NOAA Updated 2018 Hurricane Season Outlook

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Collaboration With

National Hurricane Center/ NOAA/ NWS/ NCEP

Hurricane Research Division/ NOAA/ OAR/ AOML/ HRD

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Web Links

Atlantic Hurricane Outlook

Outlook press release
http://www.noaa.gov/media-release/noaa-forecasters-lower-atlantic-hurricane-season-prediction

Outlook technical write-up and analyses
www.cpc.ncep.noaa.gov/products/hurricane

El Niño/ La Niña

Weekly update of tropical Pacific conditions:
http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf

Tutorial (Technical):
http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/ensocycle/enso_cycle.shtml

Monthly Discussion/ Forecast
http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/

Outline

1. Historical Atlantic storm tracks and counts
2. Updated 2018 Atlantic hurricane season outlook
3. Factors behind the 2018 hurricane outlook
4. Summary

Historical Atlantic Storm Tracks

Atlantic Basin
Storm Tracks 1980-2005

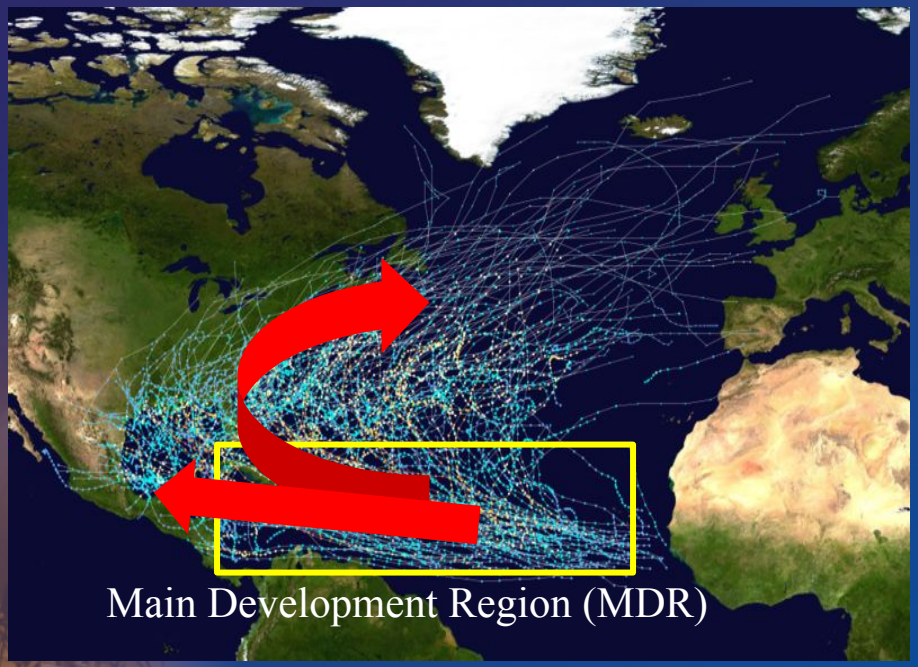


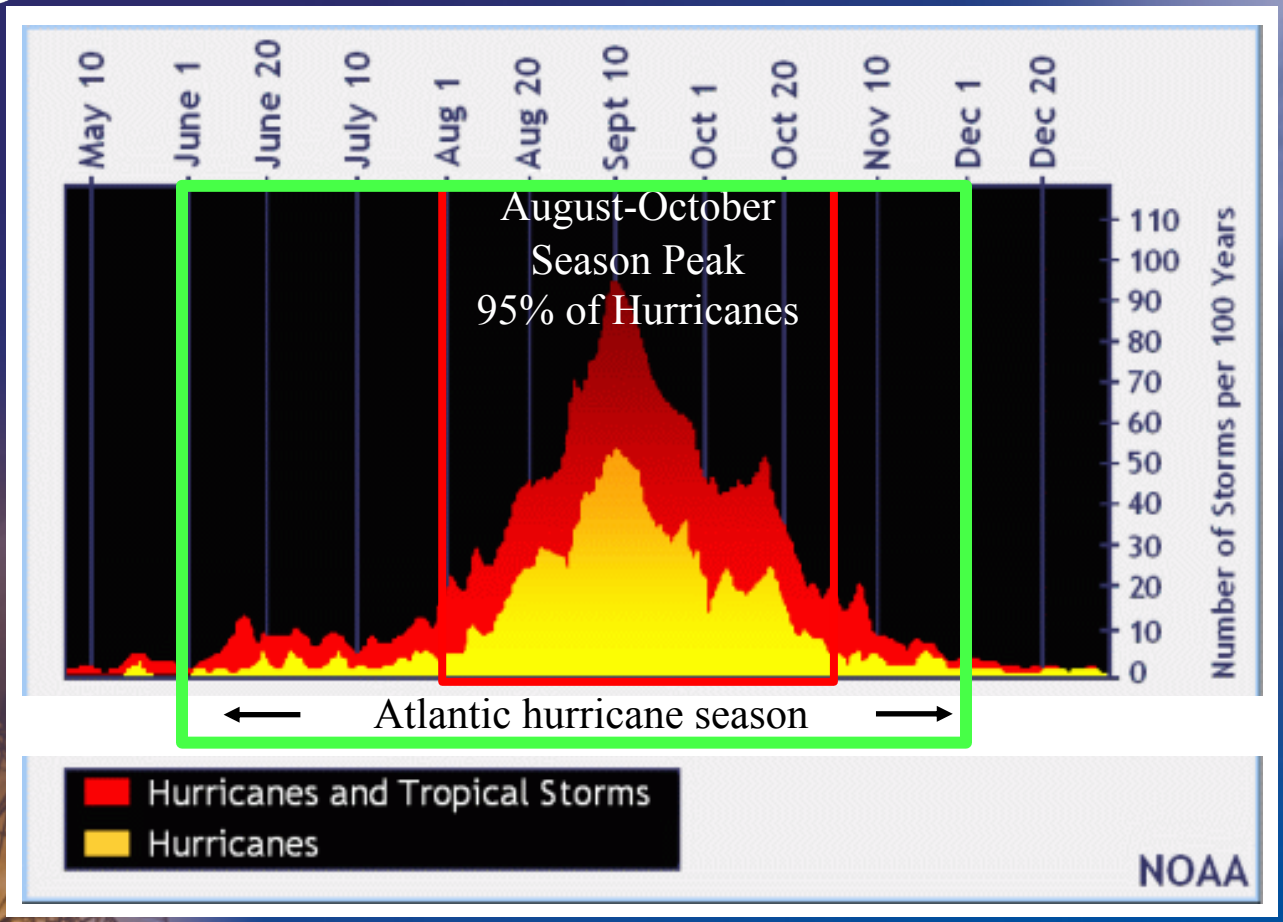
Figure Courtesy of Wikipedia

The activity in the Main Development Region (MDR) determines the strength of the hurricane season.

NOAA's seasonal outlooks are based on predicting conditions within the MDR.

During above-normal seasons, storms typically have longer westward storm tracks, which means an increased threat of landfall.

Historical Atlantic Storm Counts



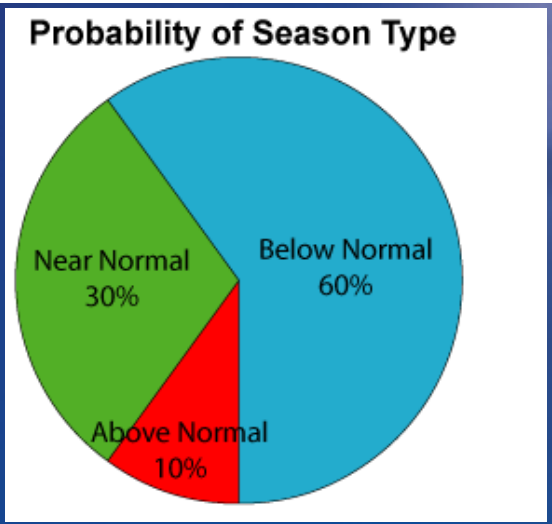
Average Season:
12 Named Storms
6 Hurricanes
2-3 Major Hurricanes

NOAA updates its Atlantic hurricane season outlook in early August, to coincide with peak months (August-October) of the hurricane season.

NOAA's Updated 2018 Atlantic Hurricane Season Outlook

NOAA forecasters lower Atlantic hurricane season prediction

Expect a below-normal or near-normal Atlantic hurricane season

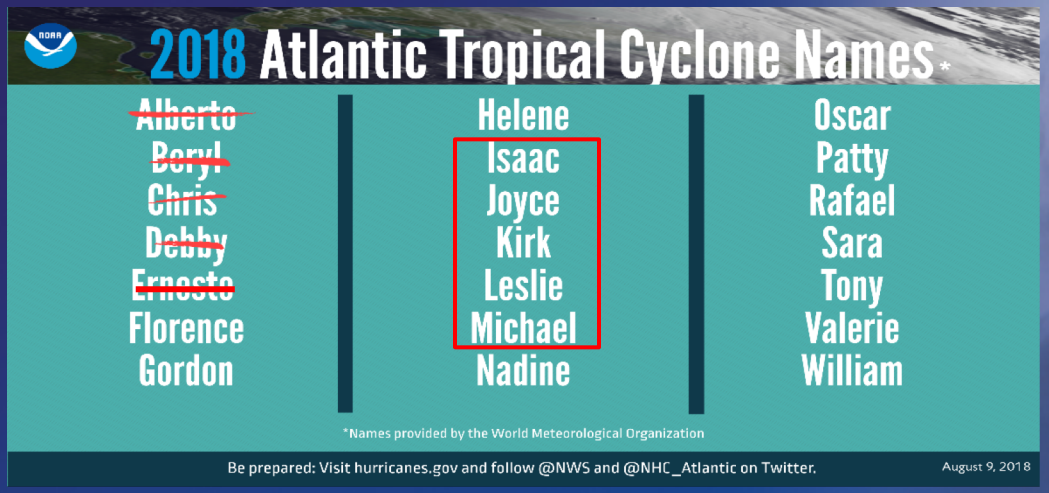


Expect much less activity than last year

Outlook is for the overall seasonal activity. It is not a landfall forecast.

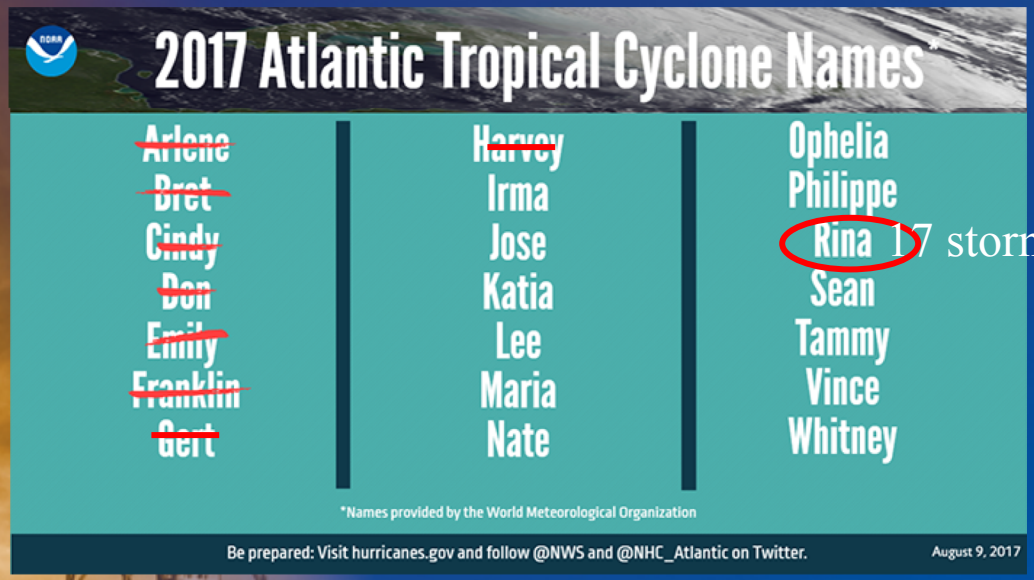
Activity	August 2018 Outlook	May 2018 Outlook	Last Year Observed
Named Storms	9-13	10-16	17
Hurricanes	4-7	5-9	10
Major Hurricanes	0-2	1-4	6

Storm Names



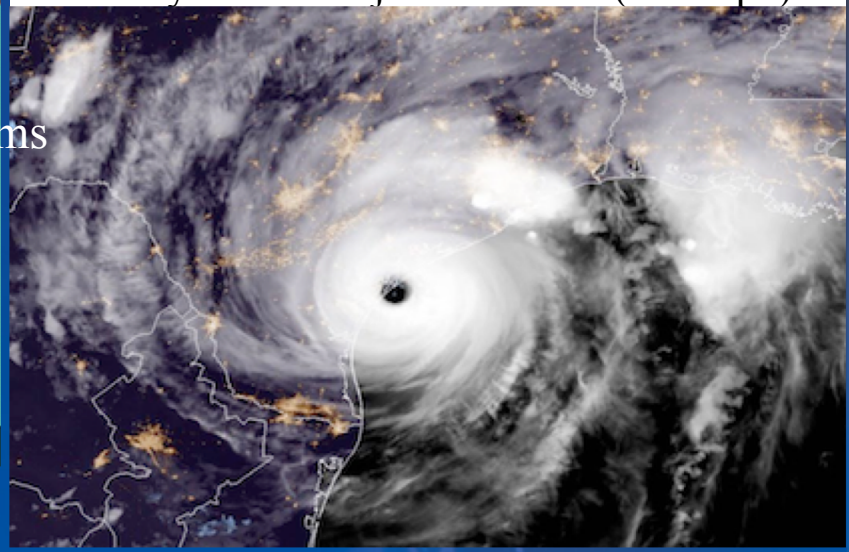
9-13 Named Storms Predicted (Isaac through Michael)

Already had 5 storms to date.



17 storms

Last Year: August 26th, 2017
Harvey: Cat-4 Major Hurricane (130 mph)



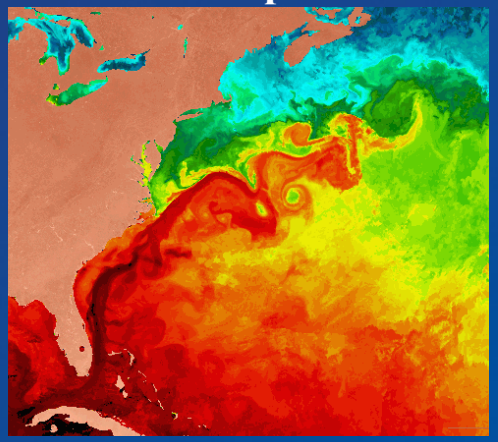
Factors Behind the 2018 Hurricane Outlook

Hurricanes are ultimately a weather phenomena. **However**, the regional conditions within the MDR (which largely control the number, strength, and duration of hurricanes) often last for months or seasons at a time, and have strong climate links.

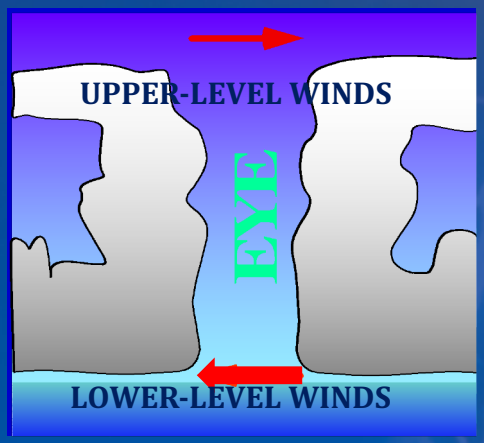
So, by predicting the hurricane-controlling conditions, we can often predict the strength of the hurricane season.

Some Conditions That Control Hurricanes

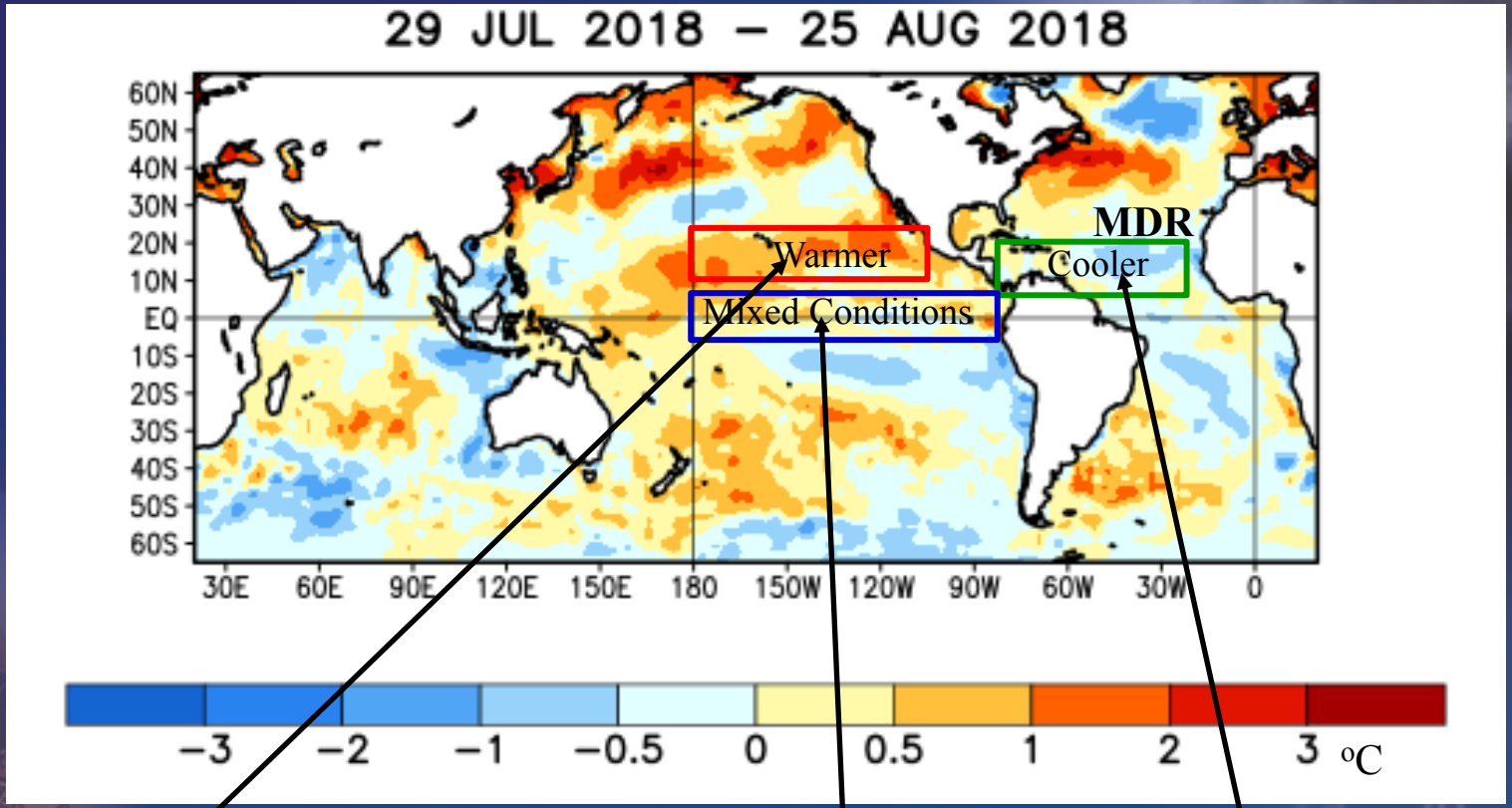
Atlantic and Pacific Ocean Temperatures



Wind Shear



Recent Ocean Surface Temperature Anomalies (°C)



Warmer central and eastern Pacific favors more, stronger, and longer-lived hurricanes in those areas.

- Currently no El Niño or La Niña.
- El Niño likely to develop and suppress Atlantic hurricane season.

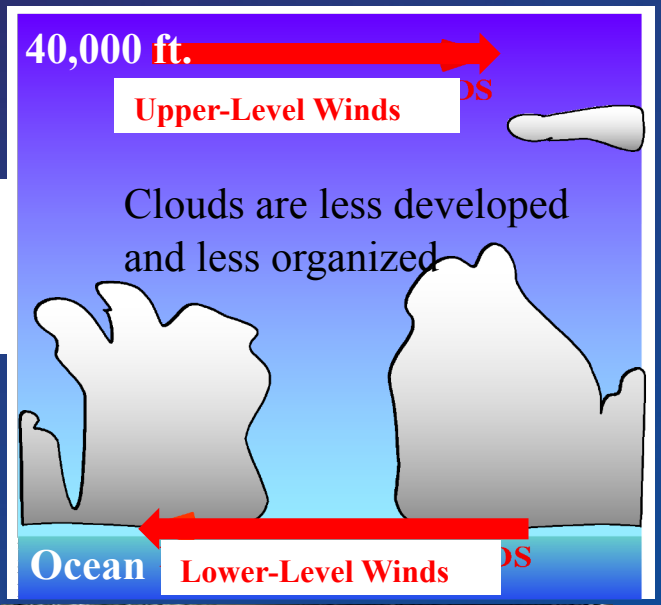
Cooler in MDR: suppresses hurricane activity

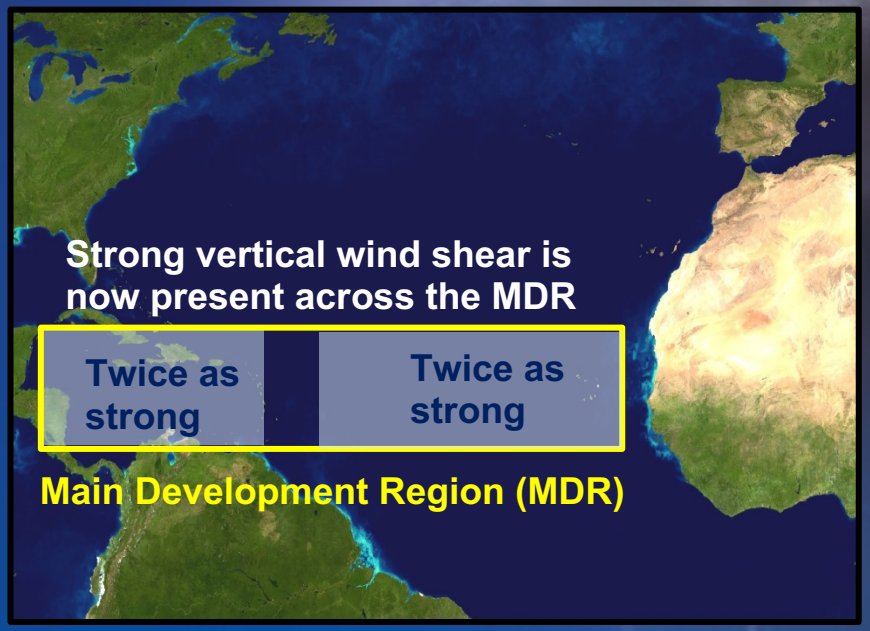
Stronger Vertical Wind Shear is Predicted

Vertical wind shear refers to the change in wind speed and direction going up through the atmosphere.

Strong wind shear (large change in winds) prevents/ weakens/ destroys storms

Look sideways through storm clouds





Look down on storm clouds

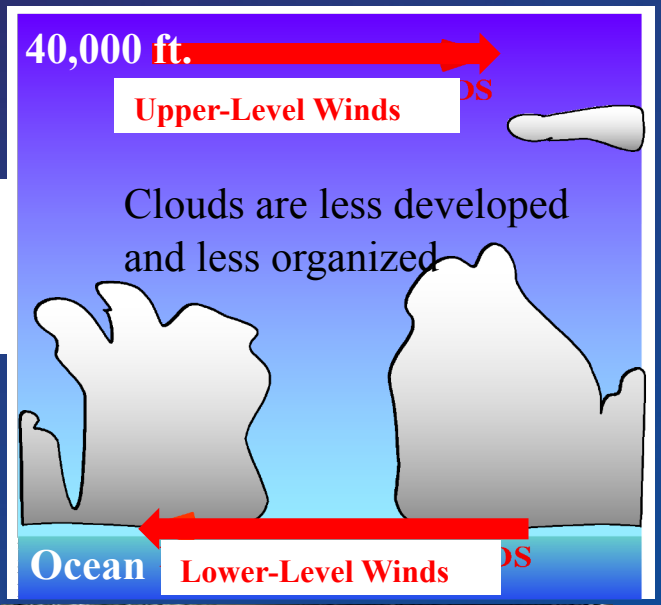
Lower clouds and circulation

Upper clouds

Wind Shear Now Compared to Last Year

This Year

Strong shear prevents/ weakens/ destroys storms



Look sideways through storm clouds

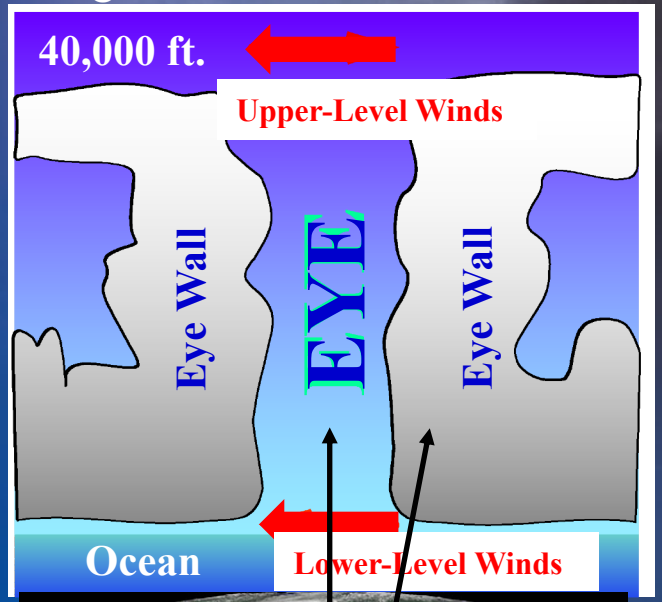
Look down on storm clouds

Lower clouds and circulation

Upper clouds

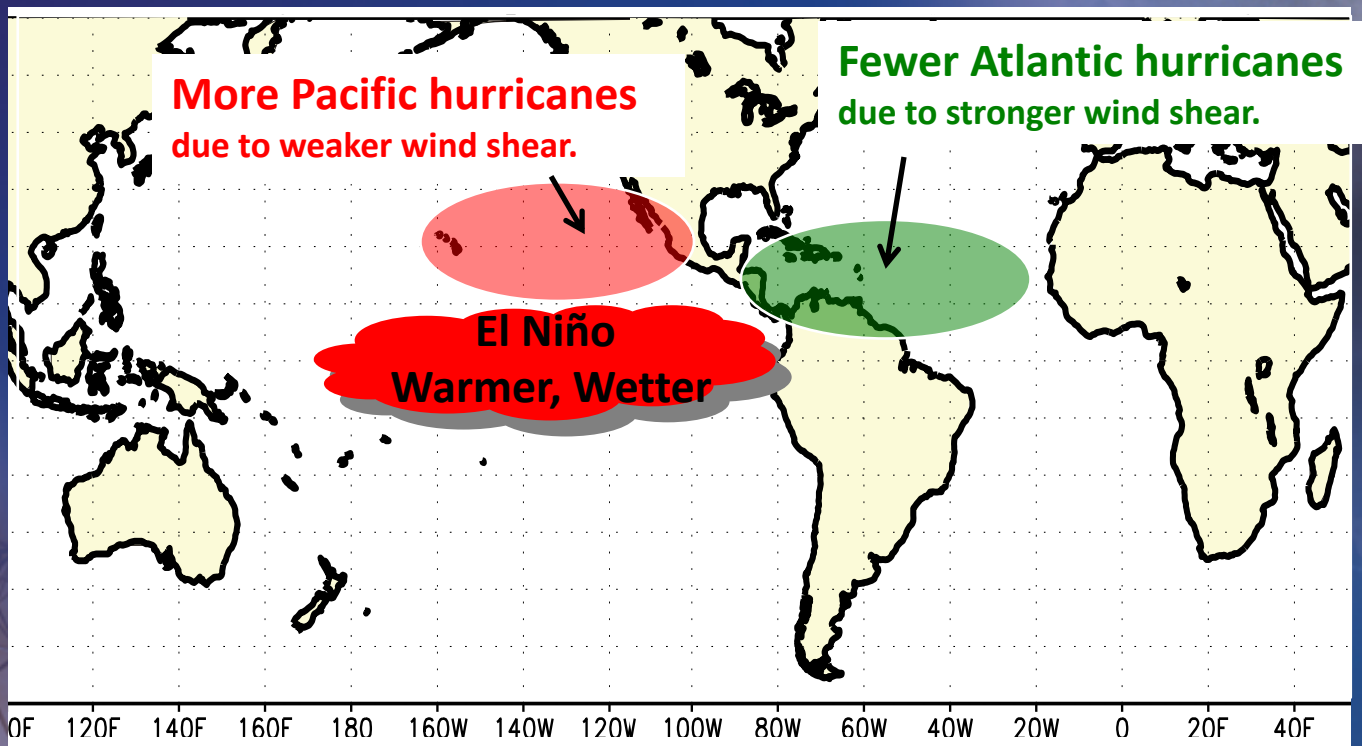
Last Year

Weak shear (little change in wind) favored many strong, long-lived hurricanes.



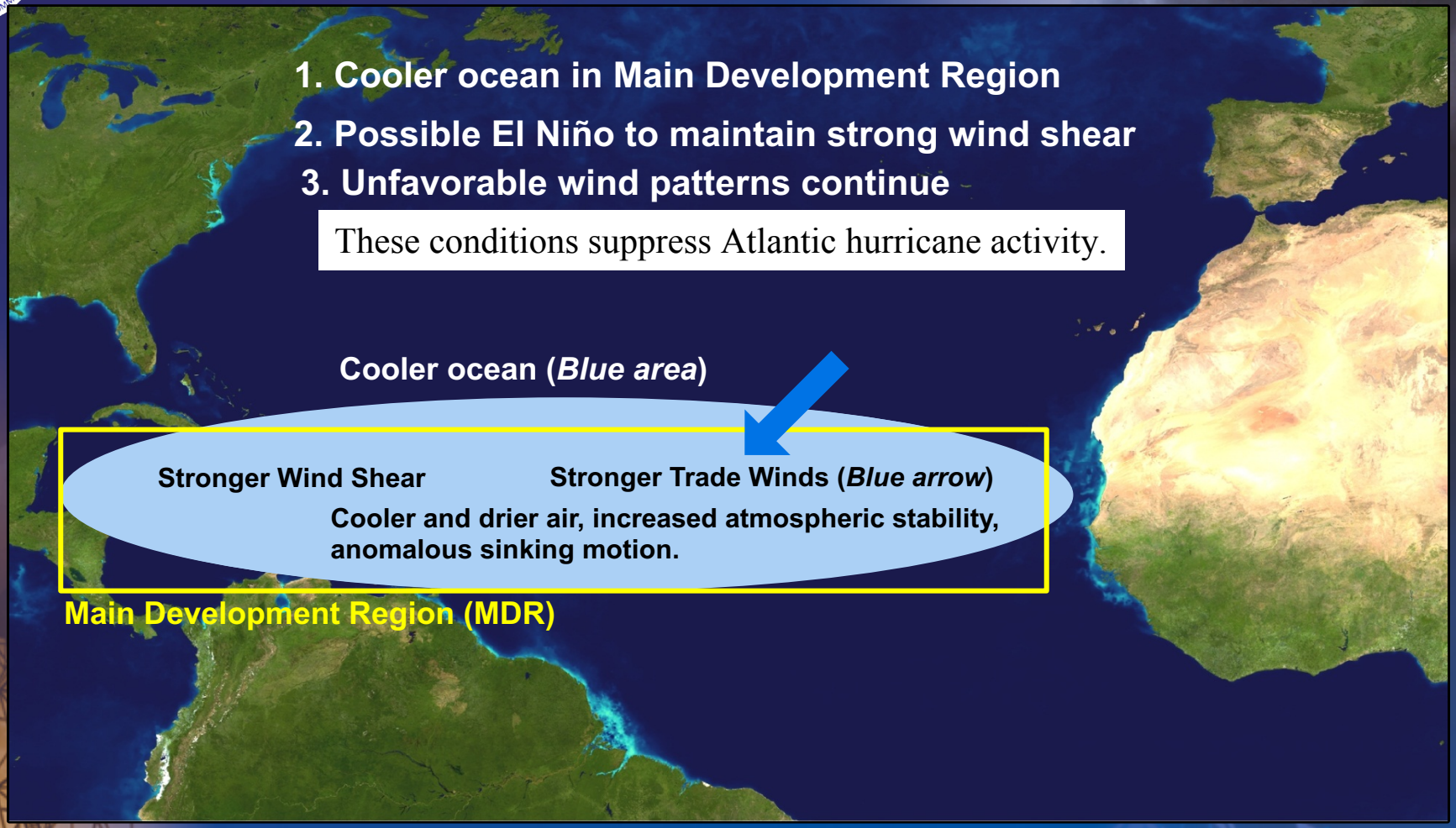
El Niño Impacts on Hurricane Activity

El Niño is likely to develop (65%-70% chance) and suppress the latter part of the Atlantic hurricane season.



El Niño has opposite impacts between the Pacific and Atlantic hurricane basins.

2018 Atlantic Hurricane Season
Expected Conditions During August-October



Summary

1. Expect less active season than predicted in May: Below-normal (60% chance), near-normal (30% chance), above-normal (10% chance).

2. Reasons to expect less activity:
   - Cooler ocean temperatures in Main Development Region more likely to persist
   - Higher likelihood of El Niño (51%-70%) compared to 38%-45% in May
   - Current and predicted atmospheric conditions suppress hurricane activity
   - NOAA's prediction models and other international models all predict less activity.

Be Prepared: The hurricane season still has a long way to go.

To date, there have been five named storms: 3 tropical storms and 2 hurricanes.

For remainder of season, expect additional 4-8 named storms, 2-5 hurricanes, and 0-2 major hurricanes.