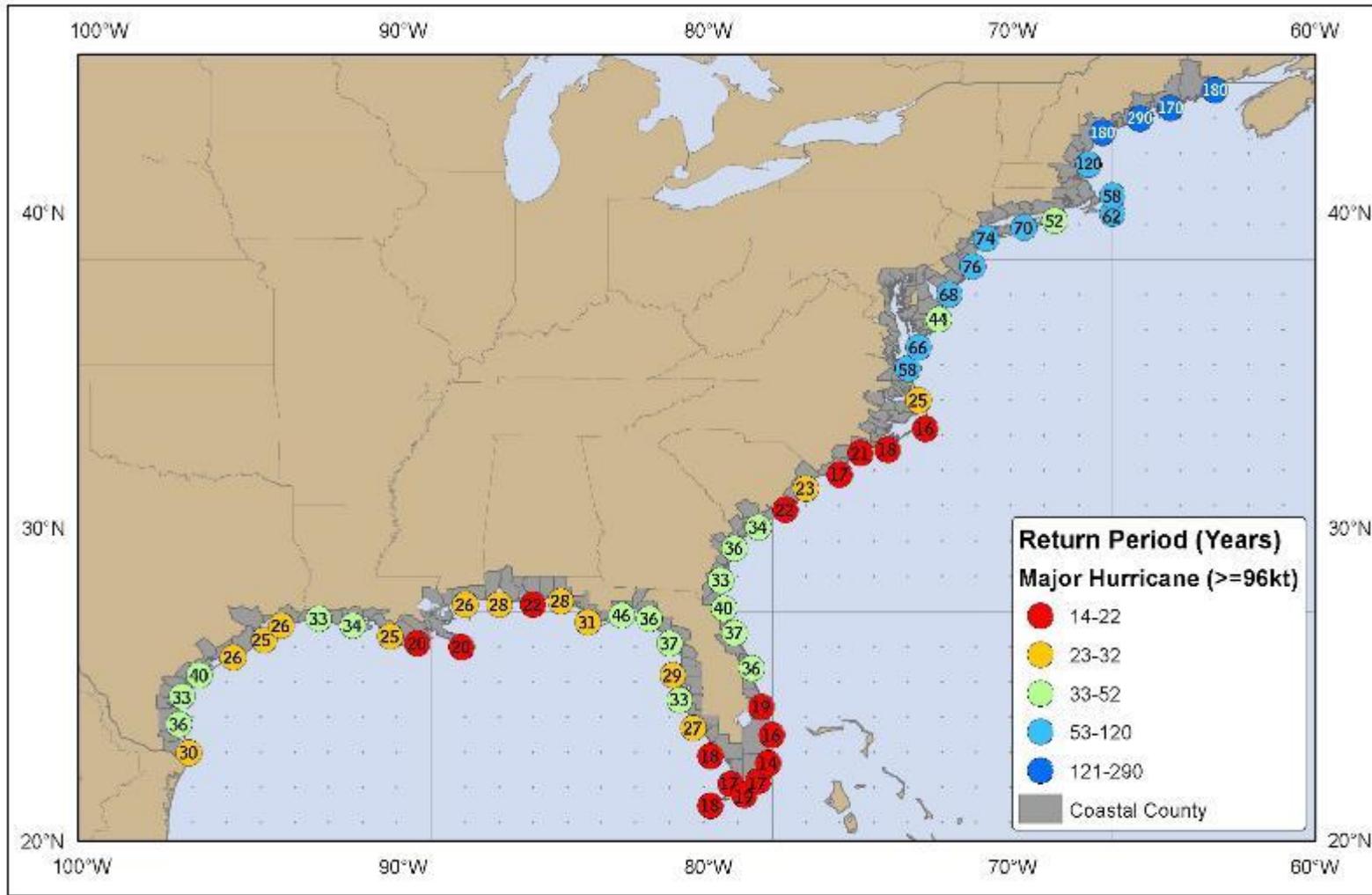
- November- Once again formation in southern Caribbean
- Systems will head northeast out to sea.

# How Often Do We Get Hit



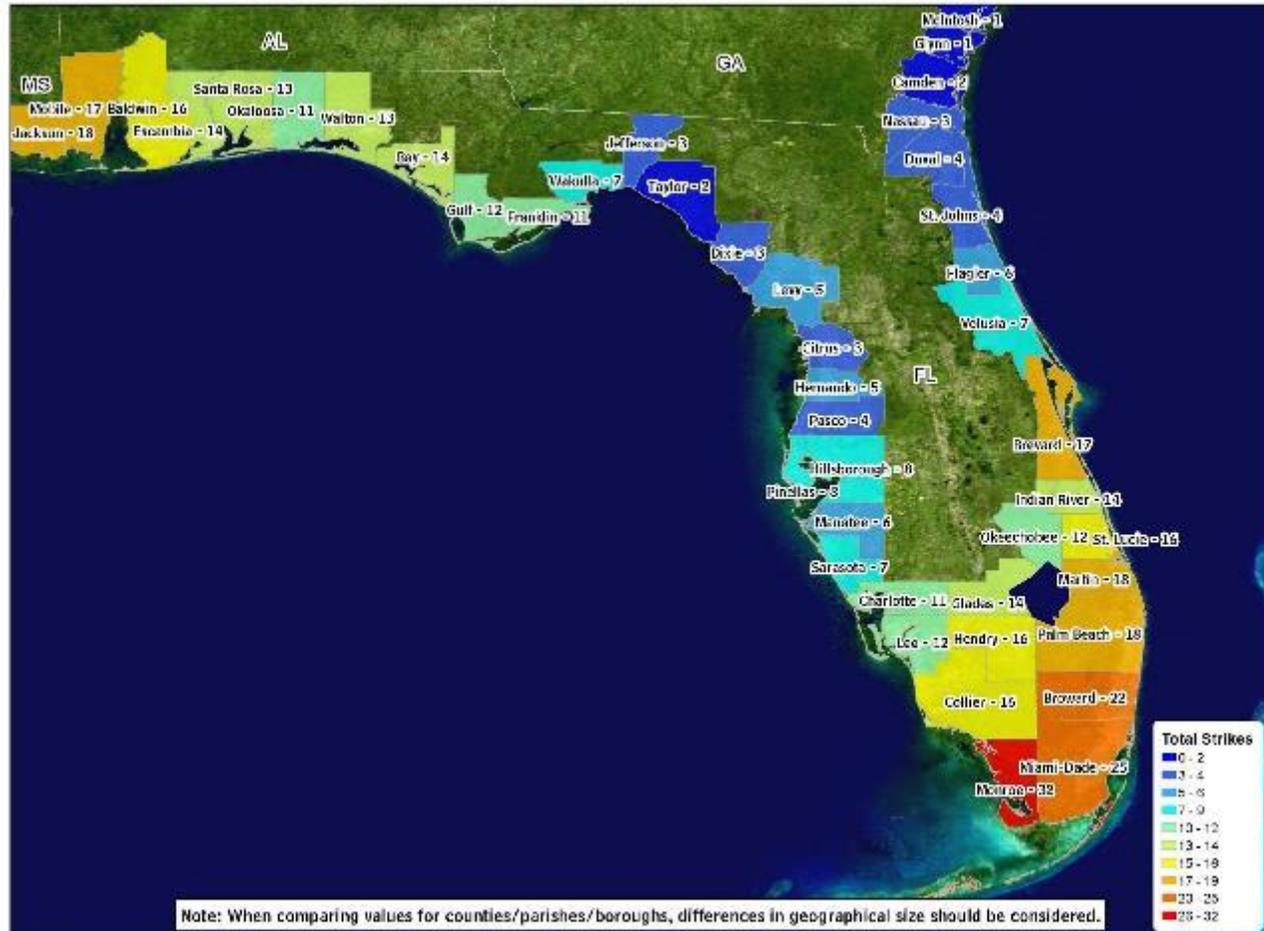
- On average areas on the west coast of Florida get a direct hit from a hurricane every 8 to 10 years

# 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

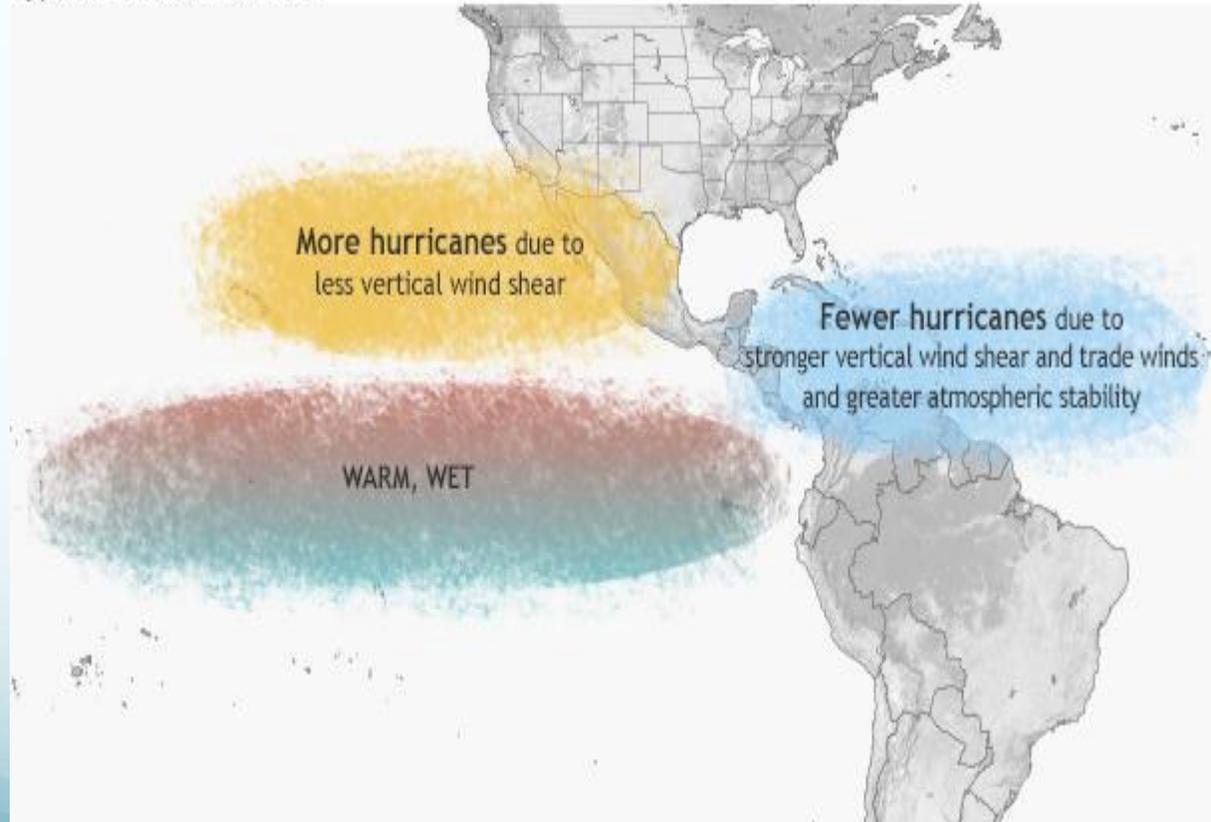


Total number of hurricane strikes by counties/parishes/boroughs, 1900-2010  
Data from NWS NHC 40c Hurricane Experience Levels of Coastal County Populations from Texas to Maine, Jerry D. Jarrell, Paul J. Hebert, and Max Mayfield, August, 1992, with updates.

- 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 Niño and Hurricanes

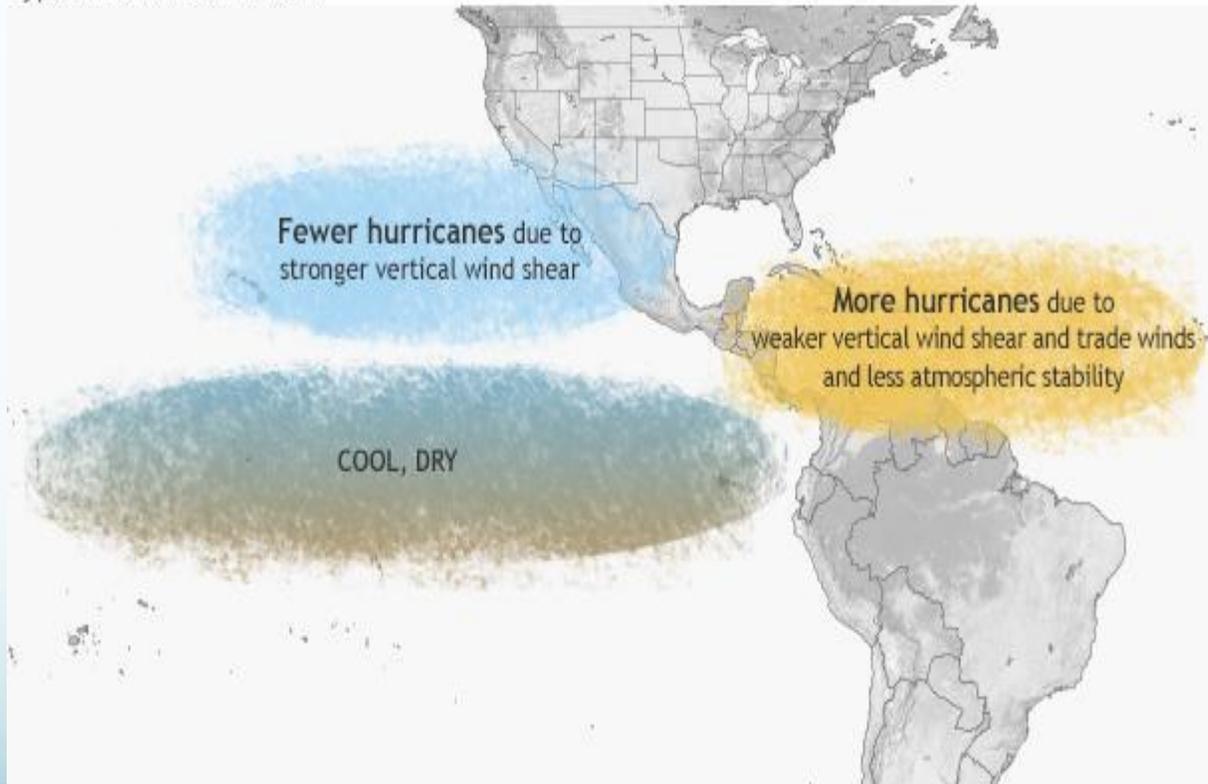
Typical El Niño influence



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

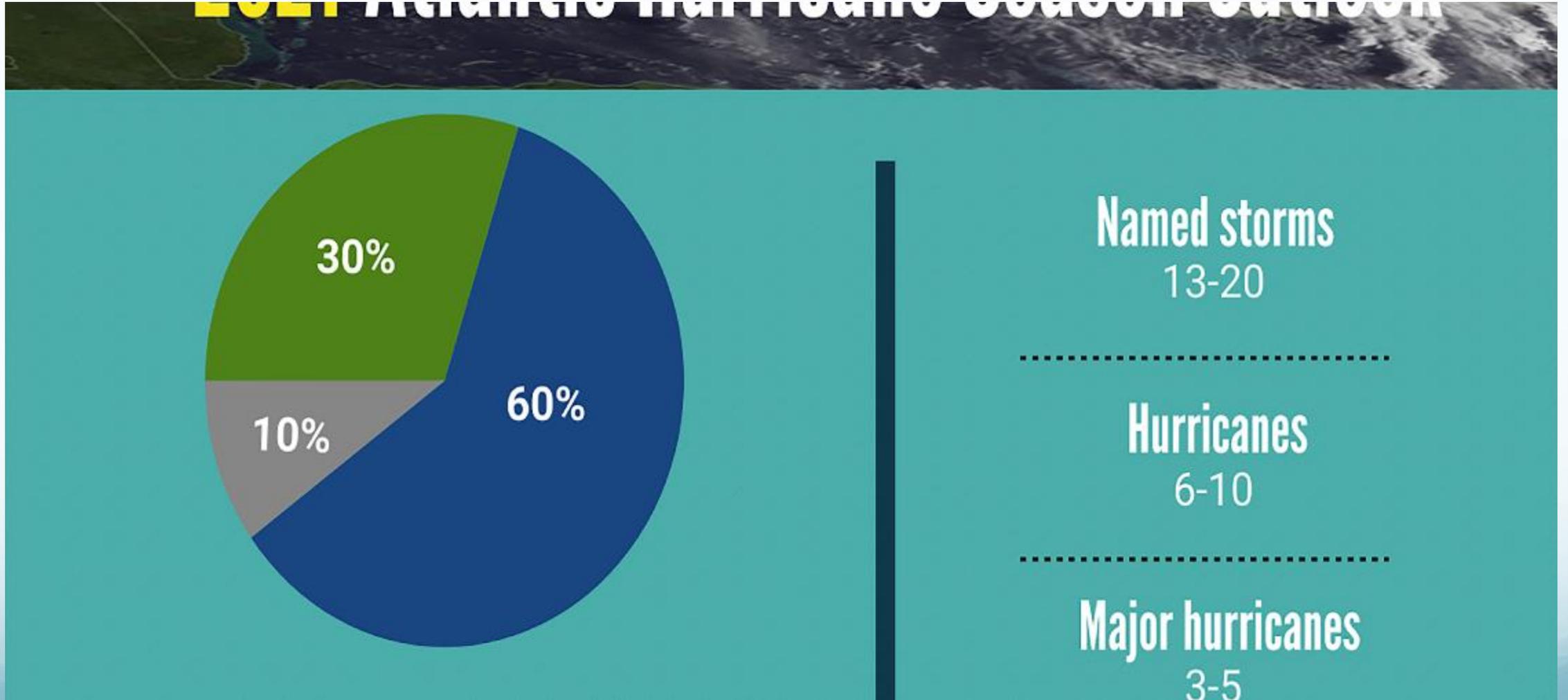
# La Nina and Hurricanes

Typical La Niña influence



- 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