



2024 ATLANTIC
HURRICANE SEASON

Forecast Tracker

JUNE 24, 2024 V1

Forecast Tracker

EXECUTIVE SUMMARY: Forecasts consistently predict a hyperactive hurricane season due to record warmth in the Atlantic and the expected emergence of La Nina during the peak of the season.

FORECAST HIGHLIGHTS AS OF JUNE 24, 2024

- Record-setting sea surface temperatures (SSTs) and ocean heat content (OHC) in the Main Development Region (MDR) of the Atlantic have persisted since last year, while SSTs and OHC in the Gulf of Mexico started to rapidly increase in late May and currently stand at record-high levels.
- NOAA’s Climate Prediction Center (CPC) forecasts >75% chance for La Nina to develop by September.
- La Nina typically increases hurricane activity because wind shear is reduced in the Atlantic and the environment is more conducive to hurricane formation and intensification.
- More hurricanes tend to make landfall in La Nina years because the Bermuda High is displaced further west in the Atlantic, directing many storms toward the US Gulf and Southeast coasts.
- While forecasters are reluctant to estimate landfalling events because of the complexity, on average, they anticipate at least five landfalling tropical storms or hurricanes in the US this year, with Gulf and Southeast states especially at risk.
- Forecasters have also noted that the presence of above-average SSTs and reduced wind shear are favorable factors for rapid intensification.
- Most outlooks anticipate a record-setting year that could rival the 2005 and 2020 hurricane seasons.

KEY TAKEAWAY: The 2024 Atlantic hurricane season is predicted to be above average in named tropical storms, hurricanes, major hurricanes, and ACE values across many forecasts.

	NAMED TROPICAL STORMS ¹	HURRICANES ²	MAJOR HURRICANES ³	DIRECT US IMPACT ⁴	CYCLONE ENERGY (ACE) ⁵
2024 Forecast Average⁶	23.5	11.5	5.2	5	210.5
2023 Season	20	7	3	3	146
1995-2023 Average⁷	15.8	7.7	3.5	5	134
1991-2020 Average	14.4	7.2	3.2	4.8⁸	122
30-Year High (YEAR)	30 (2020)	15 (2005)	7 (2005, 2006)	6 (2020)	245 (2005)
30-Year Low⁹ (YEAR)	7 (1994)	2 (2013)	0 (1994, 2013)	0 (Multiple)	32 (1994)

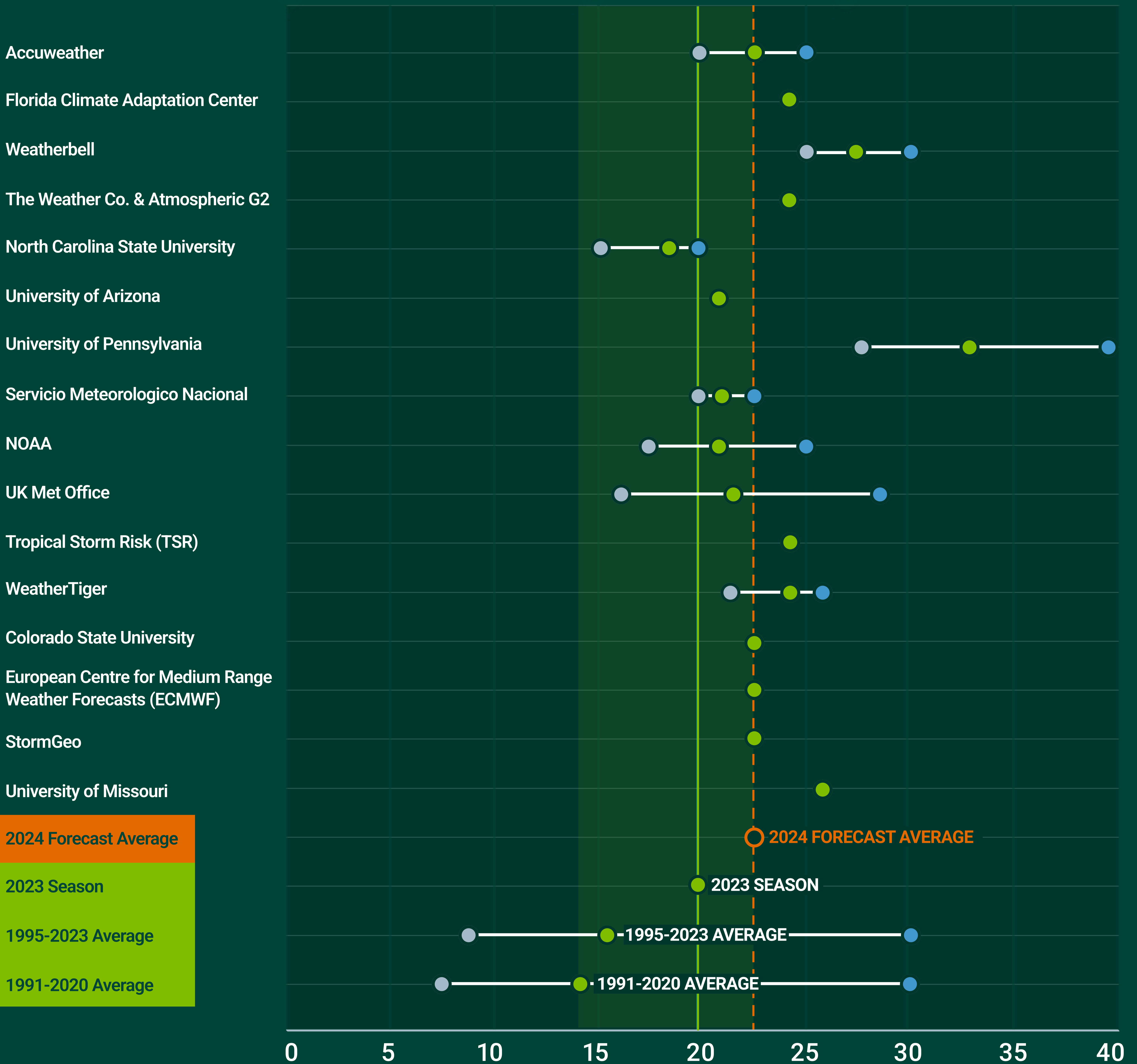
1. Tropical storms have sustained wind speeds of at least 39 mph.
 2. Hurricanes have sustained wind speeds of at least 74 mph.
 3. Major hurricanes are Category 3 and above, with a sustained wind speed of at least 111 mph.
 4. Direct US impact includes landfalling events and events where tropical storm force winds are observed on land, but the center of the storm does not make landfall.
 5. Accumulated Cyclone Energy (ACE) is a wind energy index defined as the sum of the squares of the estimated 6-hourly maximum sustained wind speed for all named systems while they are at least tropical storm strength. NOAA considers a near-normal season to have an ACE index within 75-130% of the 30-year ACE median.
 6. When a range was provided for individual forecasts (e.g., 11–15), the mean of the range (e.g., 13) was used to calculate the 2024 forecast average.
 7. The Atlantic Multi-decadal Oscillation (AMO) has been in a positive/warm phase since 1995, which includes the 29-year average from 1995-2023. The AMO switches phases every 20-40 years.
 8. Includes direct US impacts of tropical storm force wind speeds (average of 3.1) as well as the average of landfalling hurricanes (average of 1.7).
 9. Data from 1994-2023 is included. When using the 30-year period from 1991-2020, the difference is that 1992 also had a low of 7 named storms.

NAMED STORMS—2024 ATLANTIC HURRICANE SEASON FORECAST TRACKER

NOAA forecasted its highest ever number for named storms in a pre-season outlook and all forecasts anticipate an above-average season.

NAMED STORMS

—●— FORECAST LOWER BOUND ●— FORECAST AVERAGE —●— FORECAST UPPER BOUND

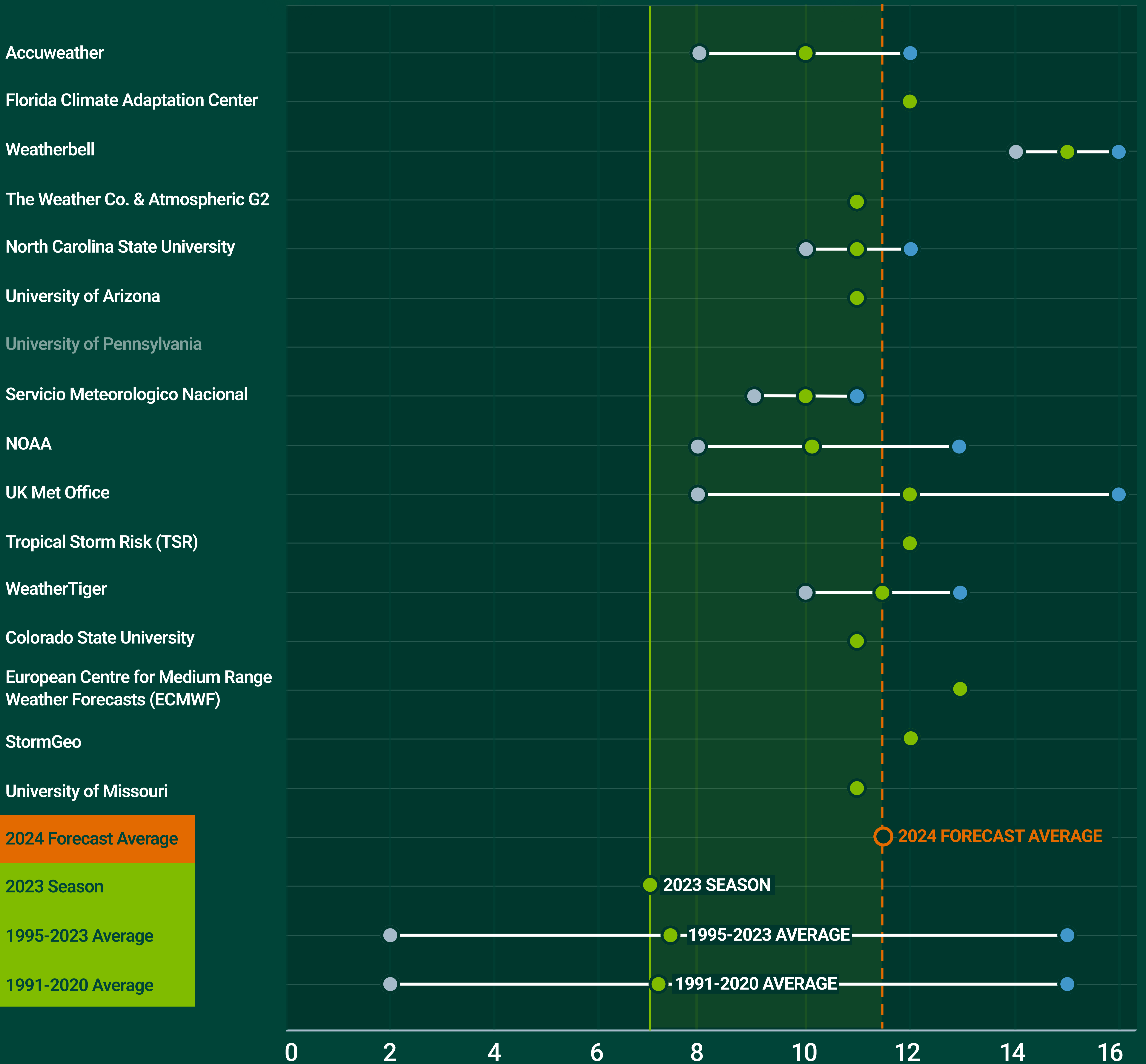


HURRICANES—2024 ATLANTIC HURRICANE SEASON FORECAST TRACKER

The number of hurricanes that form in the Atlantic basin this year is forecasted to be above the long-term average.

HURRICANES

—●— FORECAST LOWER BOUND ●— FORECAST AVERAGE —●— FORECAST UPPER BOUND



MAJOR HURRICANES—2024 ATLANTIC HURRICANE SEASON FORECAST TRACKER

An above-average number of major hurricanes are also predicted for this season and several hurricanes may undergo rapid intensification to reach major hurricane status.

MAJOR HURRICANES

—●— FORECAST LOWER BOUND —●— FORECAST AVERAGE —●— FORECAST UPPER BOUND

Accuweather

Florida Climate Adaptation Center

Weatherbell

The Weather Co. & Atmospheric G2

North Carolina State University

University of Arizona

University of Pennsylvania

Servicio Meteorologico Nacional

NOAA

UK Met Office

Tropical Storm Risk (TSR)

WeatherTiger

Colorado State University

European Centre for Medium Range Weather Forecasts (ECMWF)

StormGeo

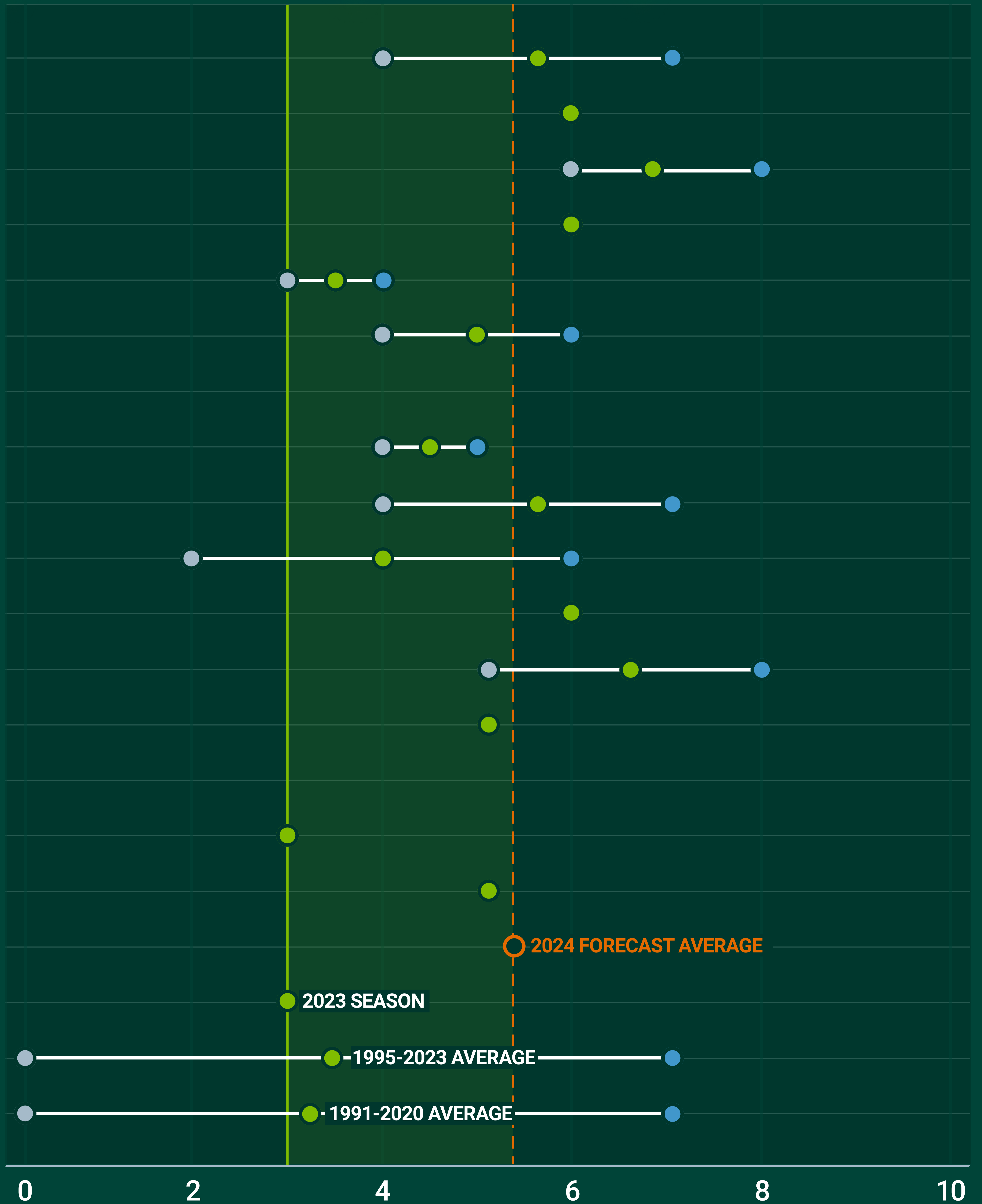
University of Missouri

2024 Forecast Average

2023 Season

1995-2023 Average

1991-2020 Average



ACCUMULATED CYCLONE ENERGY (ACE)—2024 ATLANTIC HURRICANE SEASON FORECAST TRACKER

The forecasted ACE values for the 2024 season are ~60-70% above the long-term averages.

ACCUMULATED CYCLONE ENERGY (ACE)

—●— FORECAST LOWER BOUND ●— FORECAST AVERAGE —●— FORECAST UPPER BOUND

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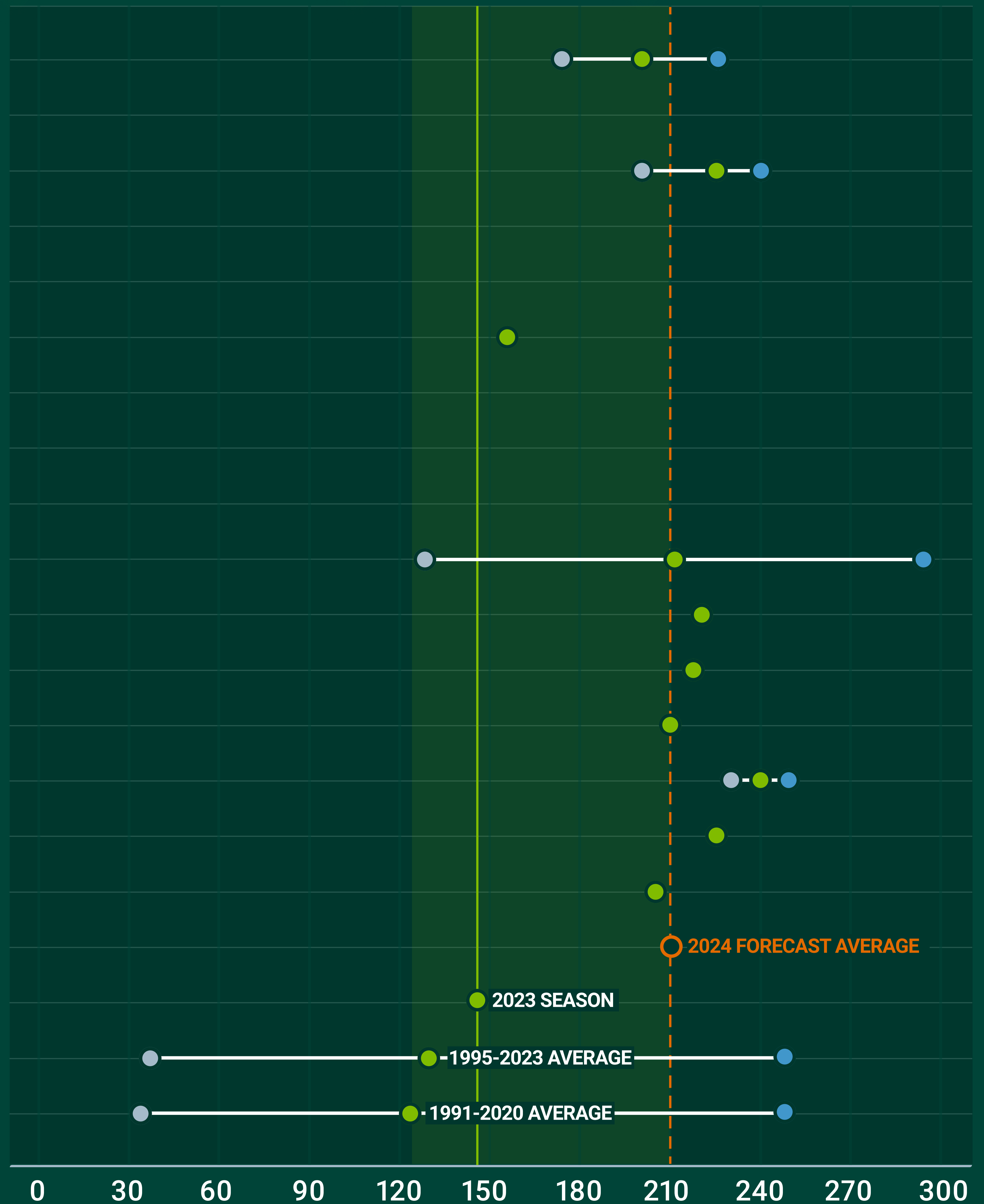
University of Missouri

2024 Forecast Average

2023 Season

1995-2023 Average

1991-2020 Average

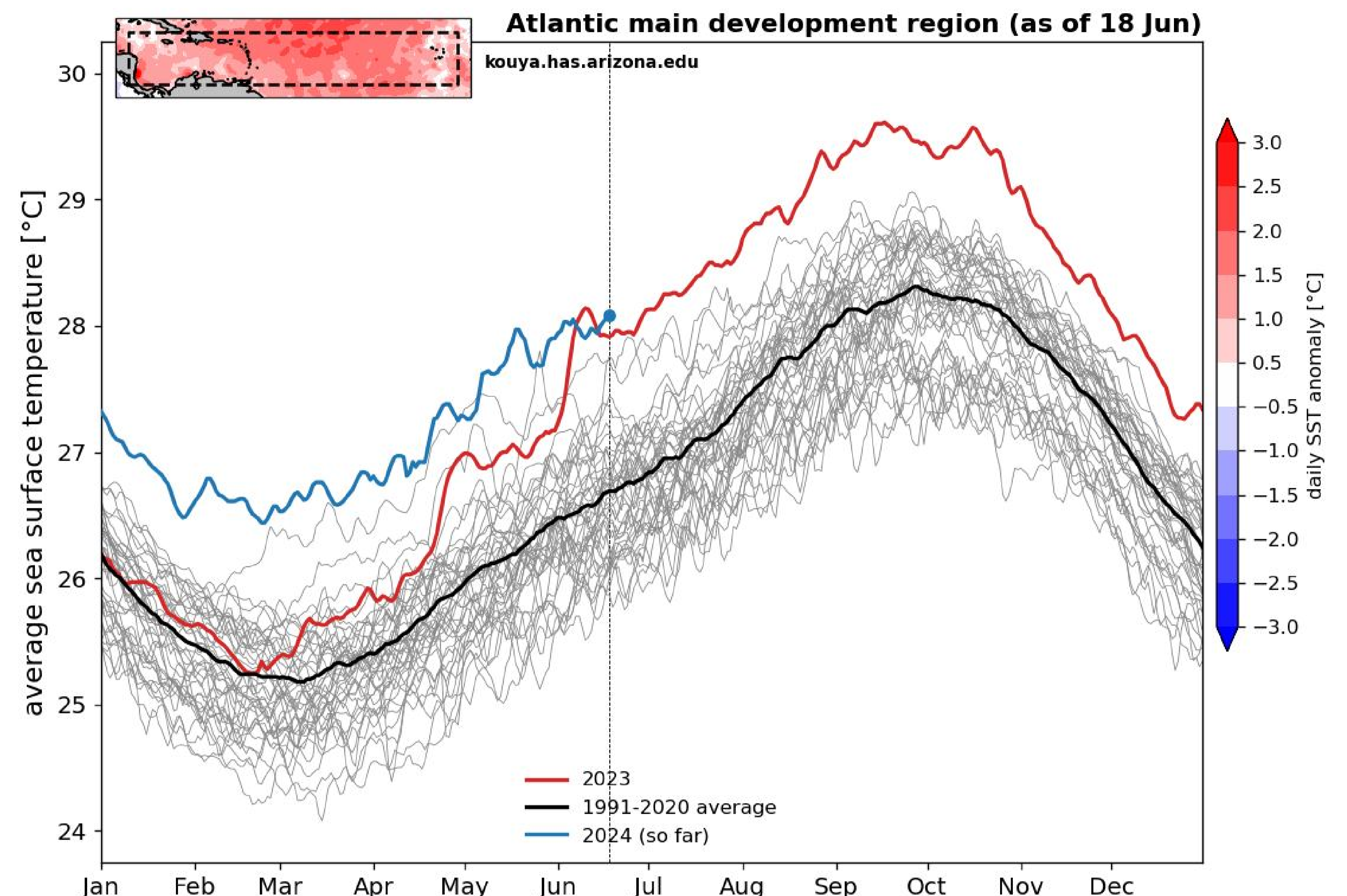
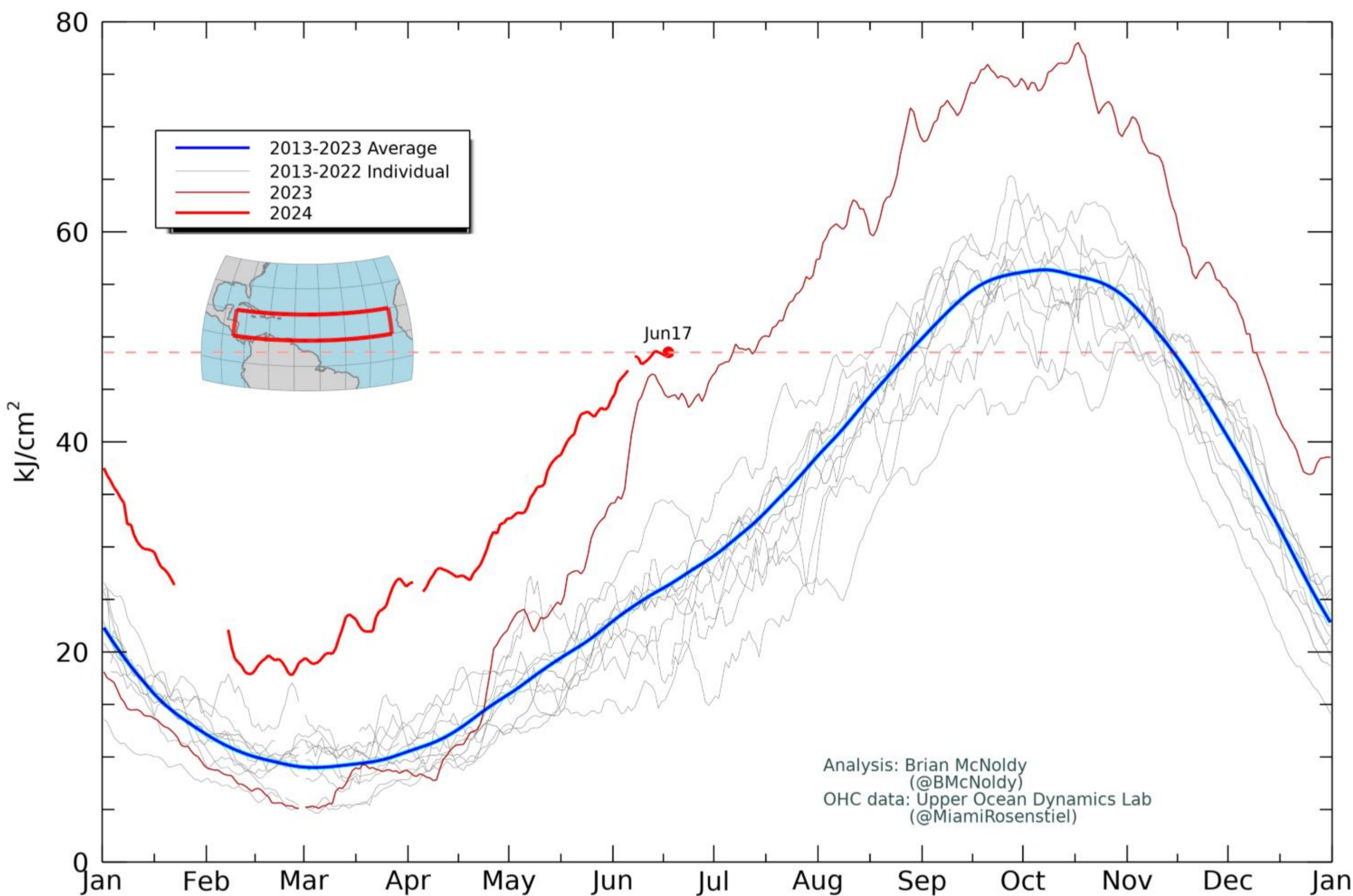


SEA SURFACE TEMPERATURES—2024 ATLANTIC HURRICANE SEASON FORECAST TRACKER

In the Main Development Region of the Atlantic, sea surface temperatures and ocean heat content have been at or near record highs since last year. In the Gulf of Mexico, conditions have been persistently near or above average since the start of the year and recently at or near record highs.

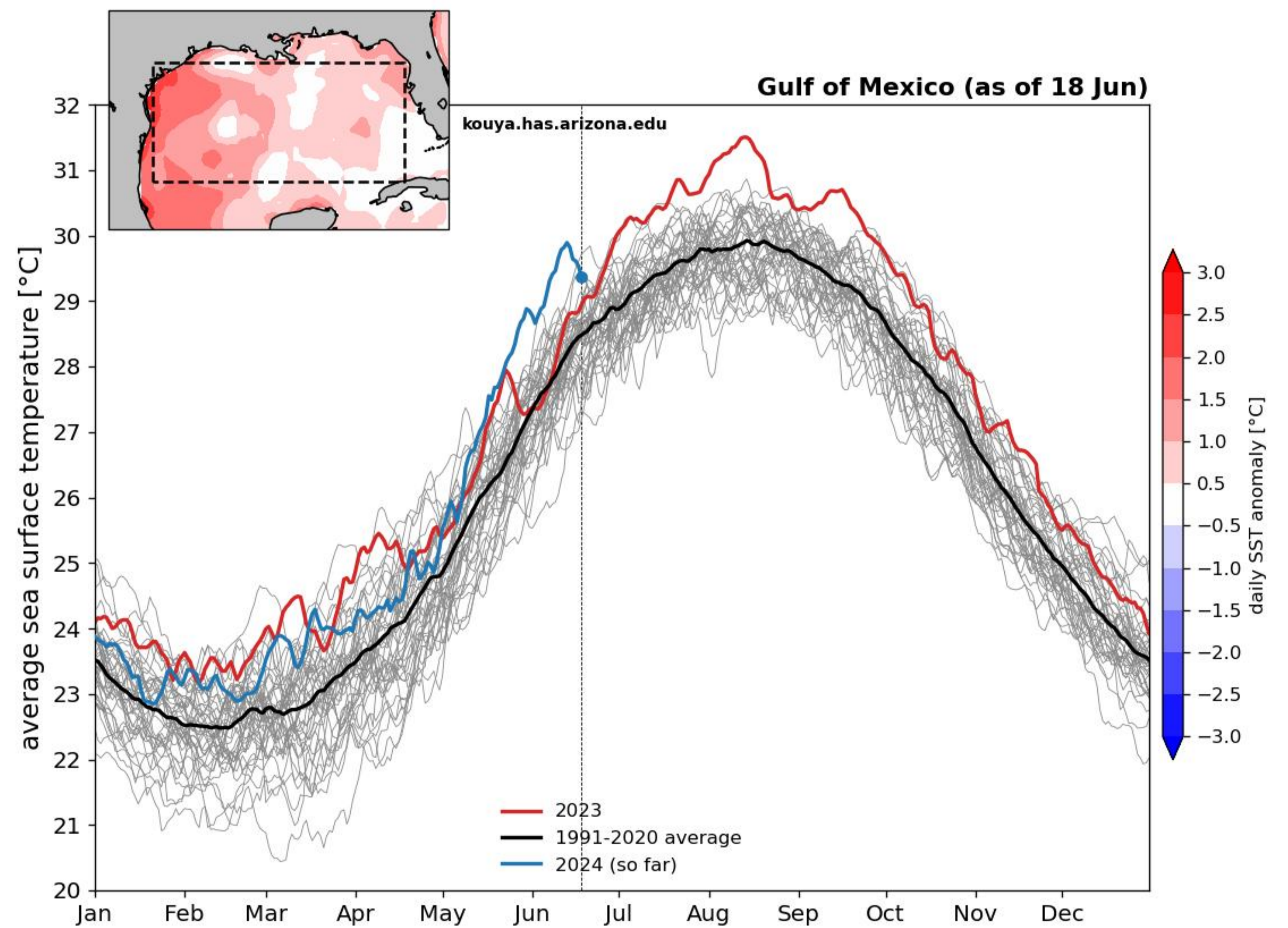
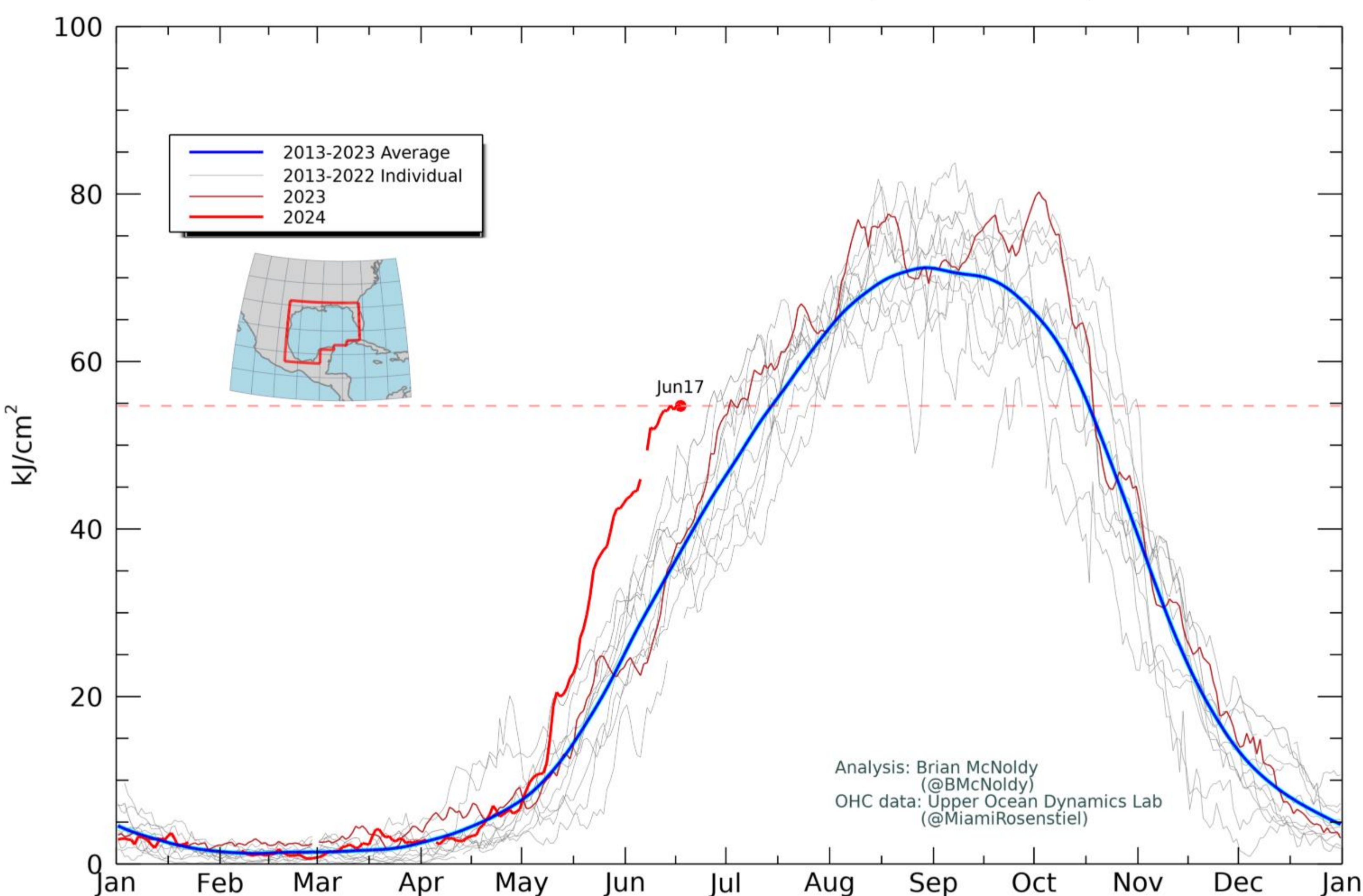
MAIN DEVELOPMENT REGION

Ocean Heat Content in Main Development Region (10-20N 85-20W)



GULF OF MEXICO

Ocean Heat Content in Gulf of Mexico (18-31N 98-81W)



Sources:
 Brian McNoldy, University of Miami, <https://bmcnoldy.earth.miami.edu/tropics/ohc/>.
 University of Arizona, <https://kouya.has.arizona.edu/tropics/SSTmonitoring.html>