

Navigating El Niño in 2024

Spring Planting Forecast

Feb 6th, 2024

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Senior Atmospheric Scientist



@ag_weather

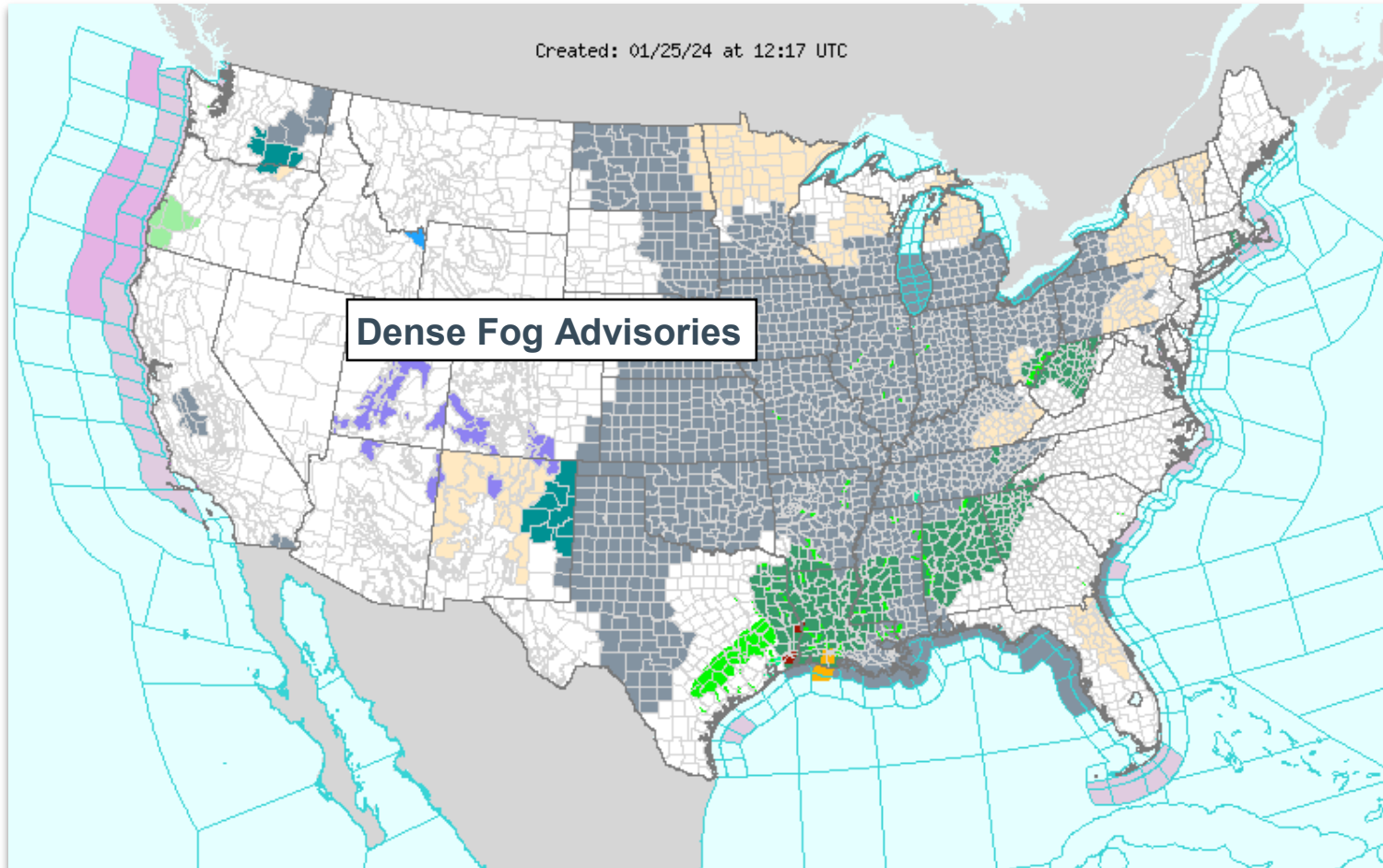
@mcreard

Nutrien Ag Solutions

info.nutrien.com/snodgrass_weather



January 25th



- 1517 counties in an active dense fog advisory

Dolphins vs Chiefs



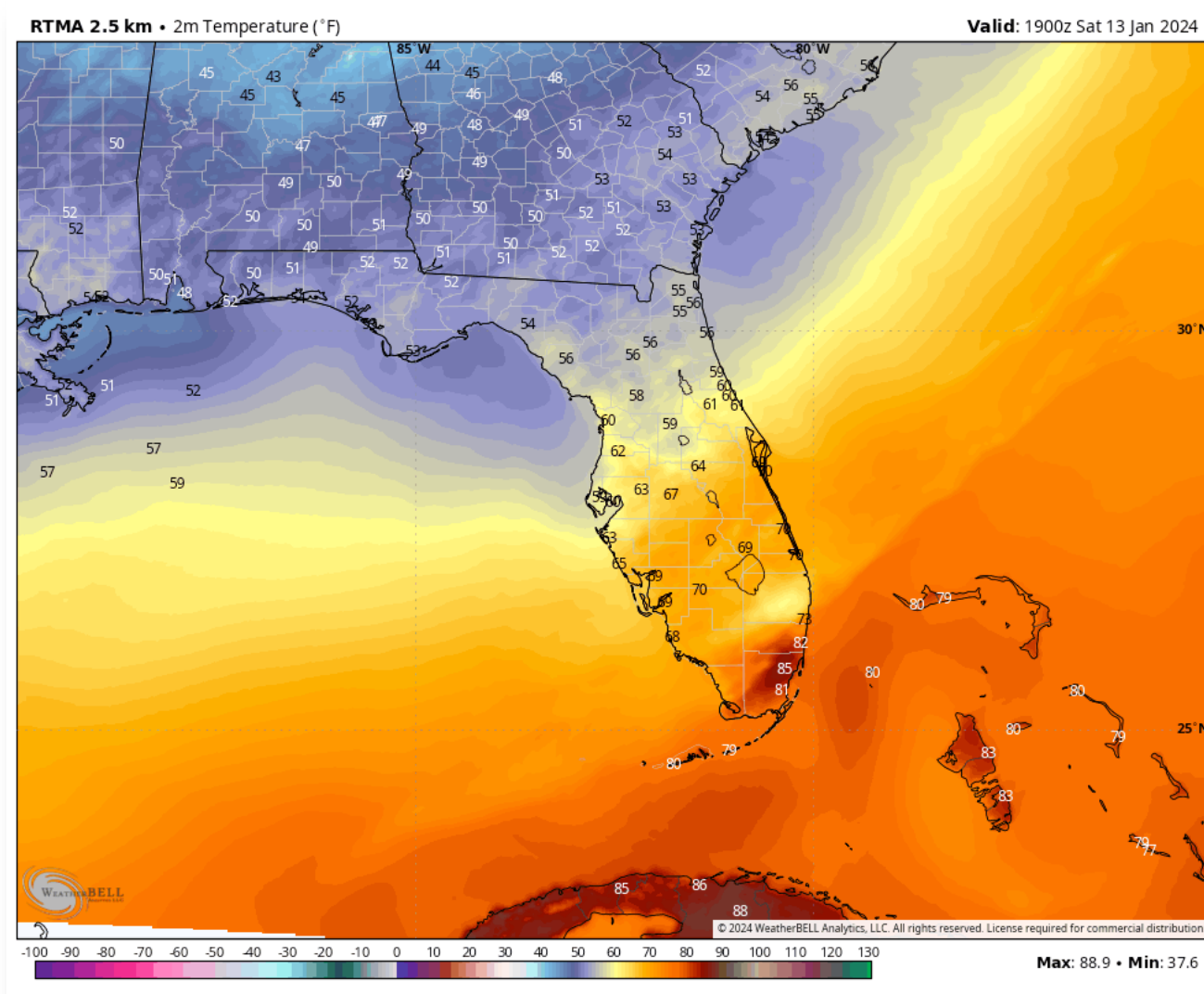
- -4°F (-23°F Wind Chill)
- Dolphins: 7; Chiefs: 26
- 5th Coldest NFL Game*



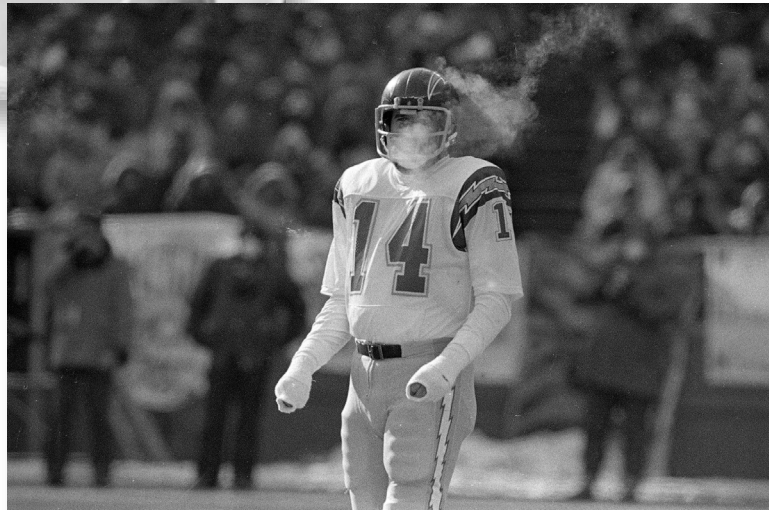


January 13th

- Miami: 87°F



Freezer Bowl: Jan 10th, 1982

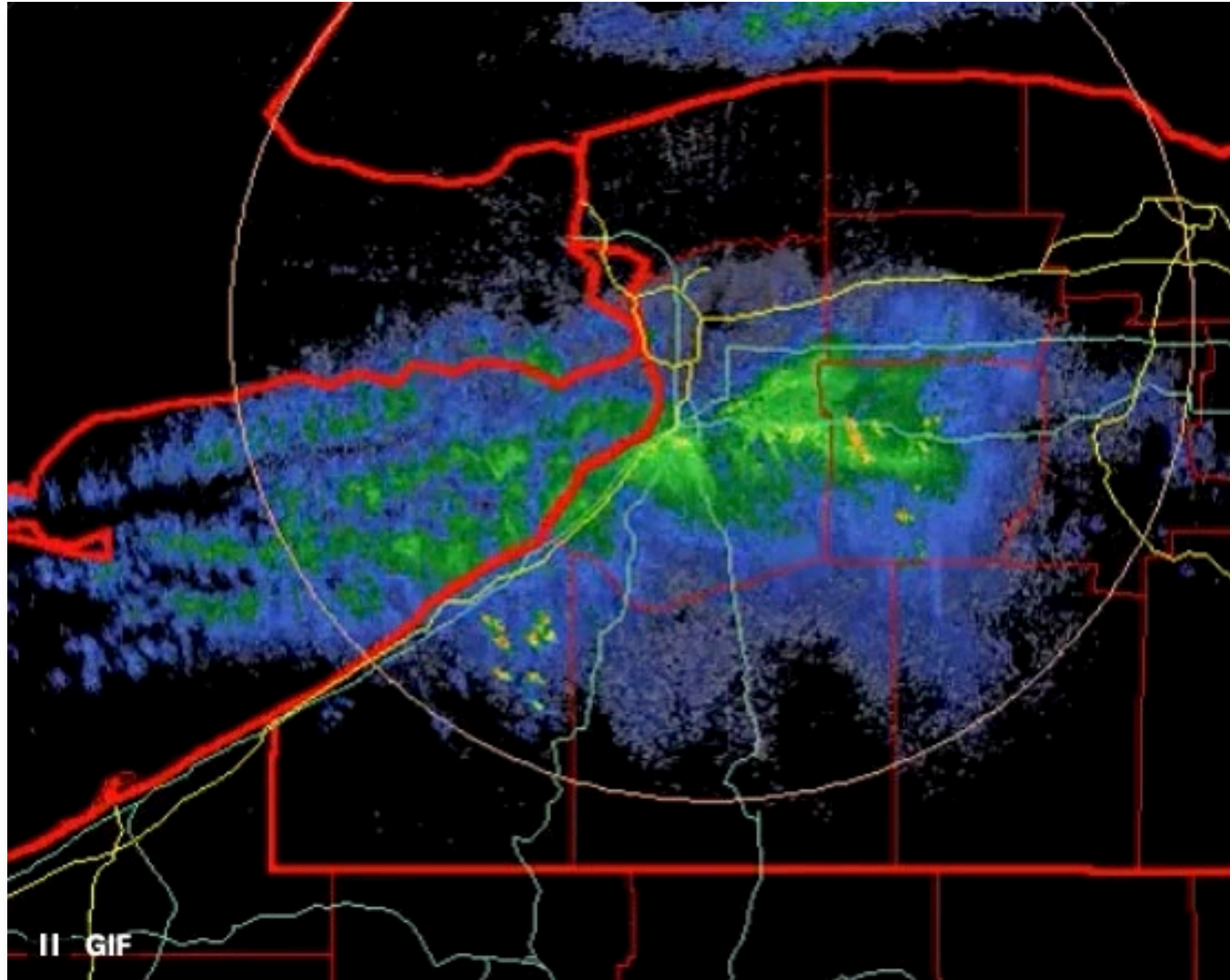


Chargers quarterback Dan Fouts was bundled for the frigid weather at the 1981 AFC Championship game.
/ AP Photo

- -9°F + 27mph wind
- -39°F windchill
- Chargers played the Dolphins the week before in 88°F weather

Riverfront Stadium					
San Diego Chargers (3) (10-6)			Cincinnati Bengals (1) (12-4)		
7			27		
Head coach: Don Coryell			Head coach: Forrest Gregg		
	1	2	3	4	Total
SD	0	7	0	0	7
CIN	10	7	3	7	27
Date January 10, 1982					

Pittsburgh Steelers vs Buffalo Bills Cancelled

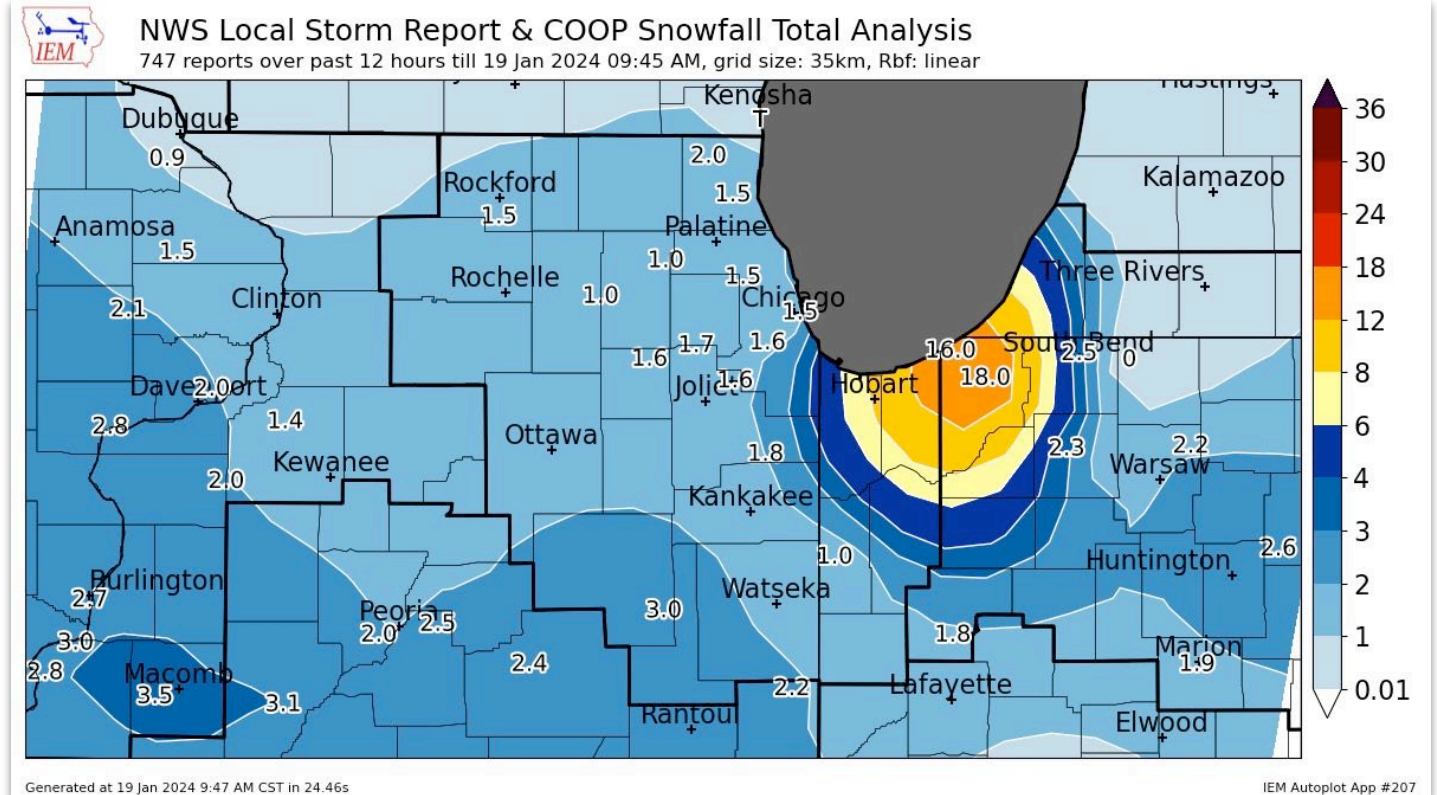








Indiana Lake Effect Snow

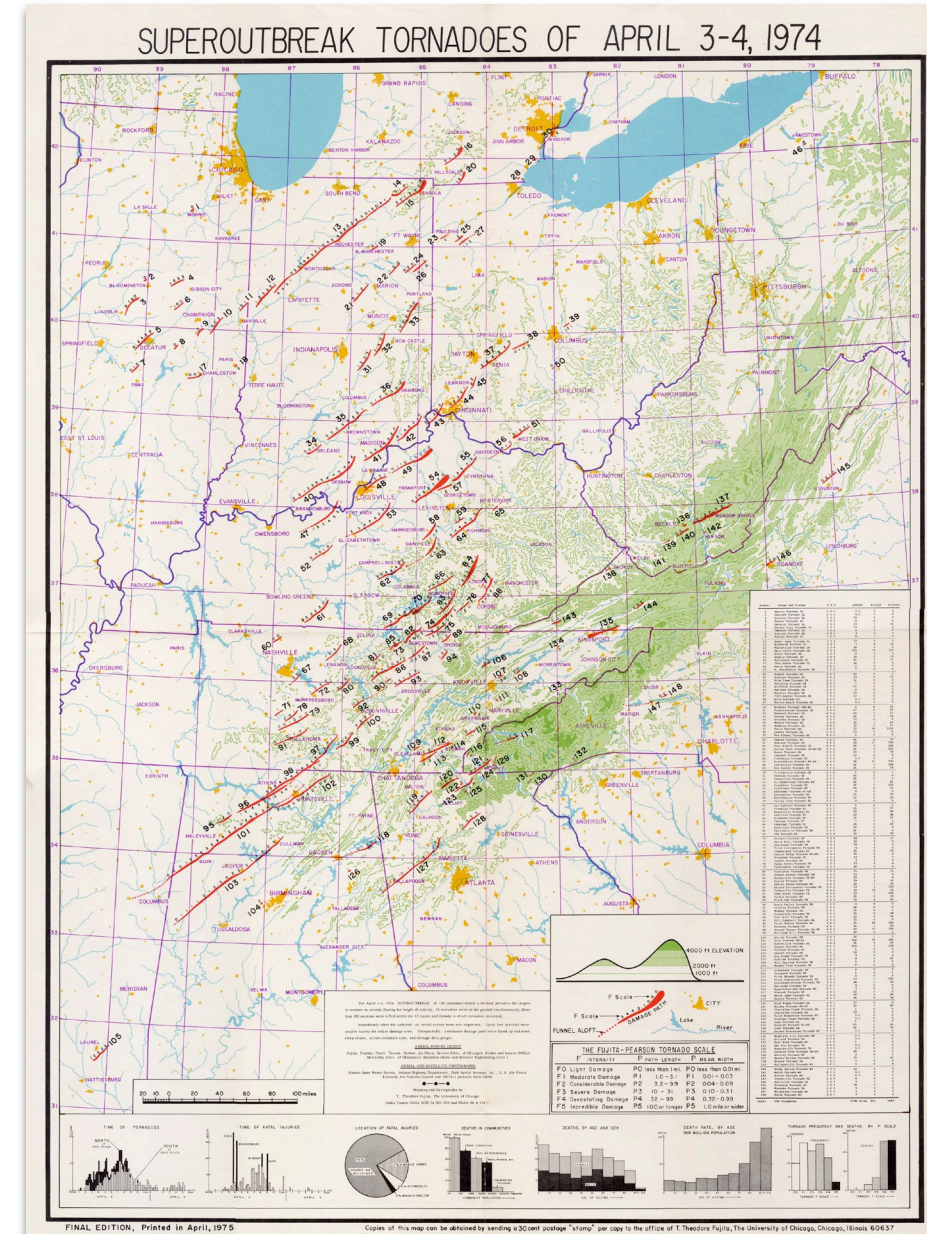




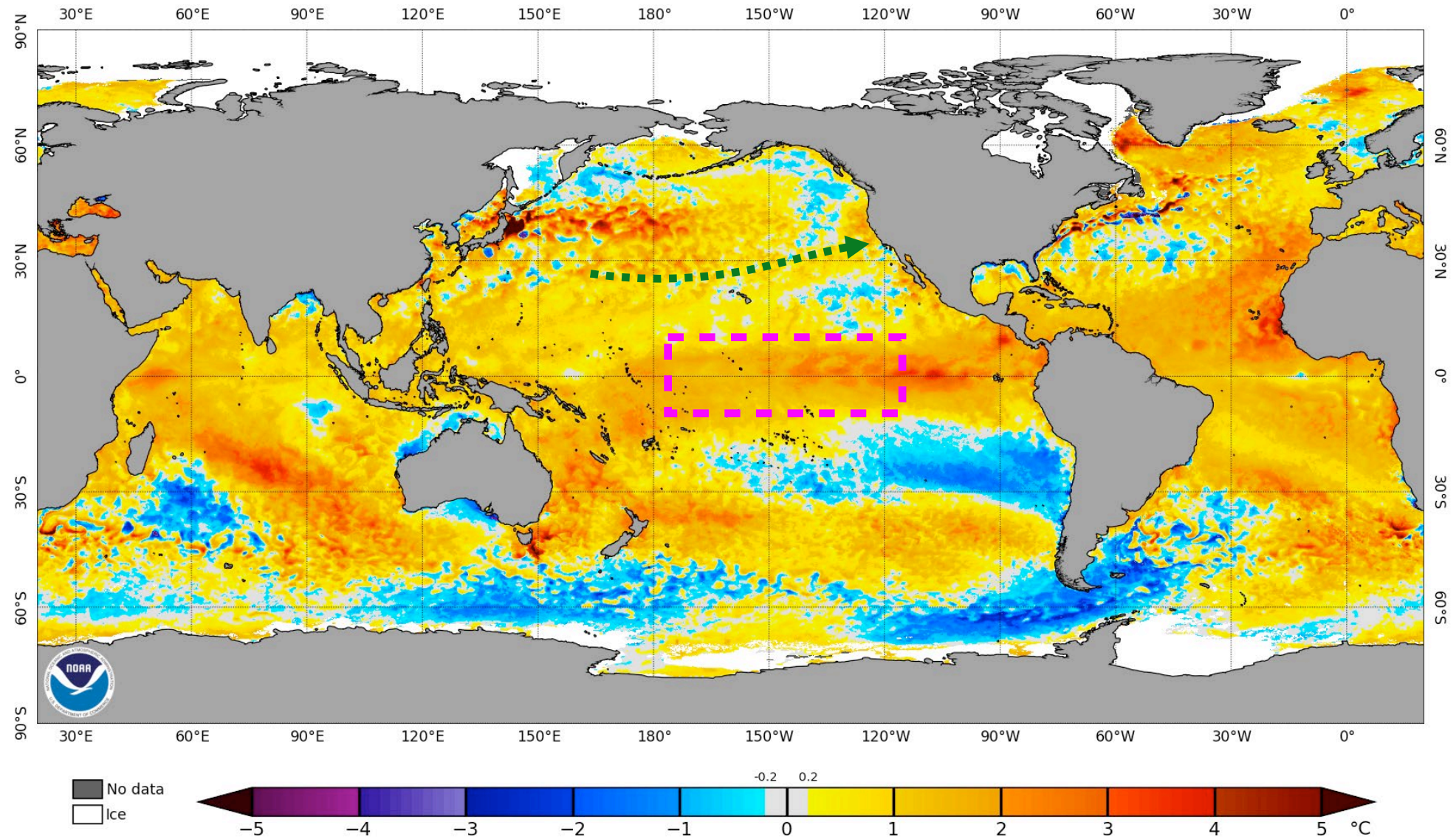


- Capt. N. Boyd - SDFD

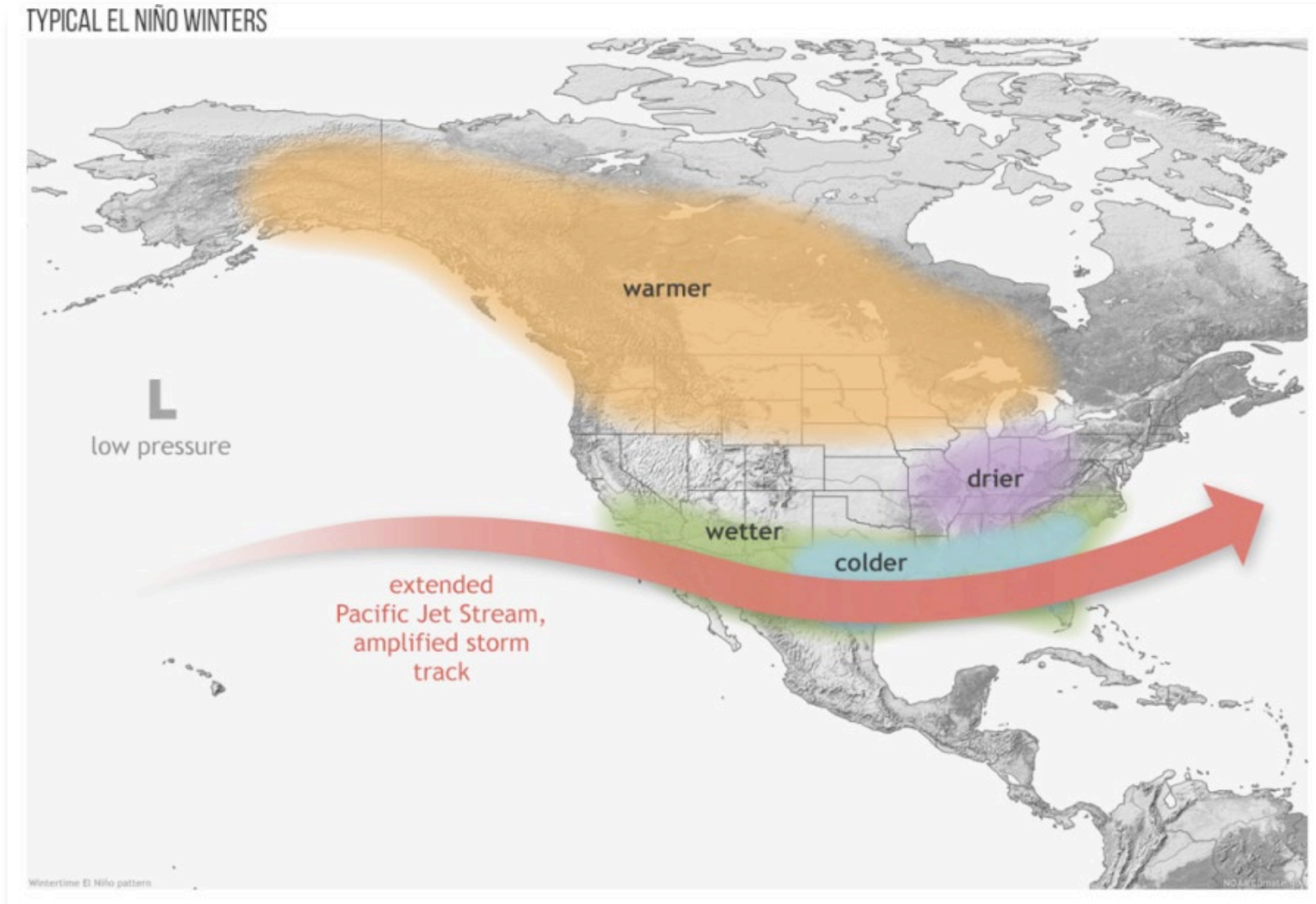
Super Outbreak of April 1974

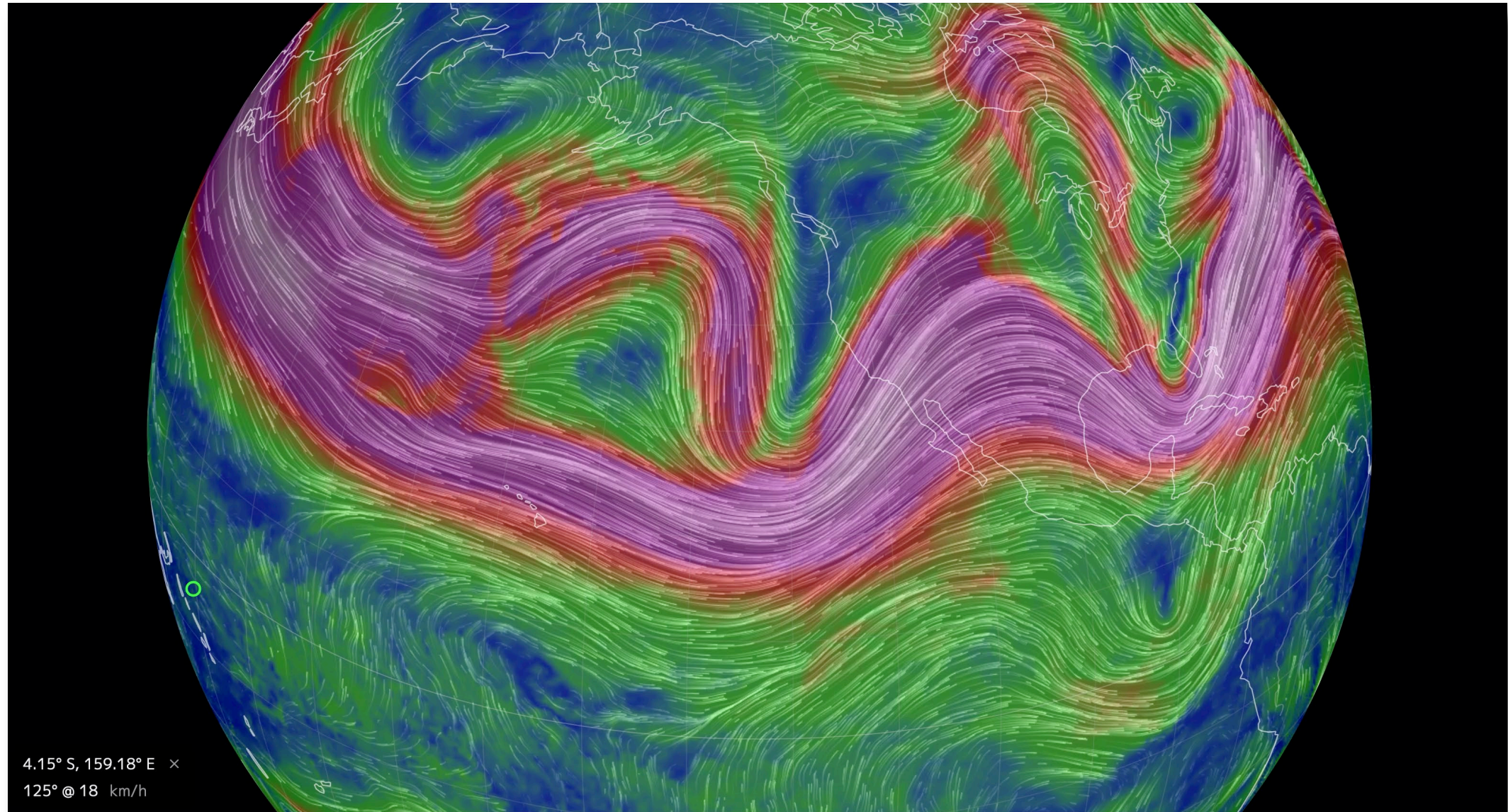


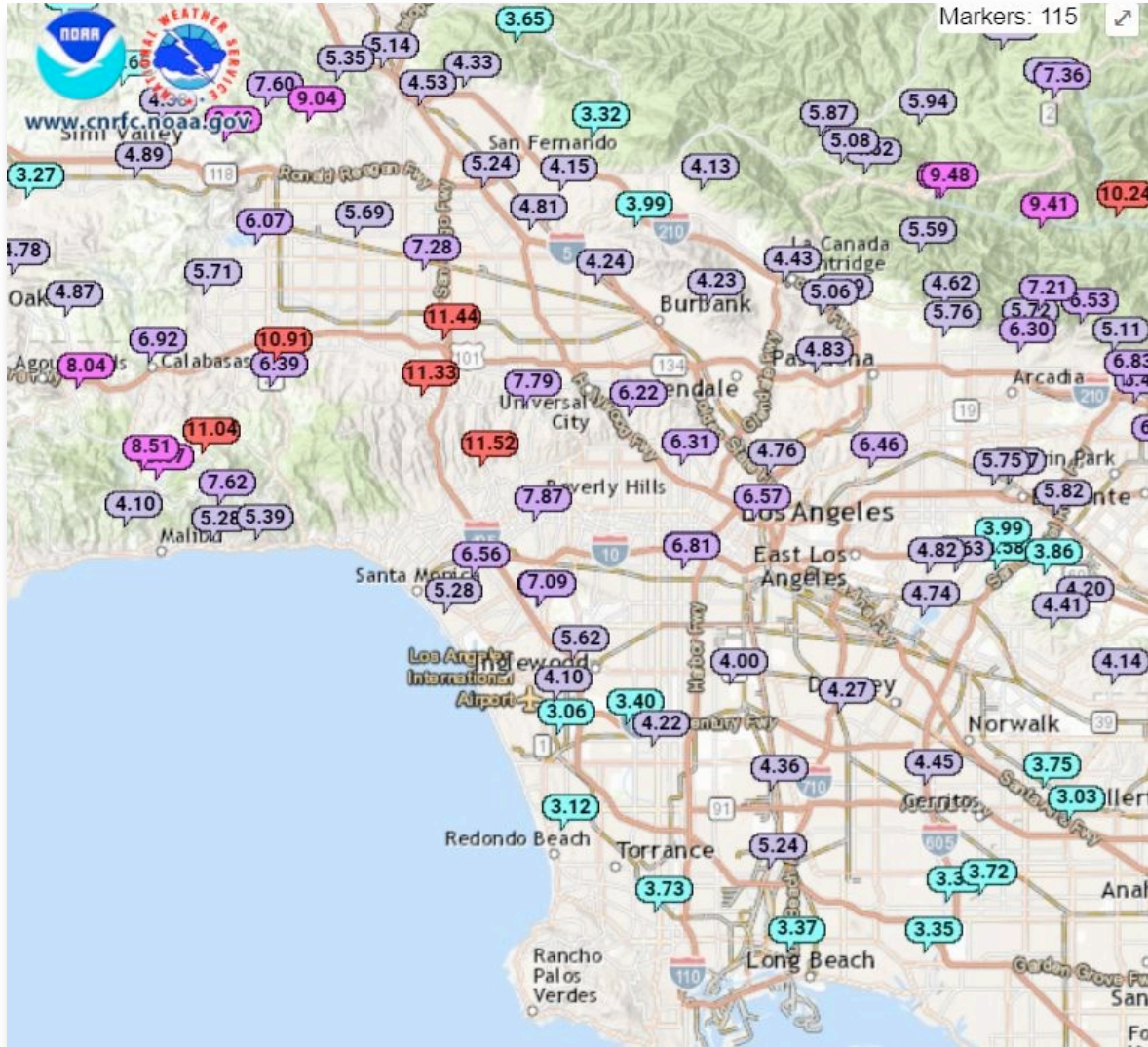
NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 18 Jan 2024



El Niño Winters



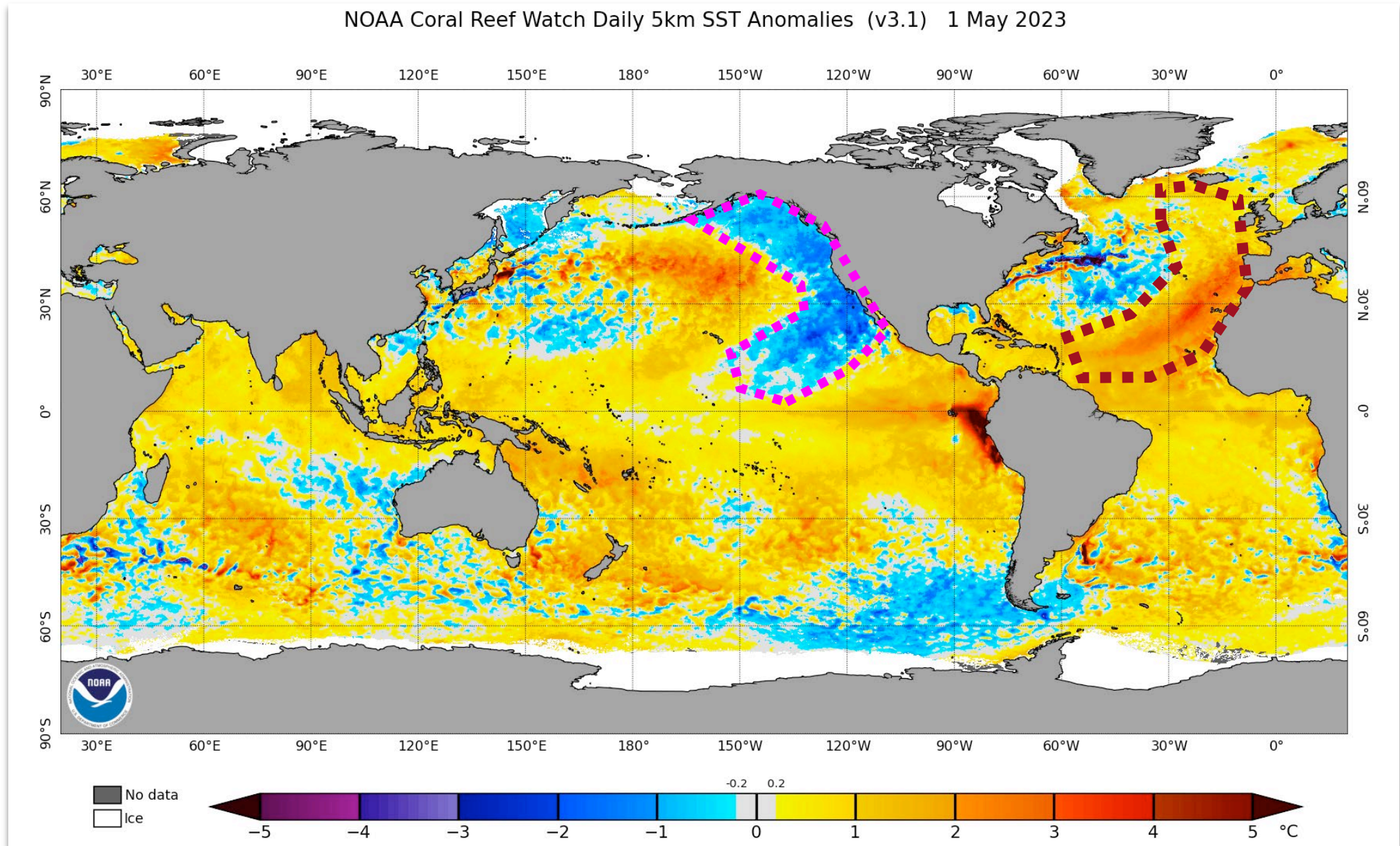


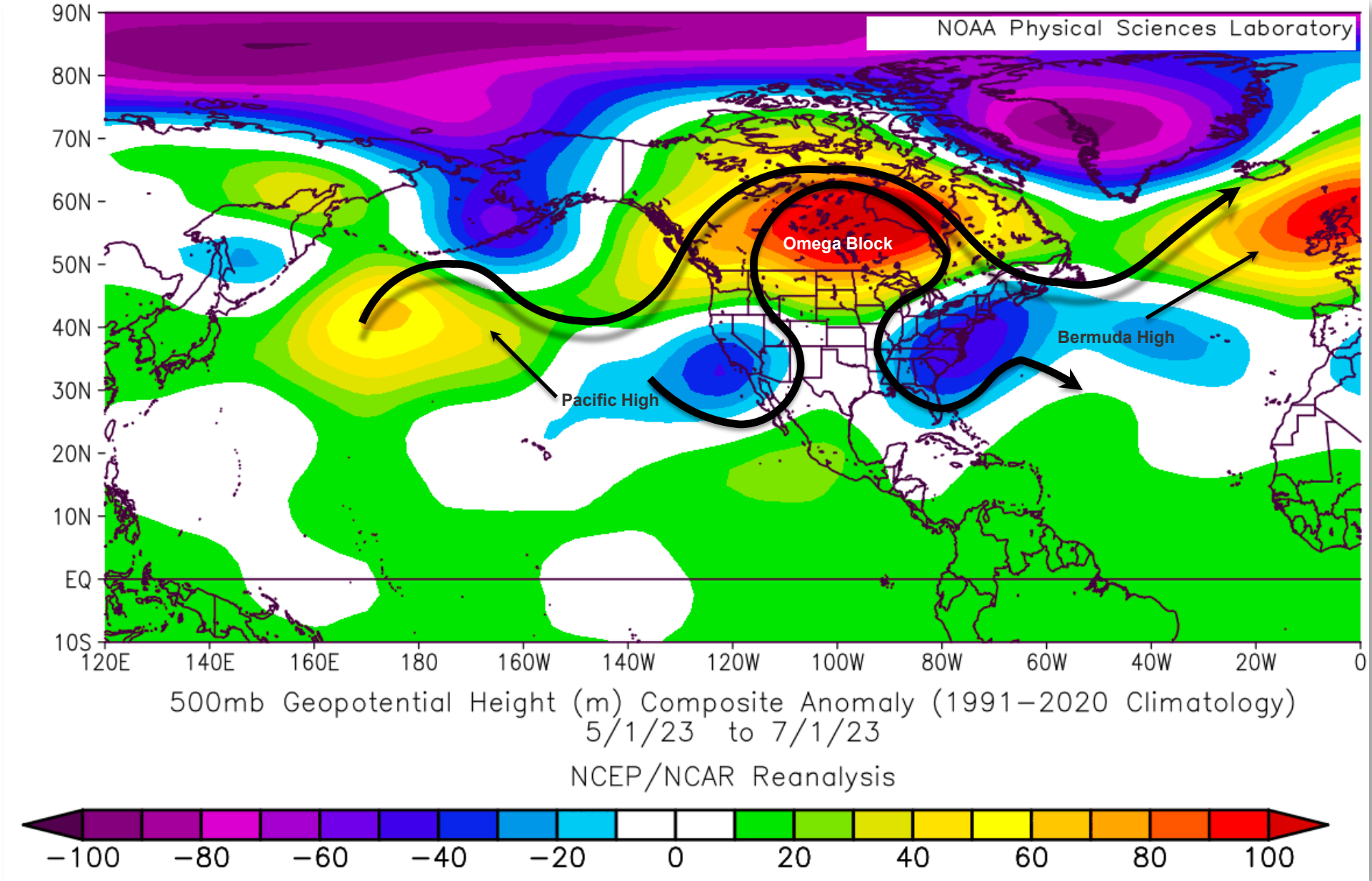


LAFD

- Video: Daniel Castillo



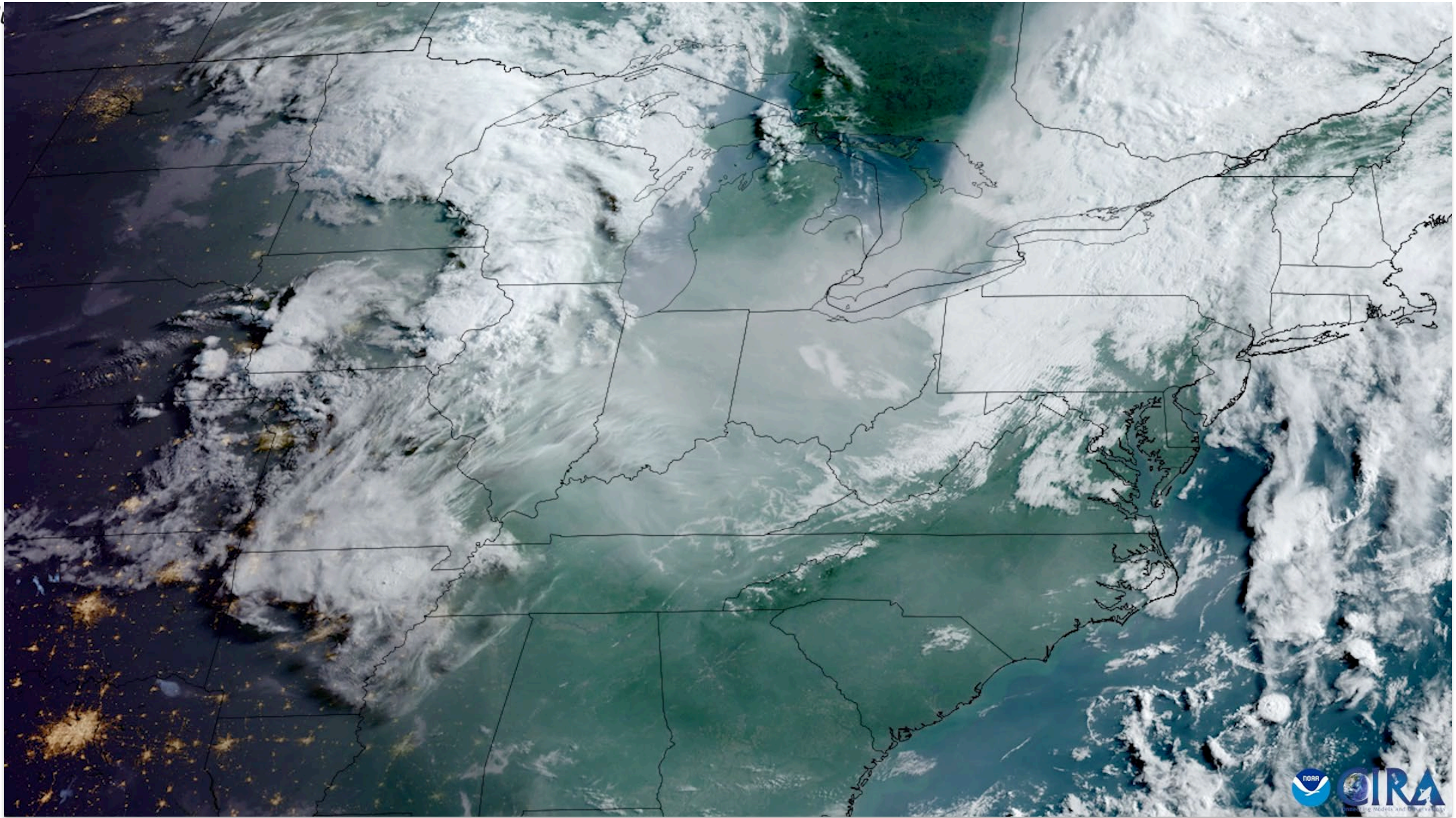






Pause (k)

Generated at 11 Jul 2023 1:57 PM CDT in 35.78s

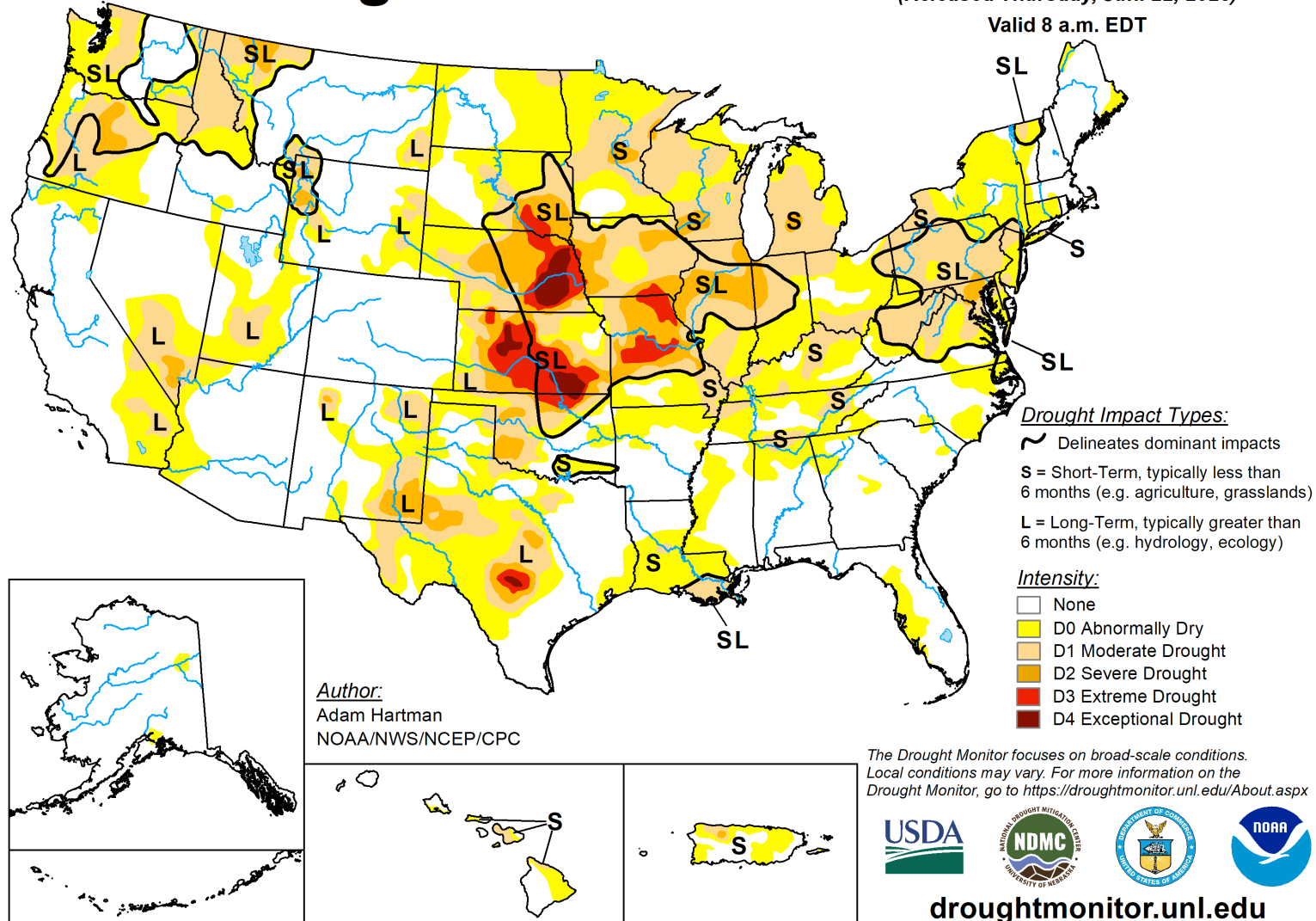


U.S. Drought Monitor

June 20, 2023

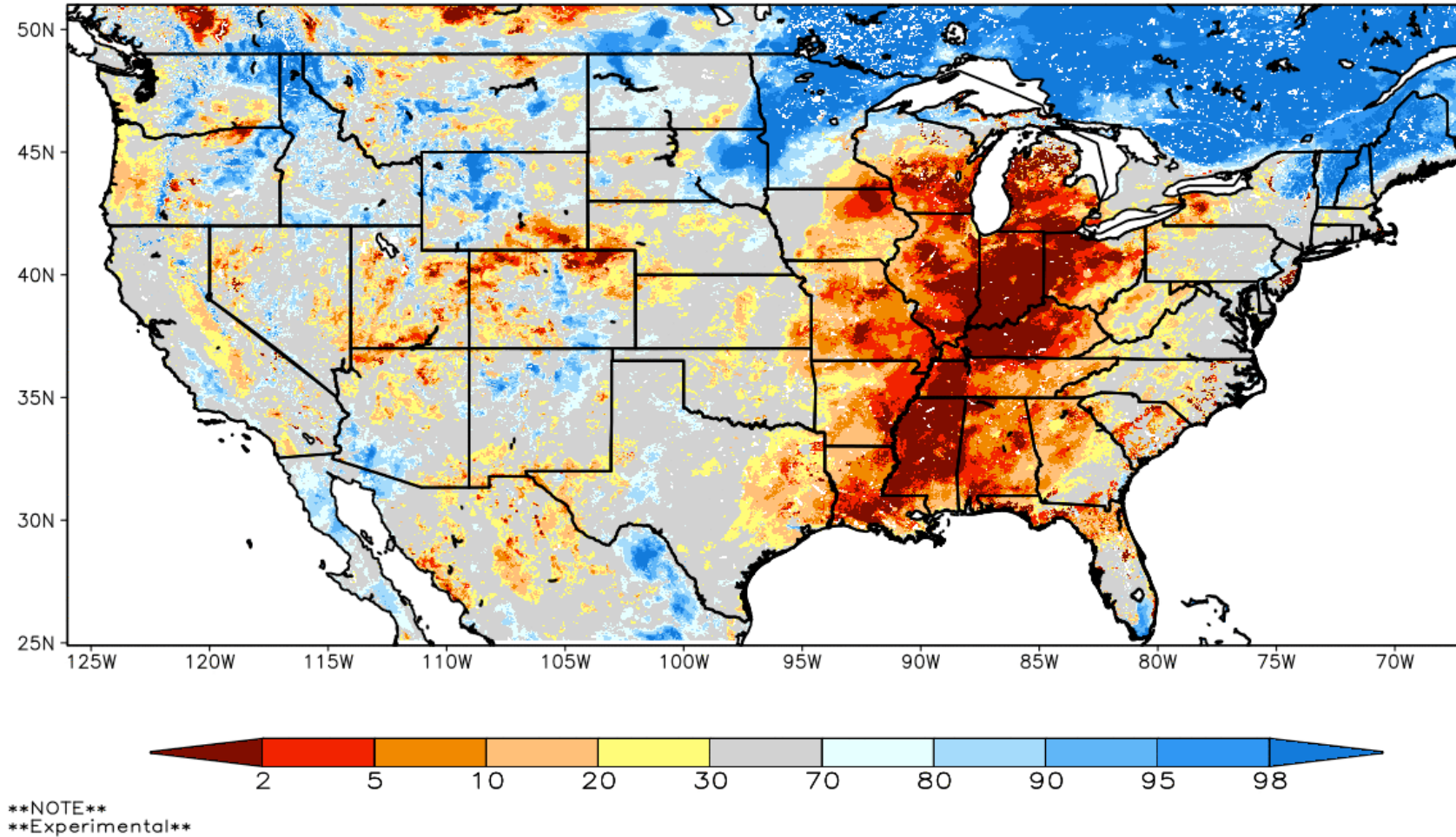
(Released Thursday, Jun. 22, 2023)

Valid 8 a.m. EDT



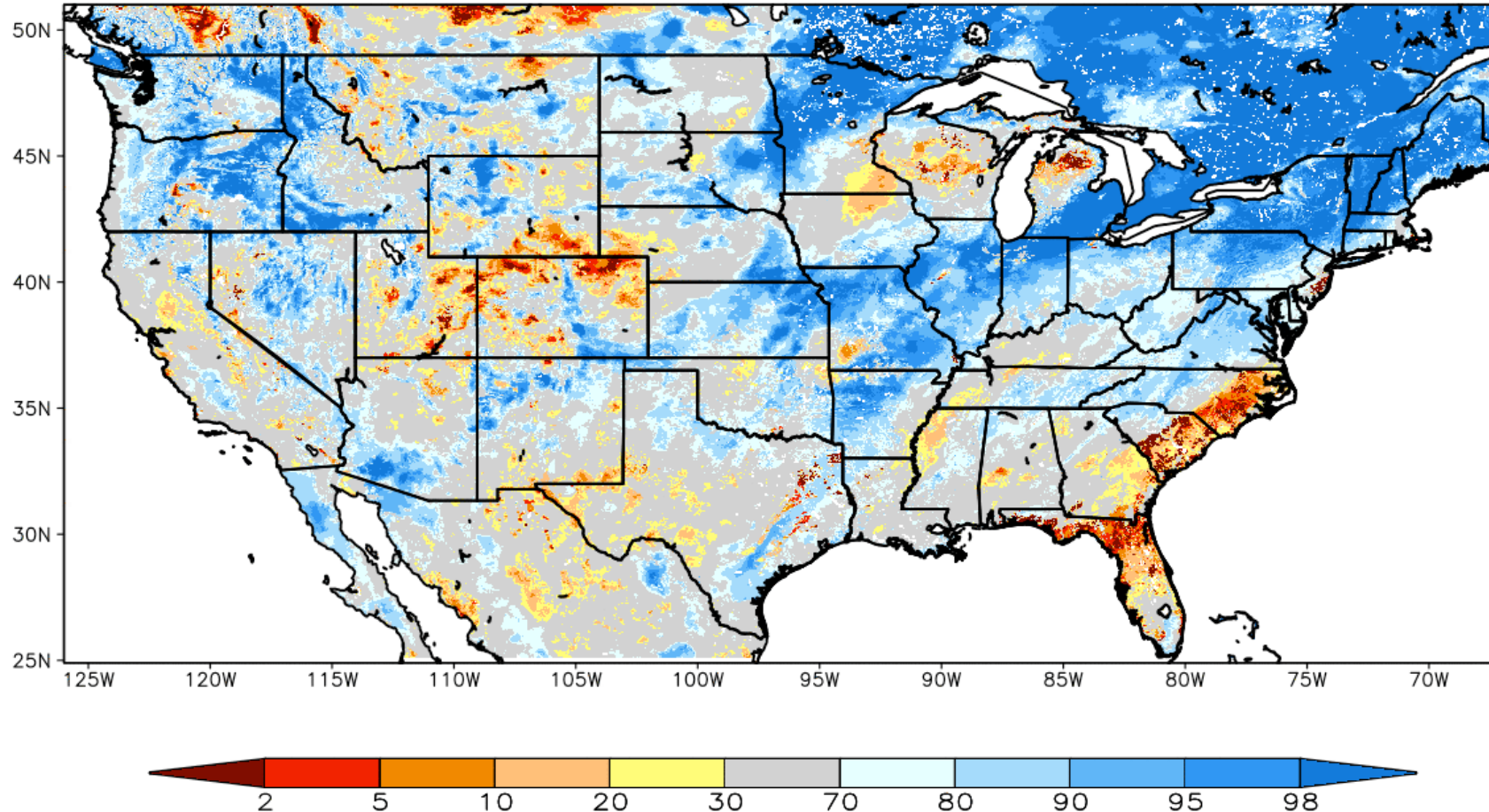
Soil Moisture - Jan 2nd

SPoRT-LIS 0-40 cm Soil Moisture percentile valid 02 Jan 2024



Soil Moisture - Jan 30th

SPoRT-LIS 0-40 cm Soil Moisture percentile valid 30 Jan 2024

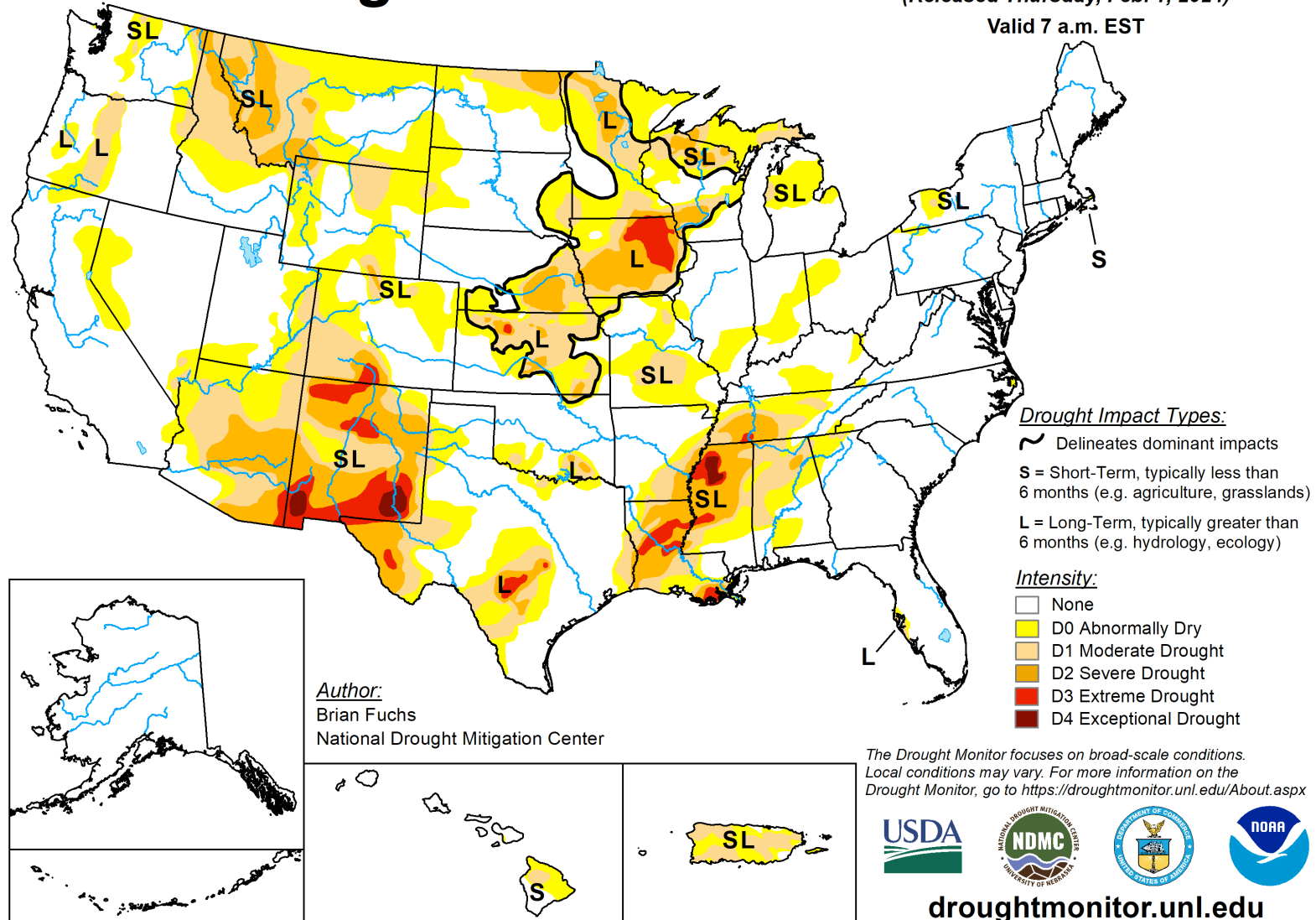


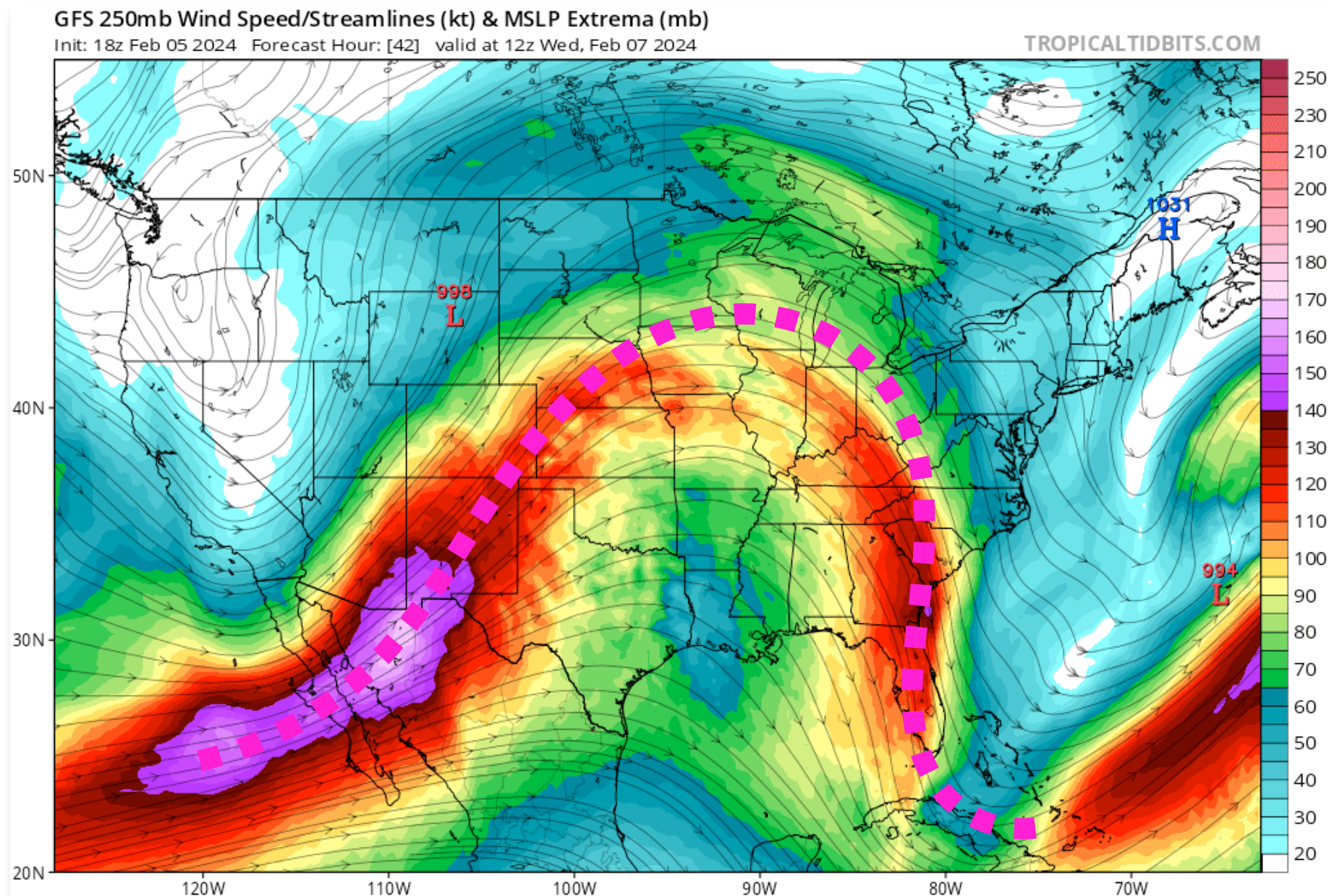
****NOTE****
****Experimental****

U.S. Drought Monitor

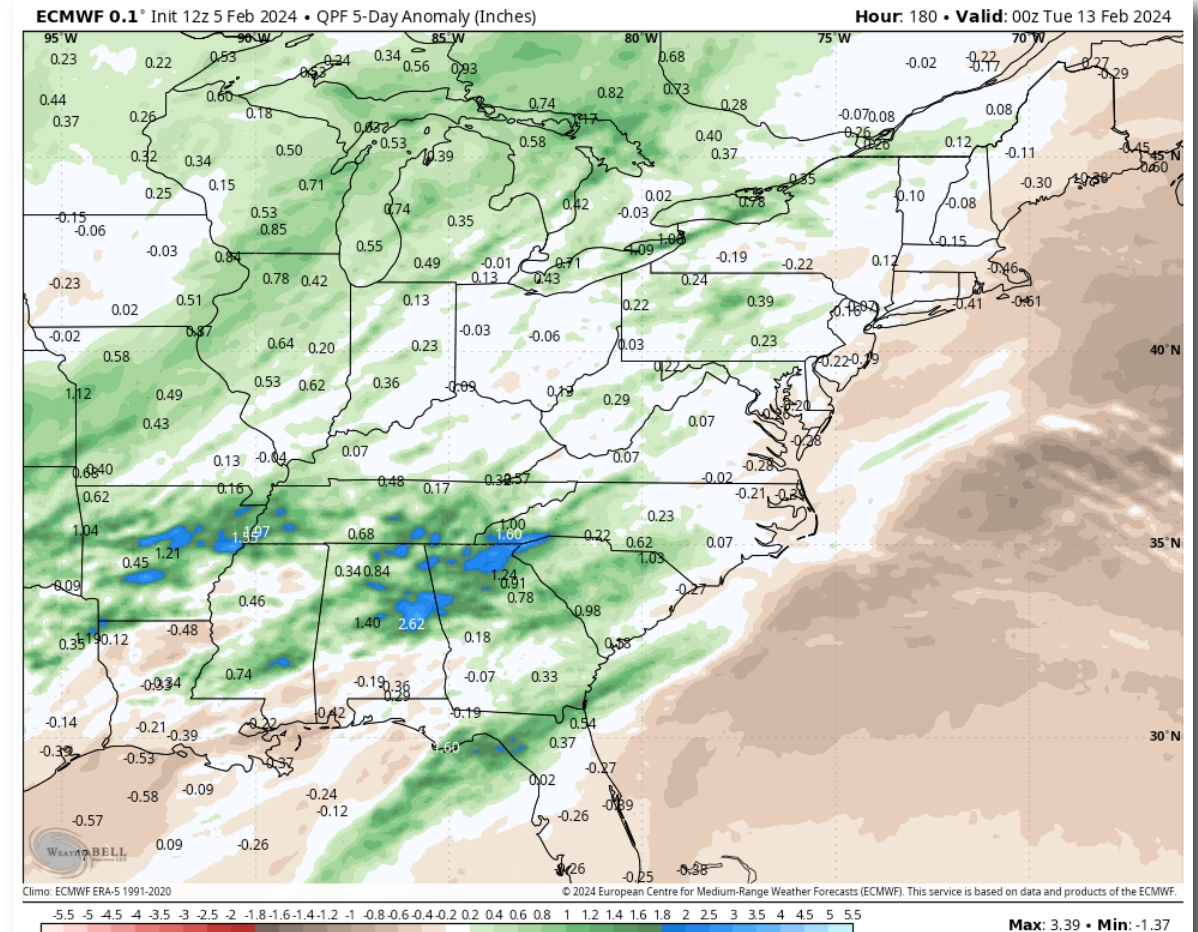
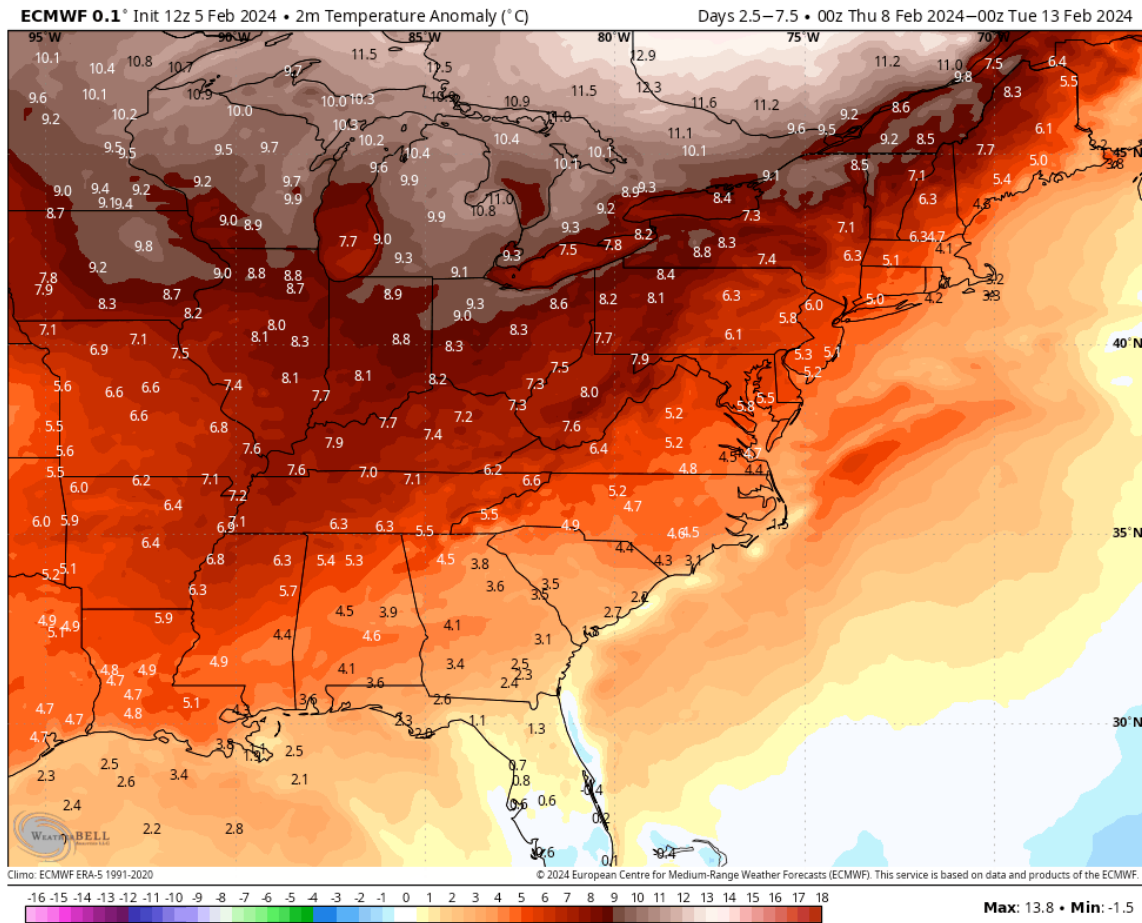
January 30, 2024
(Released Thursday, Feb. 1, 2024)

Valid 7 a.m. EST

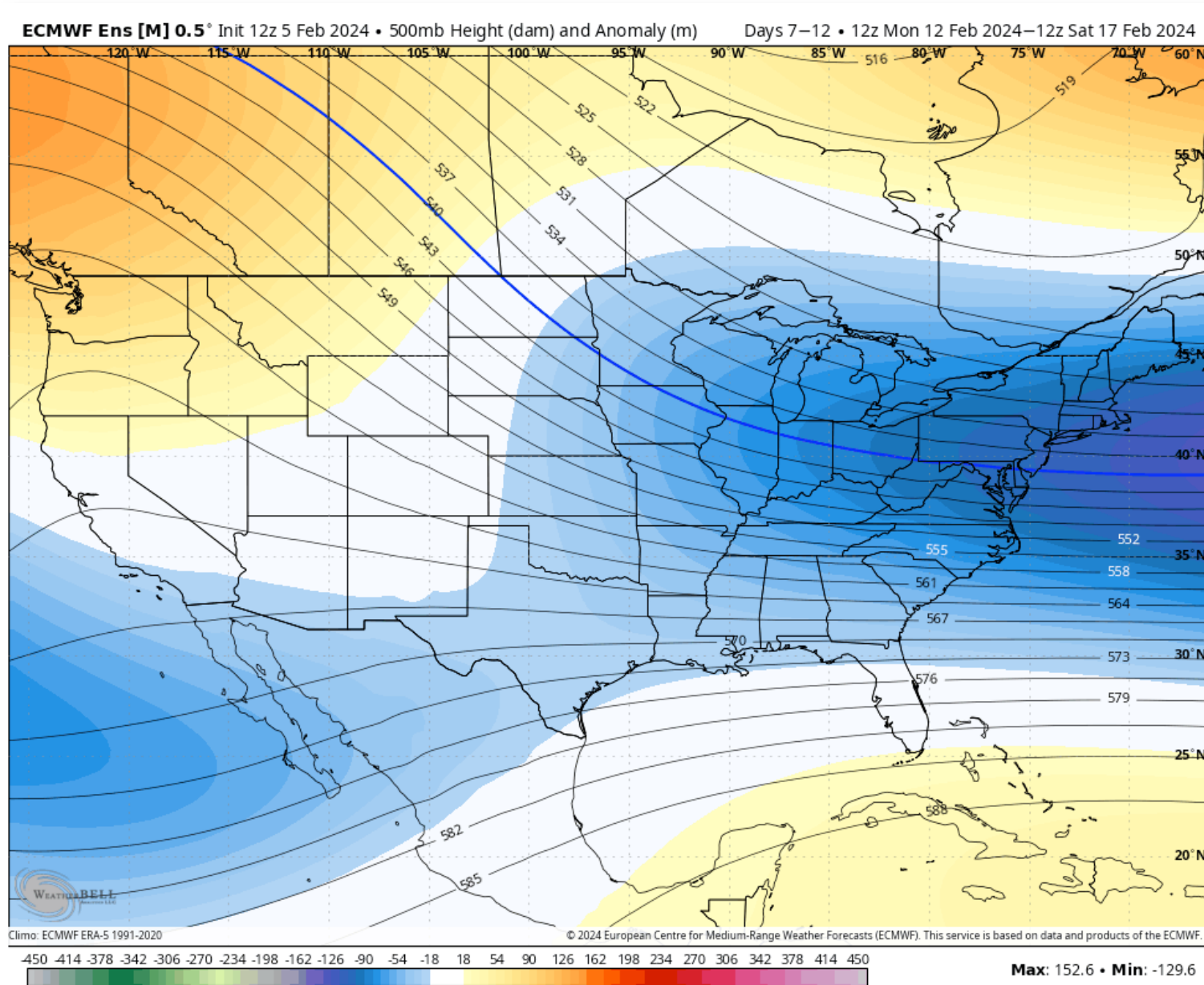




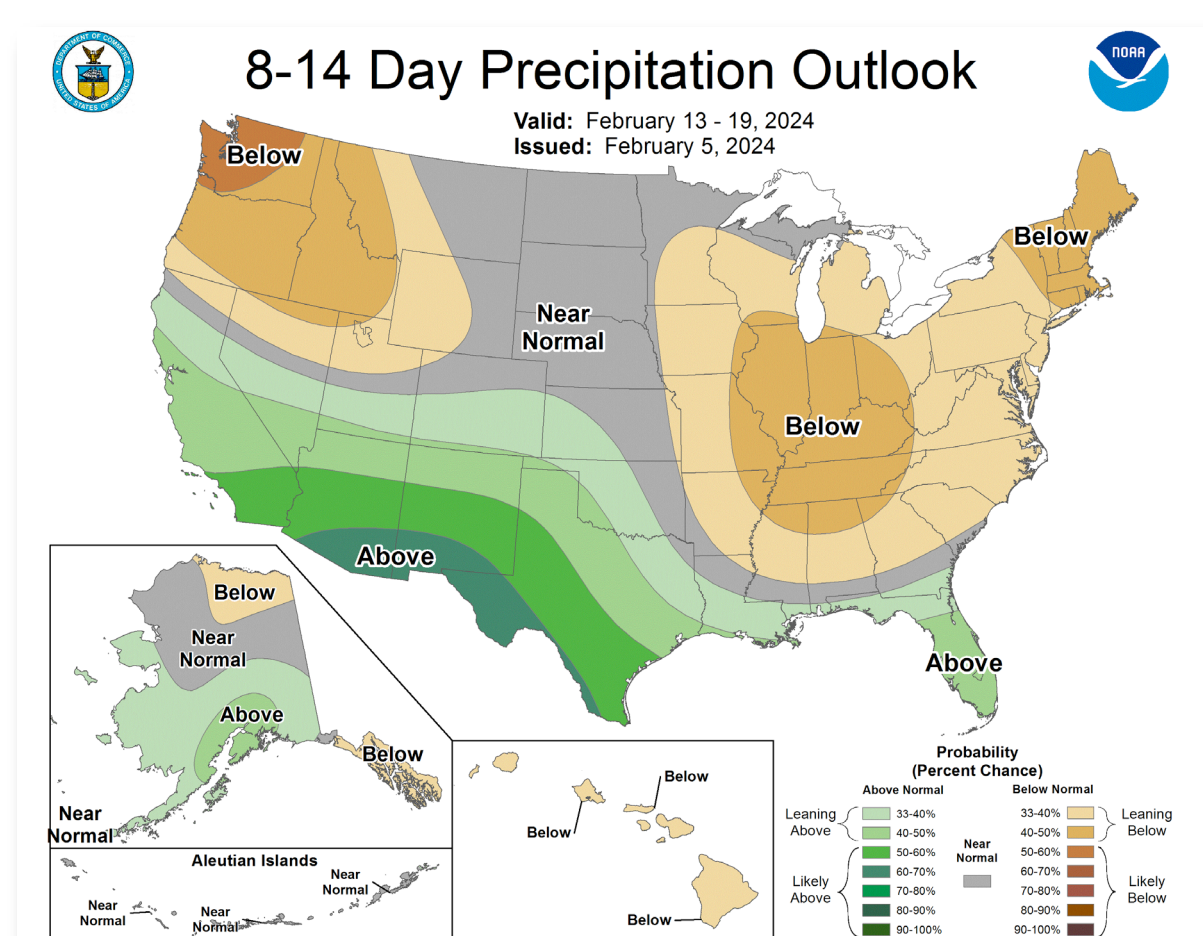
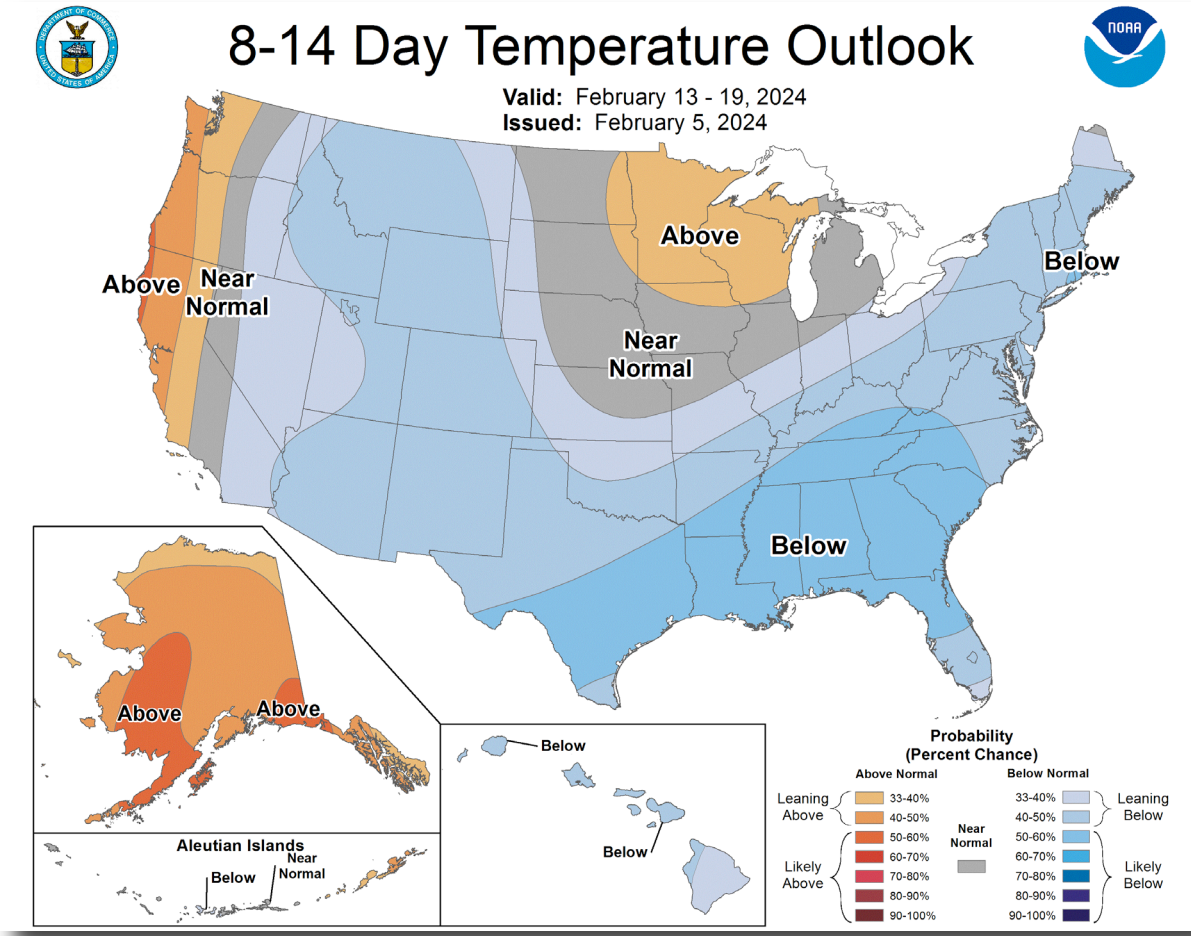
Feb Warmth



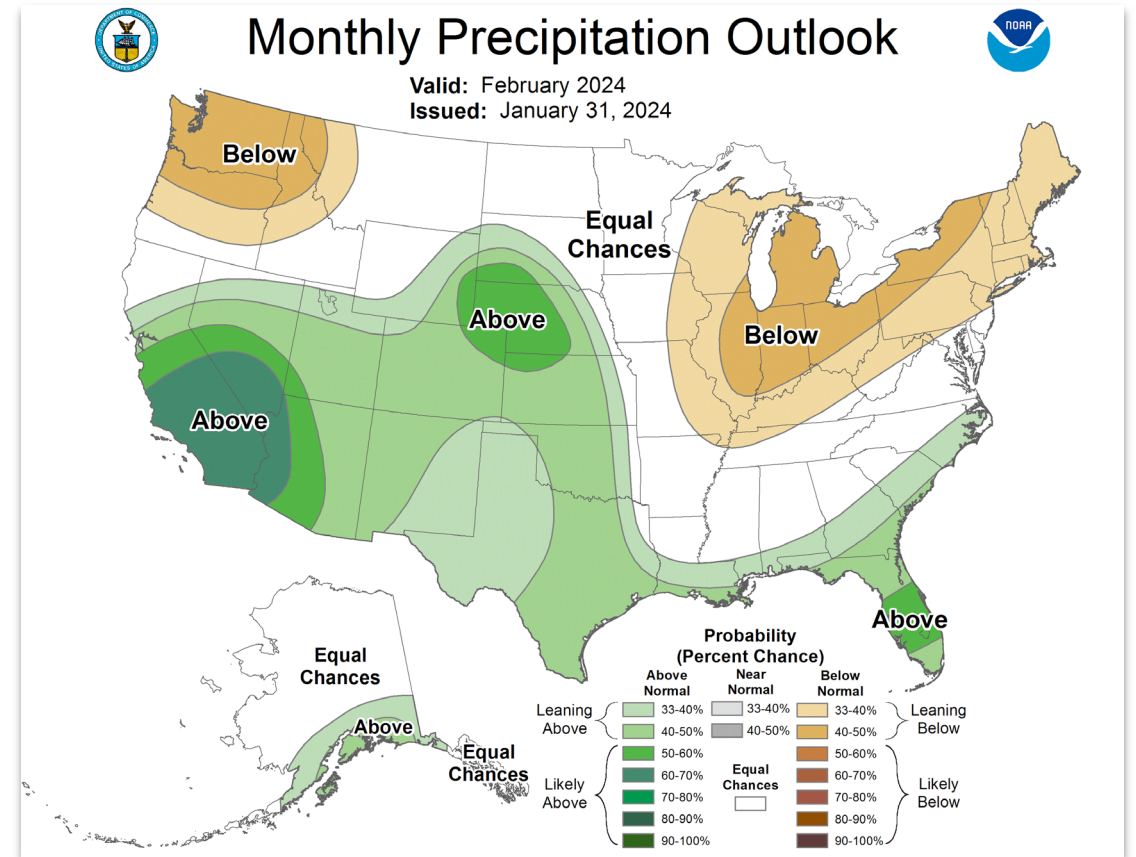
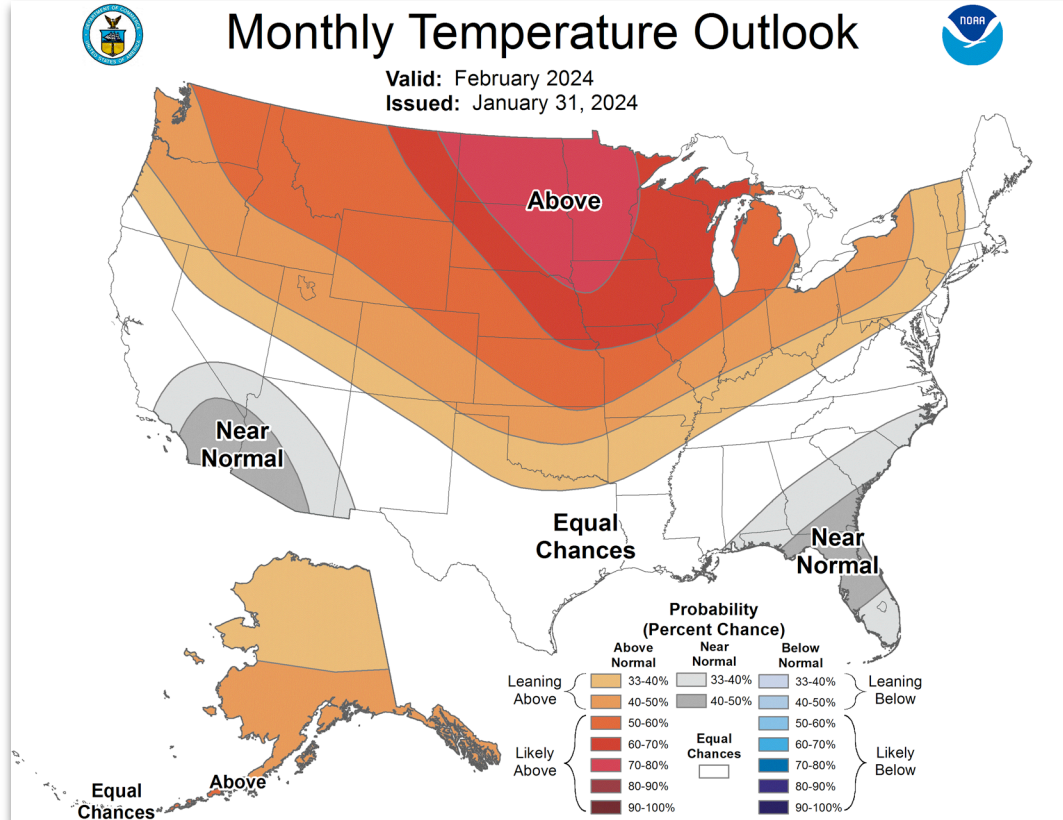
ECMWF ENS Week Two Forecast

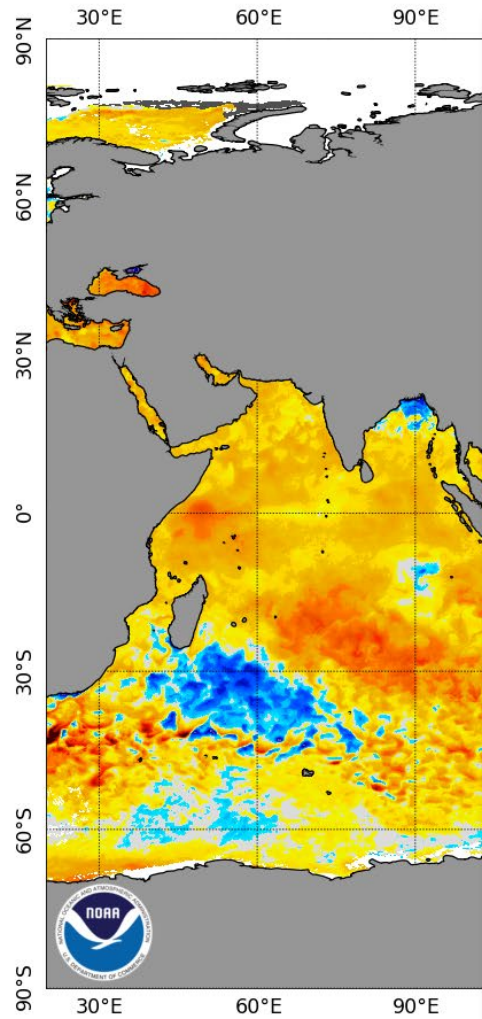


CPC 8-14 Day Outlook



February Extended Forecast

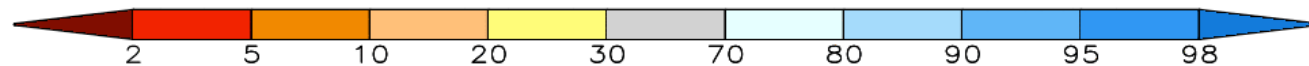
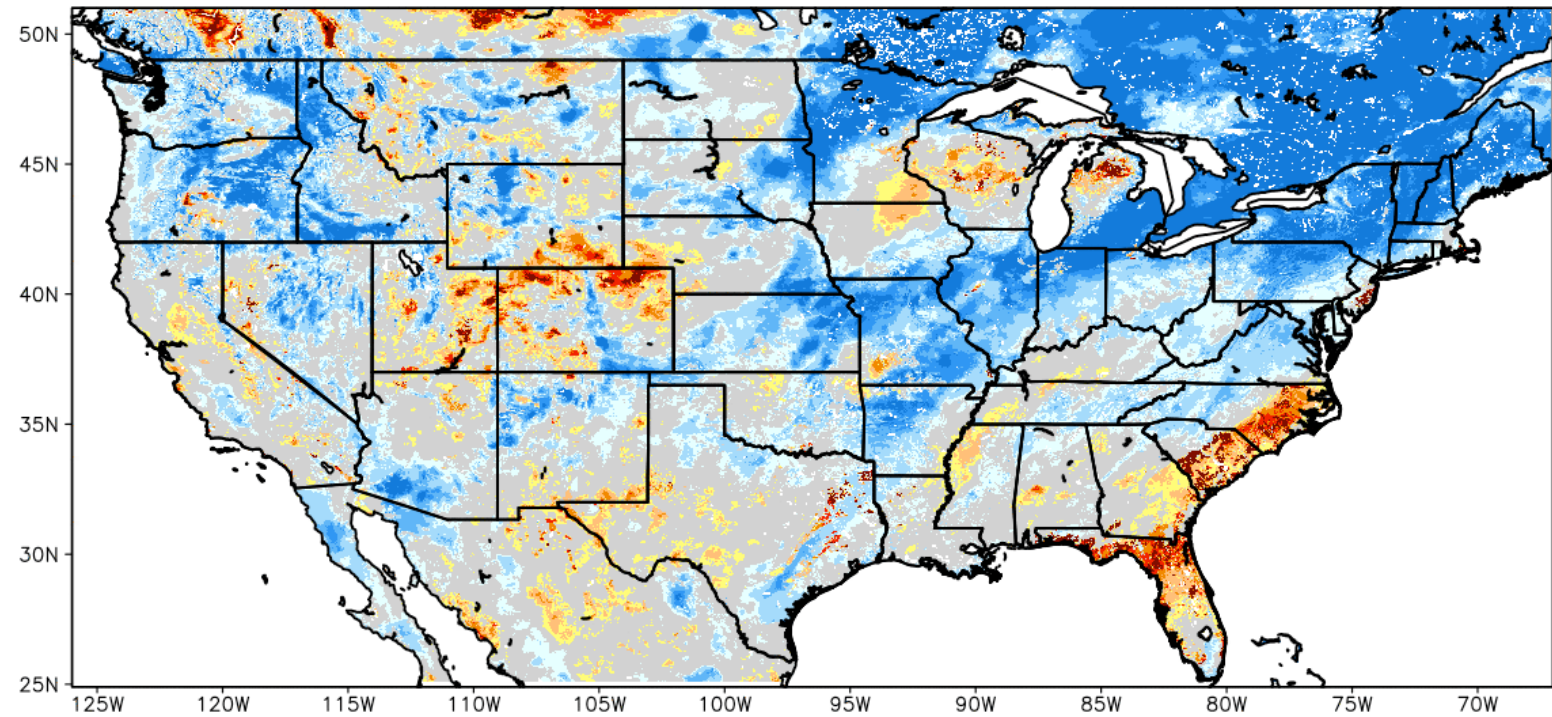


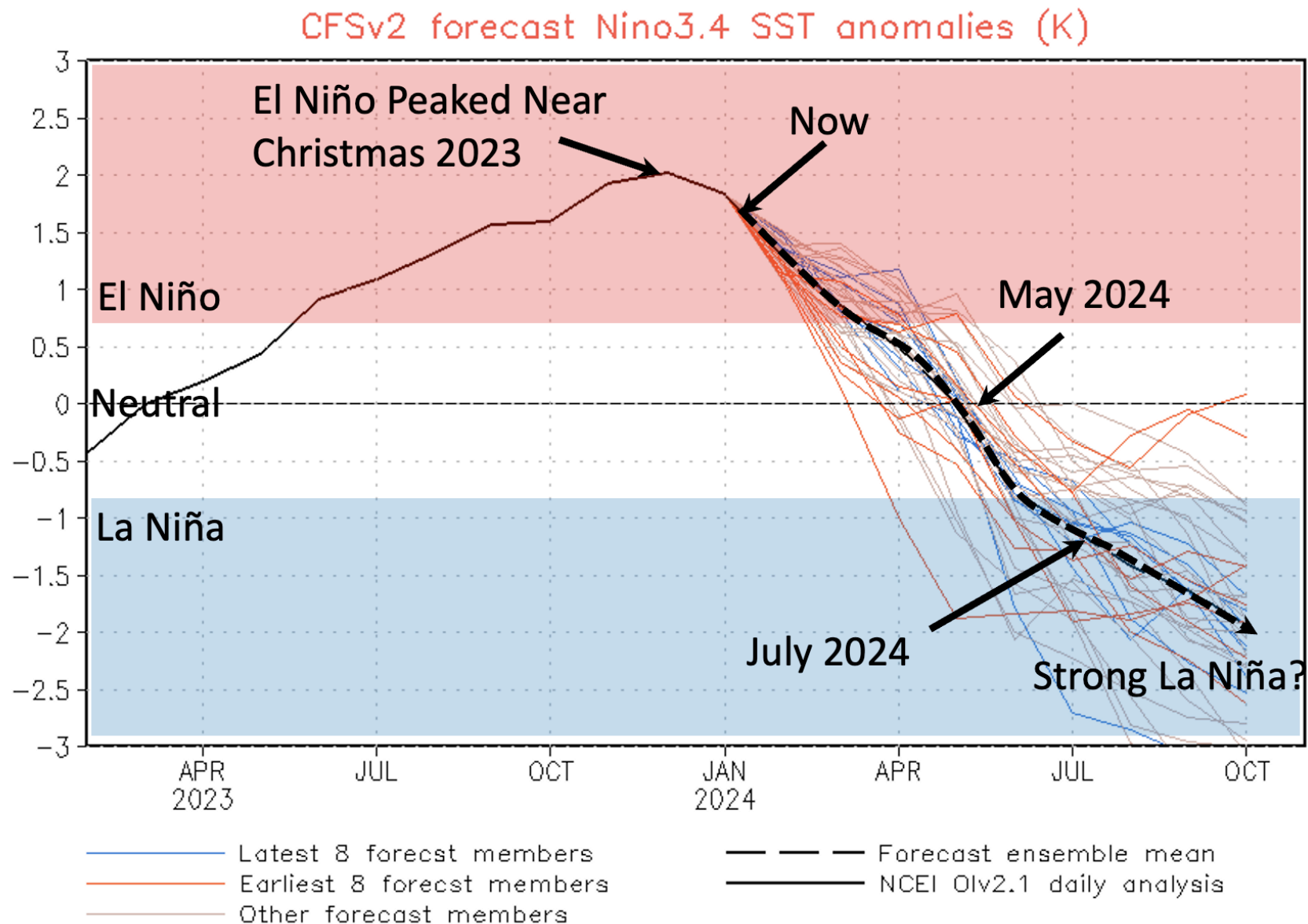


■ No data
■ Ice

****NOTE****
****Experimental****

SPoRT-LIS 0-40 cm Soil Moisture percentile valid 30 Jan 2024





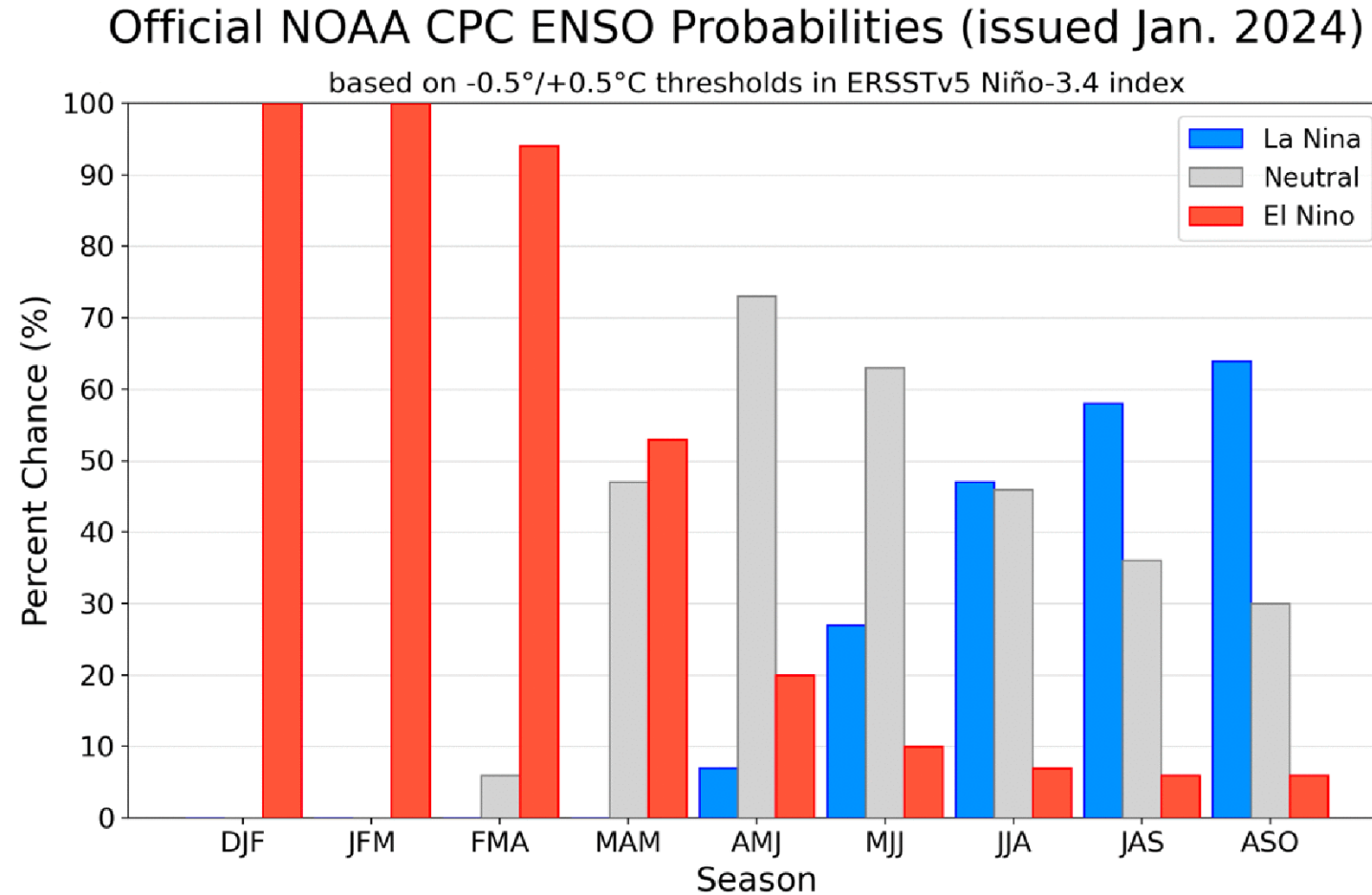
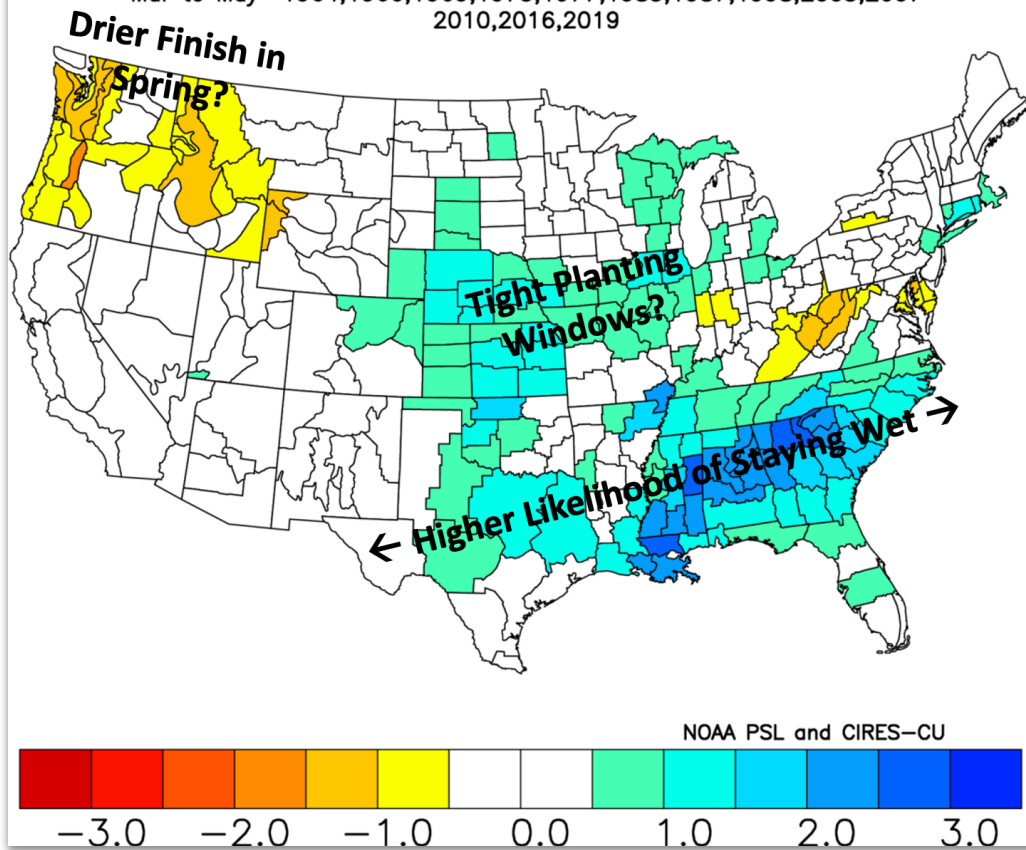


Figure 7. Official ENSO probabilities for the Niño 3.4 sea surface temperature index (5°N - 5°S , 120°W - 170°W). Figure updated 11 January 2024.

Analog Years when El Niño Peaked in Winter and faded trough Spring into Summer

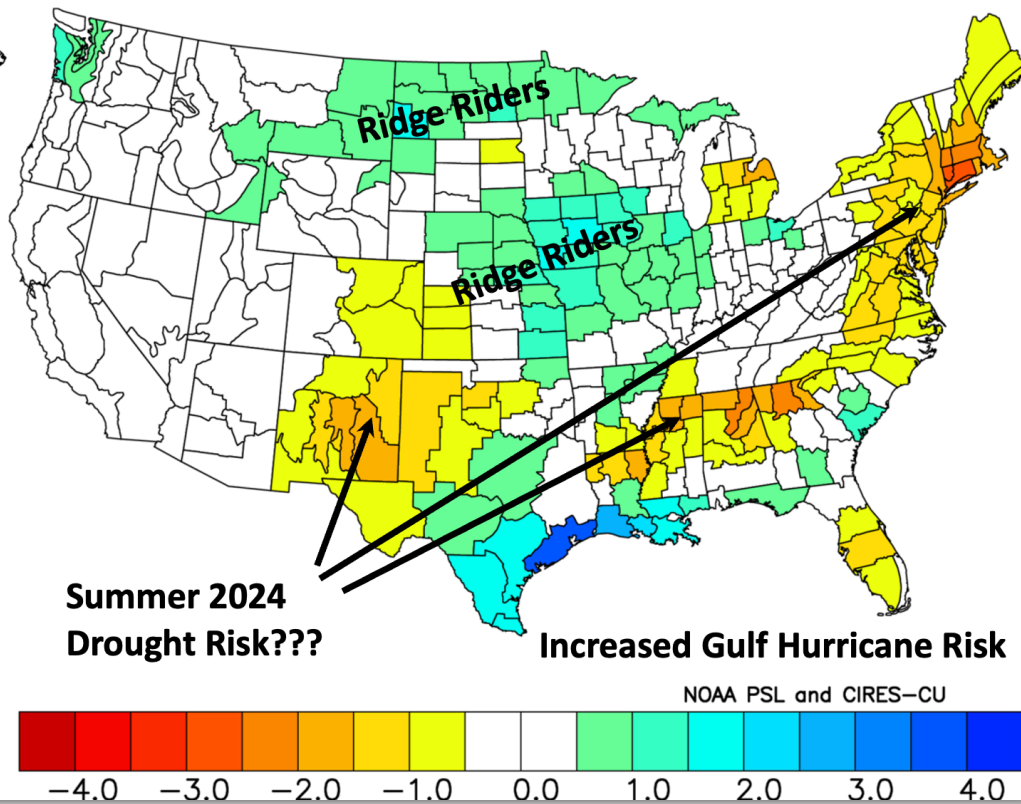
Spring (March – May) Composite Precipitation Anomalies

NOAA/NCEI Climate Division Composite Precipitation Anomalies (in)
Versus 1981–2010 Longterm Average
Mar to May 1964,1966,1969,1973,1977,1983,1987,1998,2003,2007
2010,2016,2019

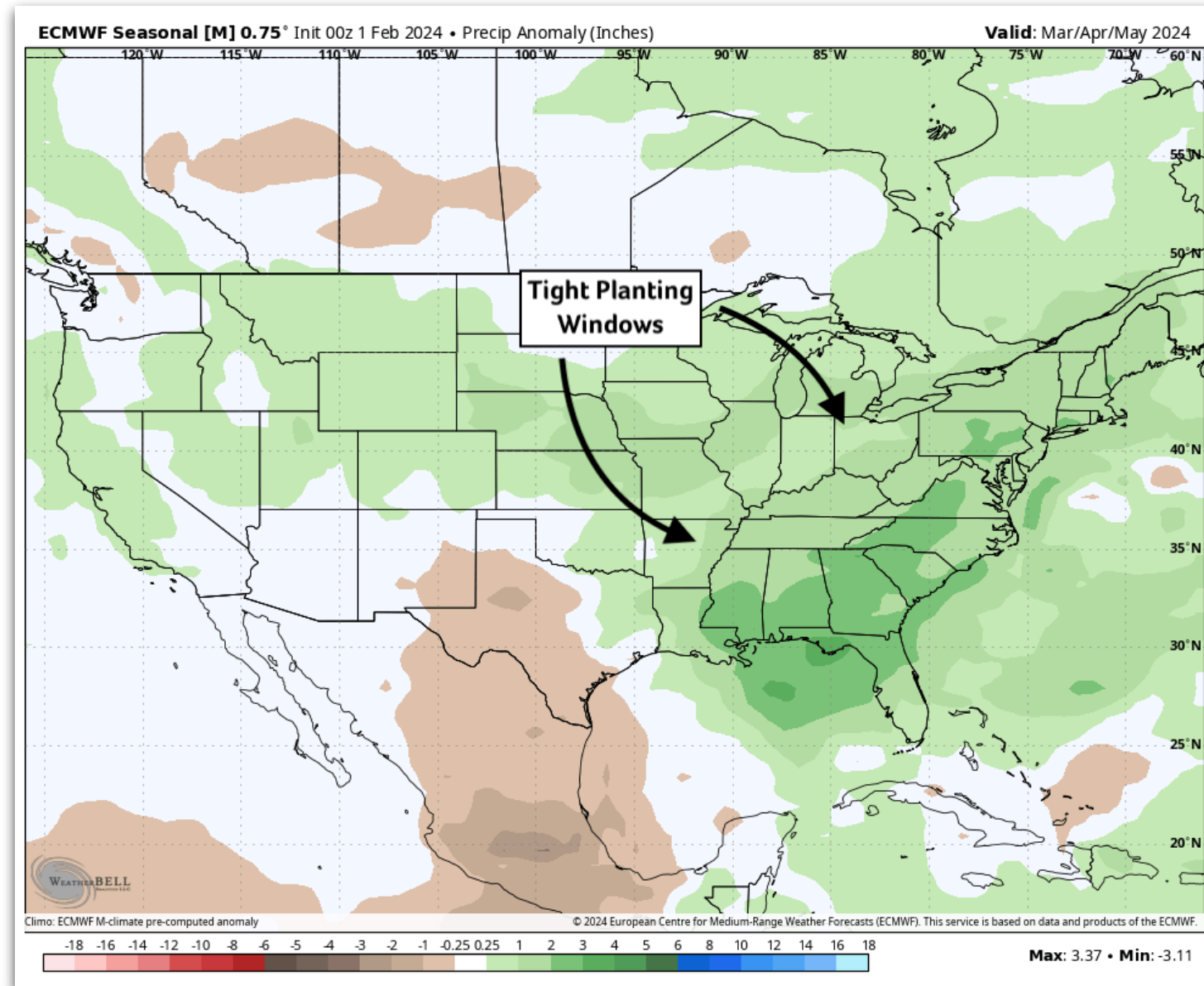


Summer (June -Sept) Composite Precipitation Anomalies

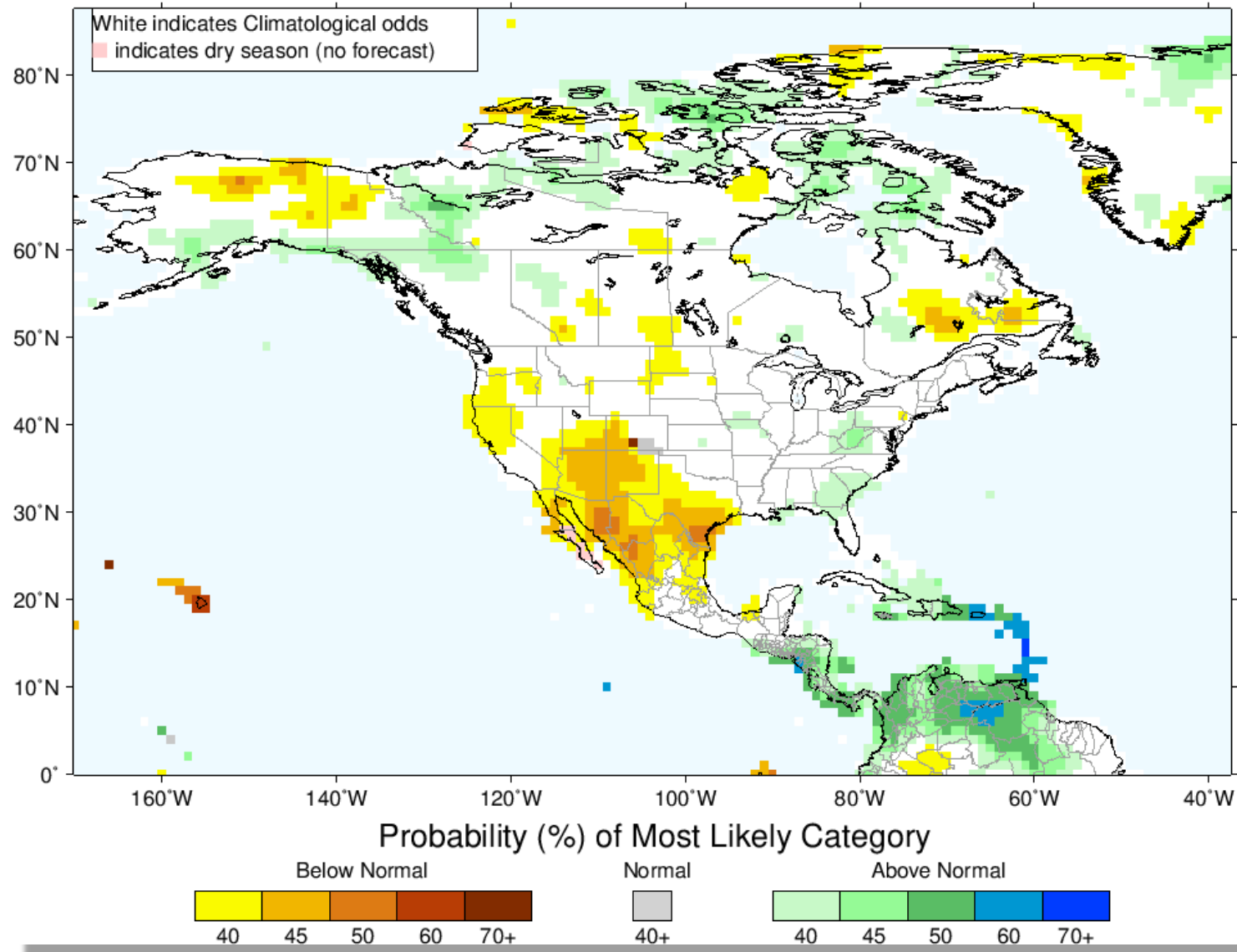
NOAA/NCEI Climate Division Composite Precipitation Anomalies (in)
Versus 1981–2010 Longterm Average
Jun to Sep 1964,1966,1969,1973,1977,1983,1987,1998,2003,2007
2010,2016,2019



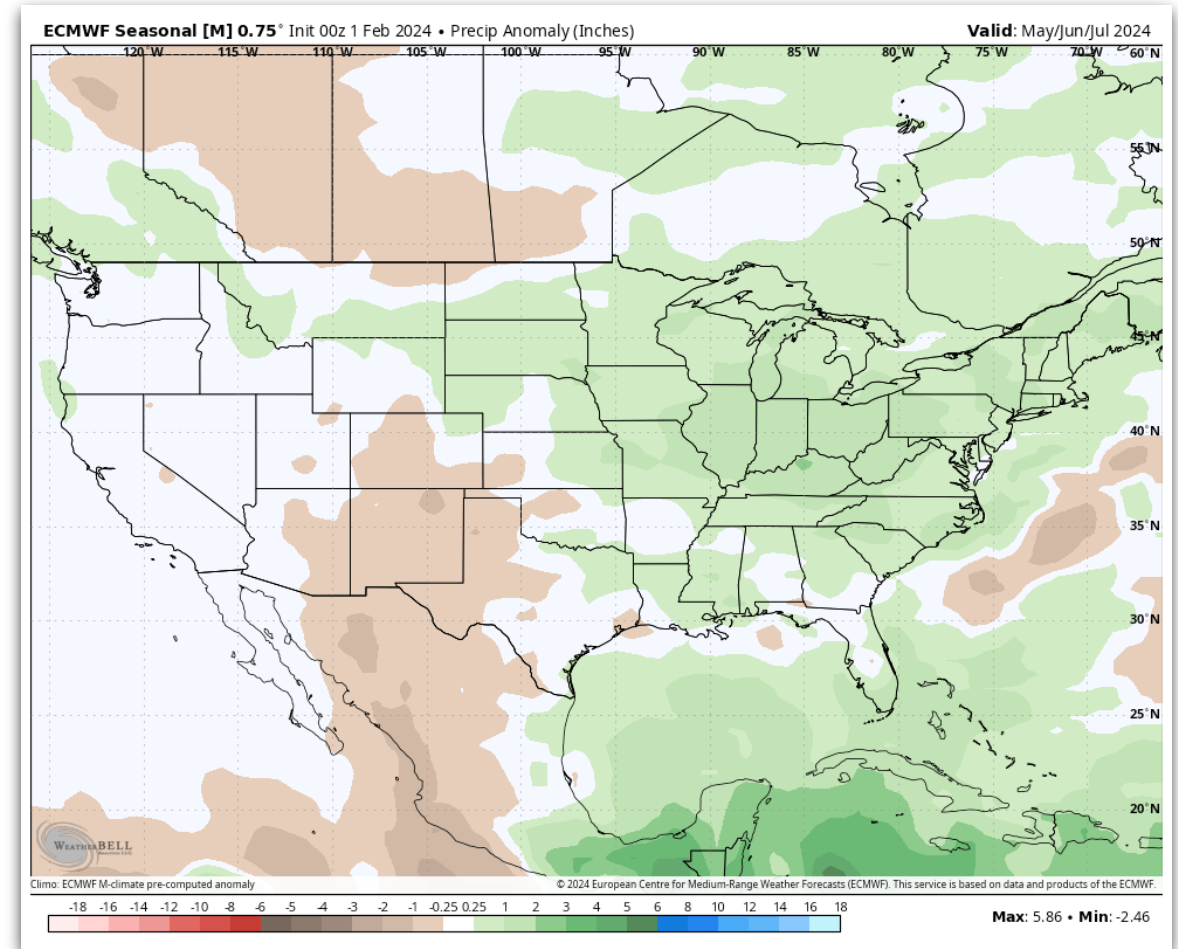
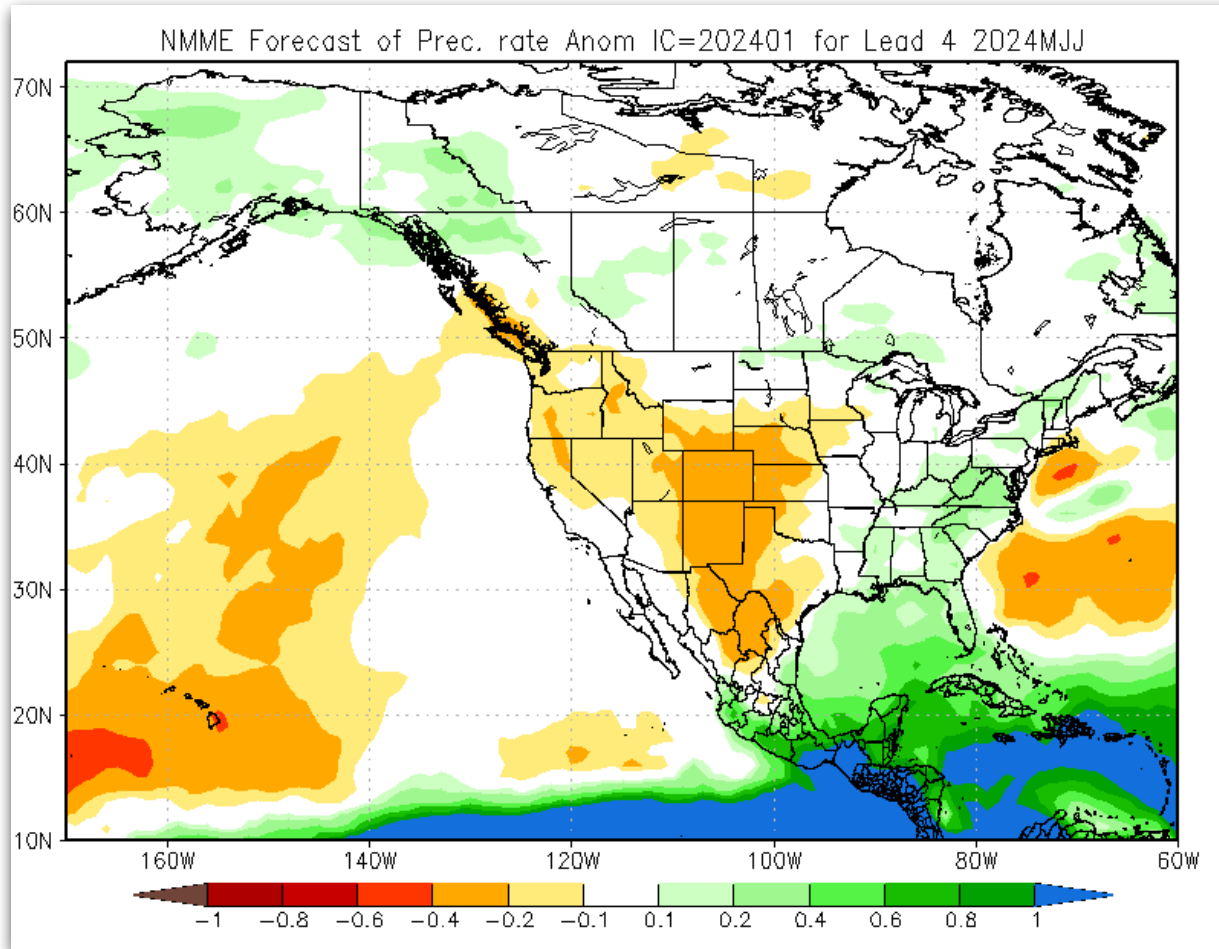
ECMWF Spring Precip Forecast



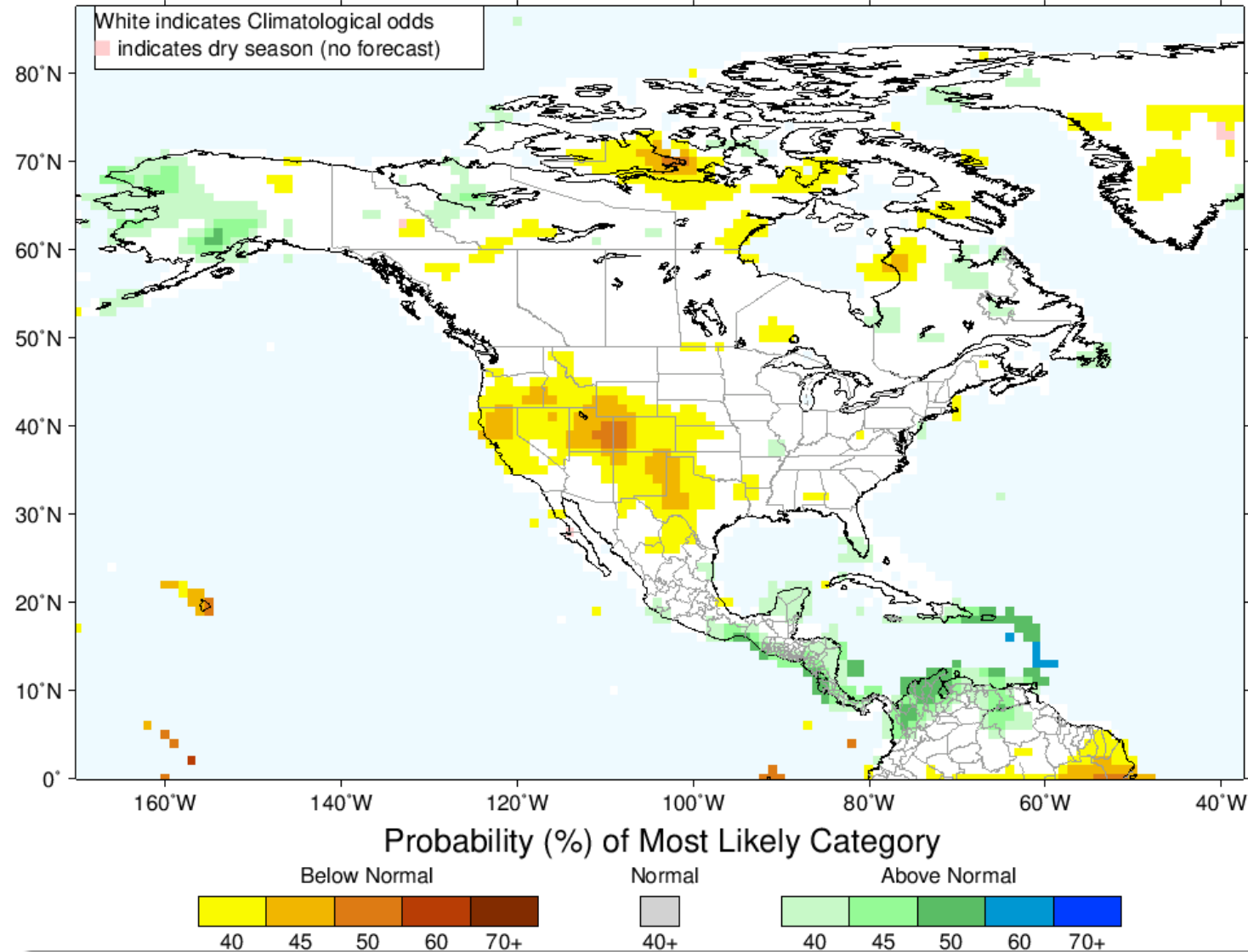
IRI Multi-Model Probability Forecast for Precipitation for March–April–May 2024, Issued January 2024



Way too Early Summer Forecast



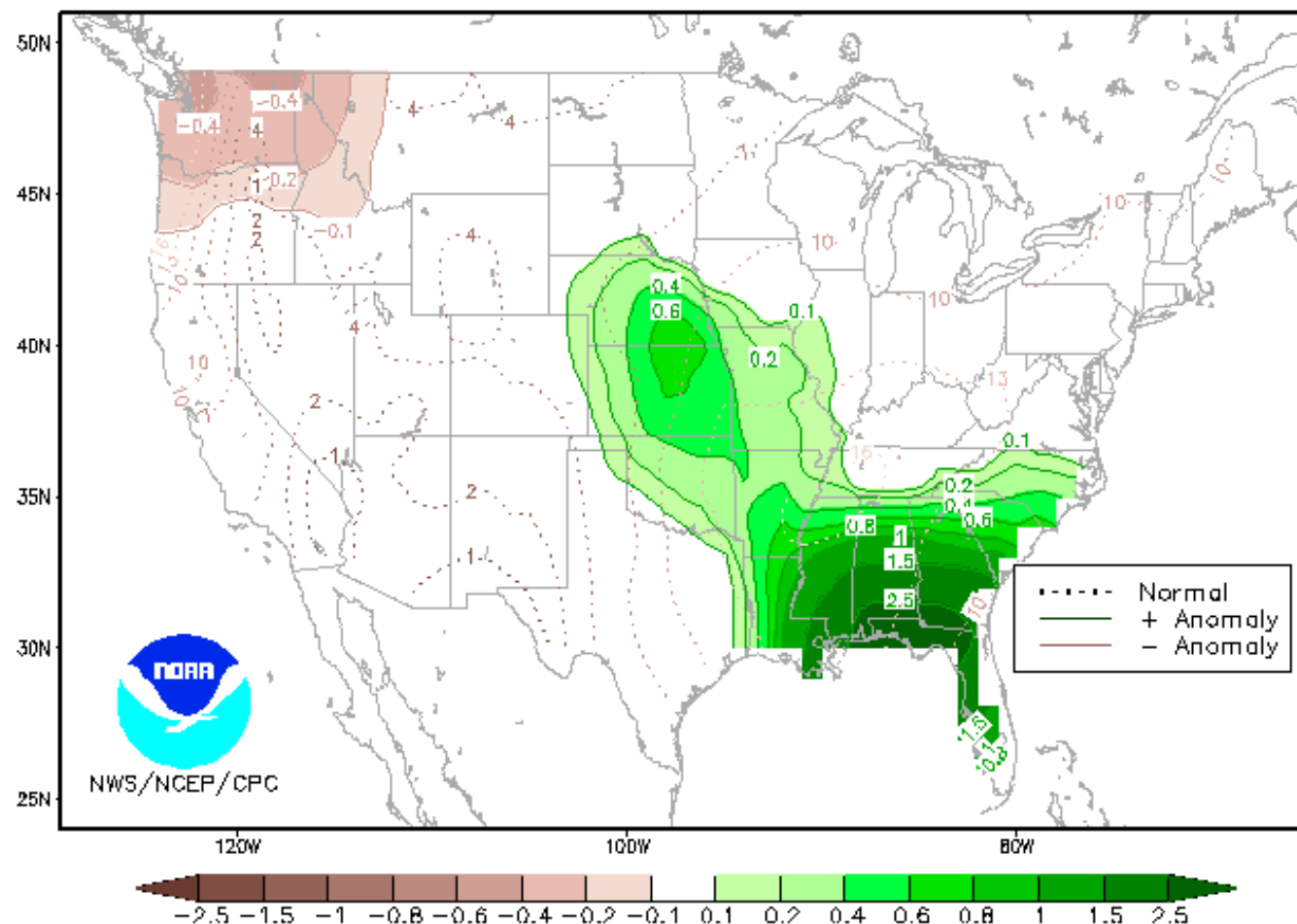
IRI Multi-Model Probability Forecast for Precipitation for May–June–July 2024, Issued January 2024



CPC: March - May

Anomaly (inches) of the Mid-value of the 3-Month Precipitation Outlook Distribution for MAM 2024

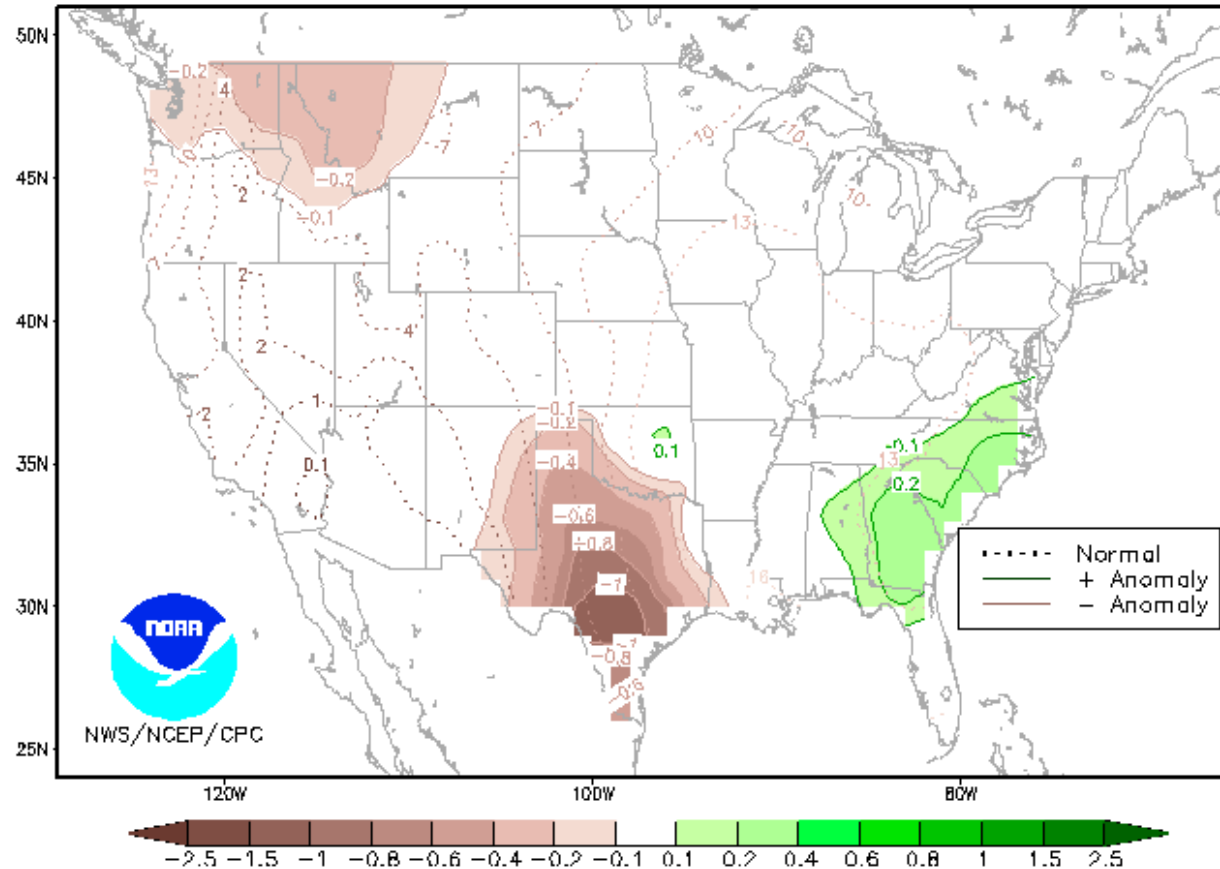
Dashed lines are the median 3-month precipitation (inches) based on observations from 1991–2020. Shaded areas indicate whether the anomaly of the mid-value is positive (green) or negative (brown) compared to the 1991–2020 average. Non-shaded regions indicate that the absolute value of the anomaly of the mid-value is less than 0.1. For a given location, the mid-value of the outlook may be found by adding the anomaly value to the 1991–2020 average. There is an equal 50–50 chance that actual conditions will be above or below the mid-value. Please note that this product is a limited representation of the official forecast, showing the anomaly of the mid-value, but not the width of the range of possibilities. For more comprehensive forecast information, please see our additional forecast products.



CPC: April - June

Anomaly (inches) of the Mid-value of the 3-Month Precipitation Outlook Distribution for AMJ 2024

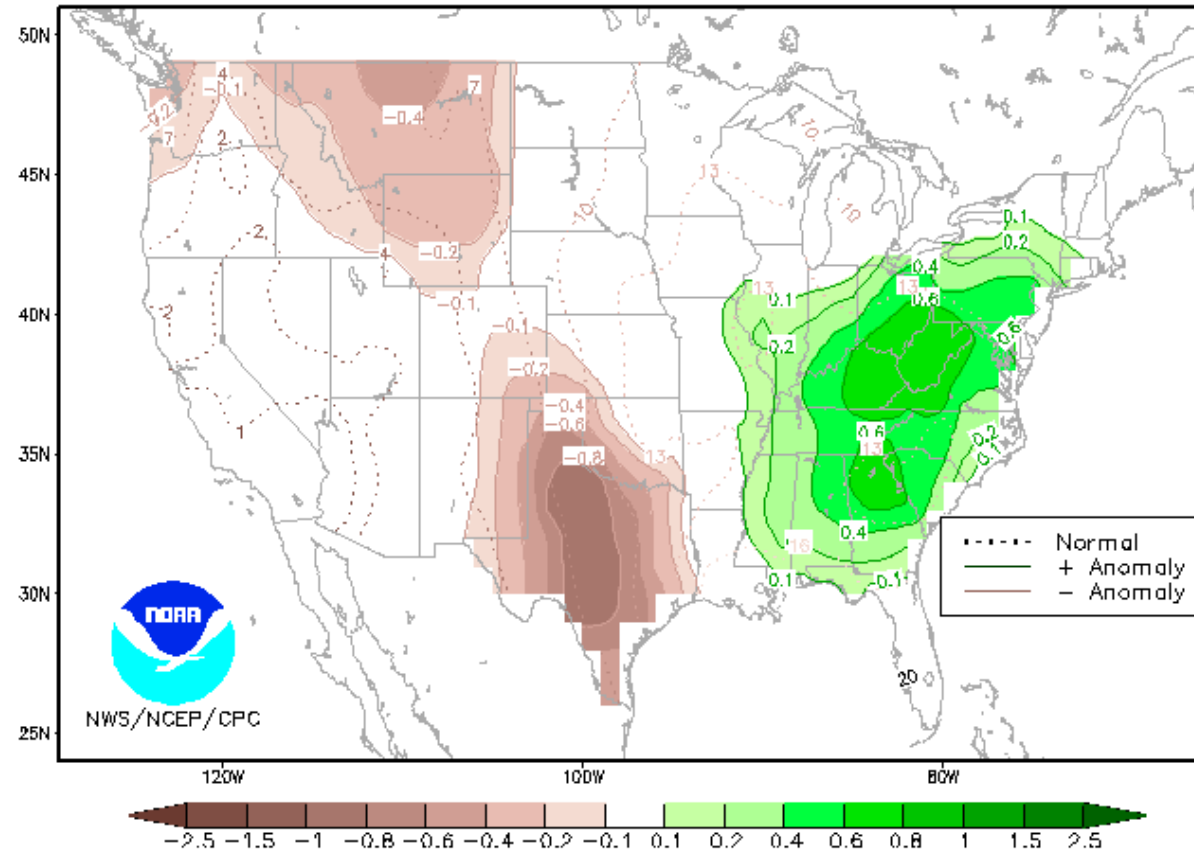
Dashed lines are the median 3-month precipitation (inches) based on observations from 1991–2020. Shaded areas indicate whether the anomaly of the mid-value is positive (green) or negative (brown) compared to the 1991–2020 average. Non-shaded regions indicate that the absolute value of the anomaly of the mid-value is less than 0.1. For a given location, the mid-value of the outlook may be found by adding the anomaly value to the 1991–2020 average. There is an equal 50–50 chance that actual conditions will be above or below the mid-value. Please note that this product is a limited representation of the official forecast, showing the anomaly of the mid-value, but not the width of the range of possibilities. For more comprehensive forecast information, please see our additional forecast products.



CPC: May-July

Anomaly (inches) of the Mid-value of the 3-Month Precipitation Outlook Distribution for MJJ 2024

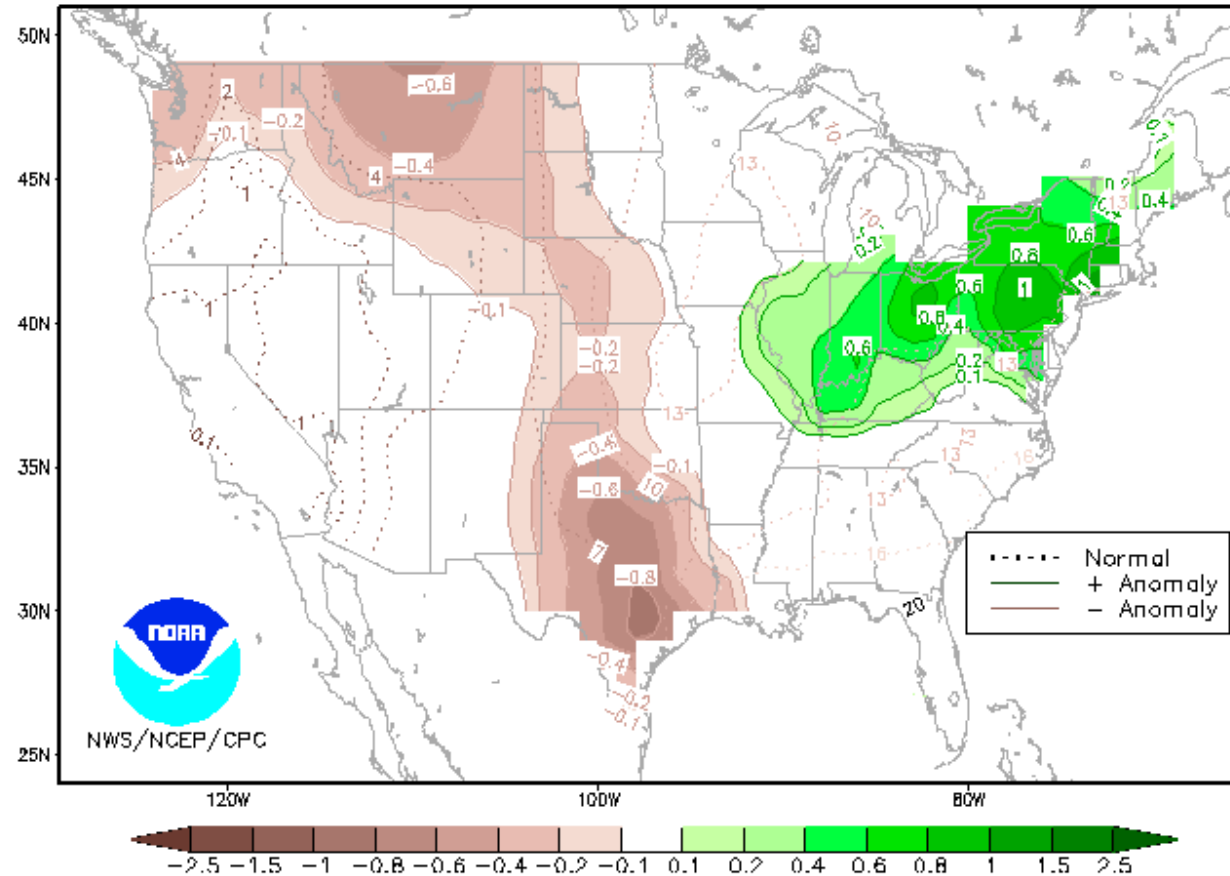
Dashed lines are the median 3-month precipitation (inches) based on observations from 1991–2020. Shaded areas indicate whether the anomaly of the mid-value is positive (green) or negative (brown) compared to the 1991–2020 average. Non-shaded regions indicate that the absolute value of the anomaly of the mid-value is less than 0.1. For a given location, the mid-value of the outlook may be found by adding the anomaly value to the 1991–2020 average. There is an equal 50–50 chance that actual conditions will be above or below the mid-value. Please note that this product is a limited representation of the official forecast, showing the anomaly of the mid-value, but not the width of the range of possibilities. For more comprehensive forecast information, please see our additional forecast products.

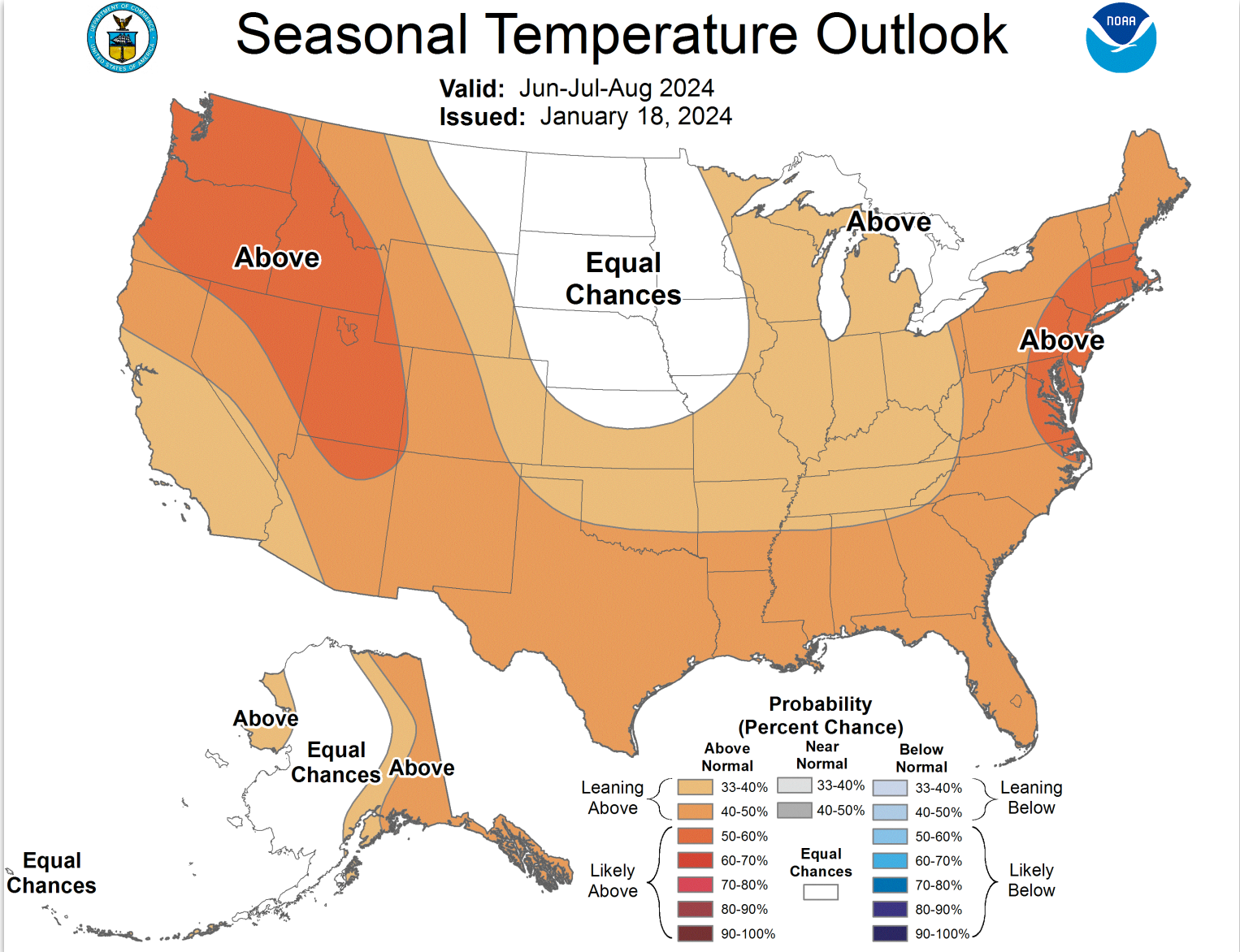


June - Aug

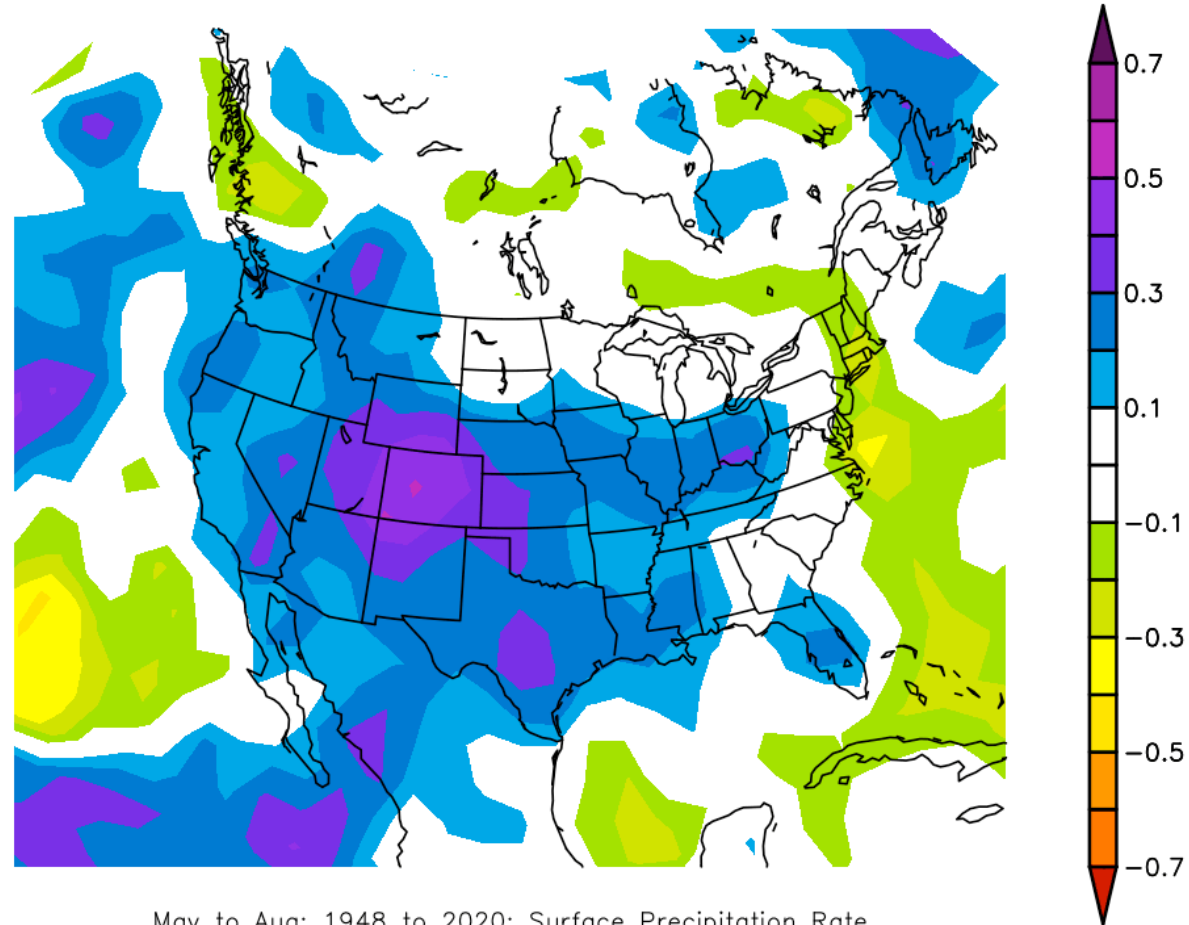
Anomaly (inches) of the Mid-value of the 3-Month Precipitation Outlook Distribution for JJA 2024

Dashed lines are the median 3-month precipitation (inches) based on observations from 1991–2020. Shaded areas indicate whether the anomaly of the mid-value is positive (green) or negative (brown) compared to the 1991–2020 average. Non-shaded regions indicate that the absolute value of the anomaly of the mid-value is less than 0.1. For a given location, the mid-value of the outlook may be found by adding the anomaly value to the 1991–2020 average. There is an equal 50–50 chance that actual conditions will be above or below the mid-value. Please note that this product is a limited representation of the official forecast, showing the anomaly of the mid-value, but not the width of the range of possibilities. For more comprehensive forecast information, please see our additional forecast products.



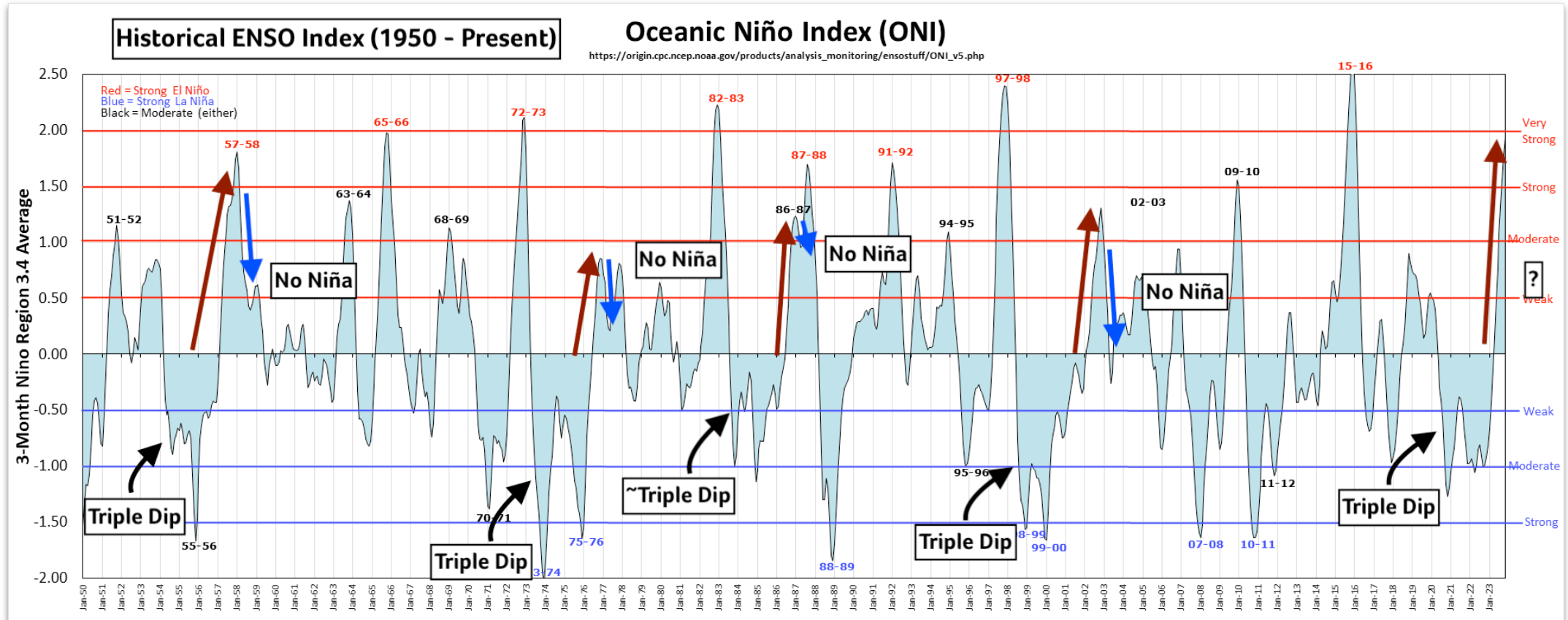


PDO x Precipitation Correlation



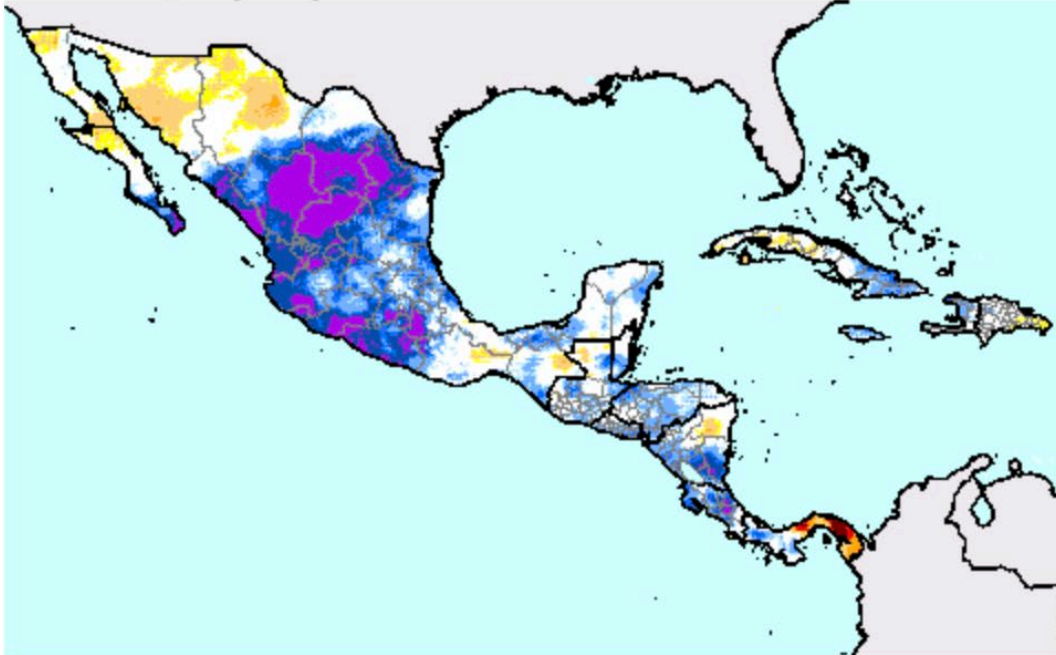
May to Aug: 1948 to 2020: Surface Precipitation Rate
Seasonal Correlation w/ May to Aug PDO
NCEP/NCAR Reanalysis

NOAA Physical Sciences Laboratory

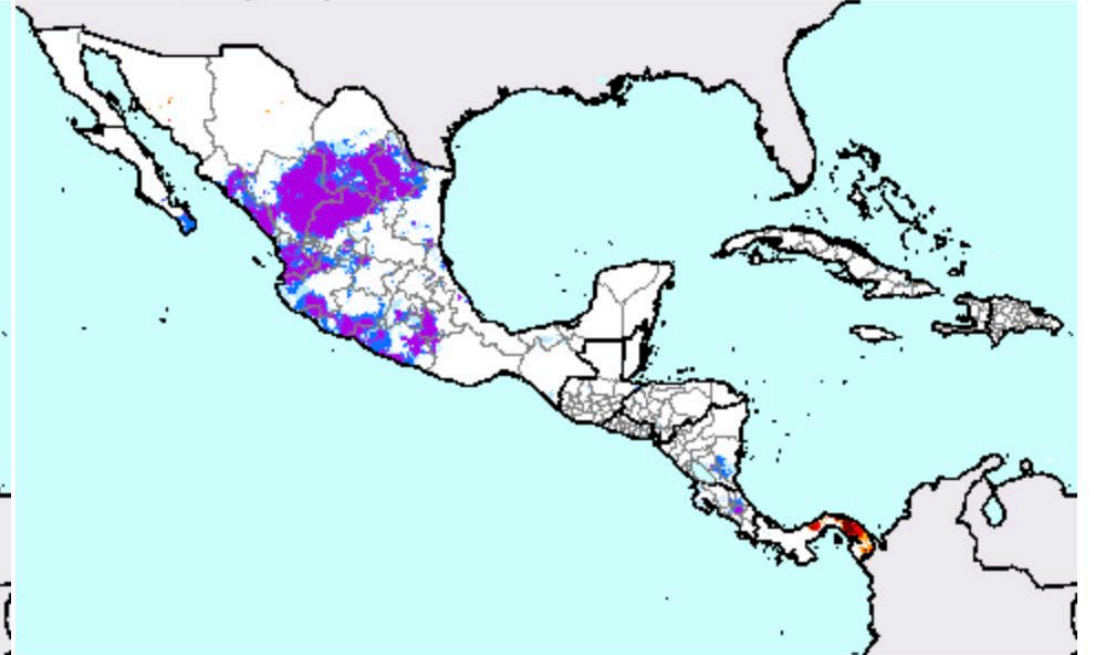


Panama Canal Drought

SPI 3-Month Drought Severity (CHIRPS)
Oct. 1 - Dec. 31, 2023 [prelim.]



Precipitation Rank since 1981, 3-Month (CHIRPS)
Oct. 1 - Dec. 31, 2023 [prelim.]



Drought Severity

- D0: Abnormally Dry
- D1: Moderate Drought
- D2: Severe Drought
- D3: Extreme Drought
- D4: Exceptional Drought

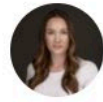
Wet Conditions

- W0: Abnormally Wet
- W1: Moderate Wet
- W2: Severe Wet
- W3: Extreme Wet
- W4: Exceptional Wet



Source: CHIRPS v2.2, UGSP, Climate Hazards Center



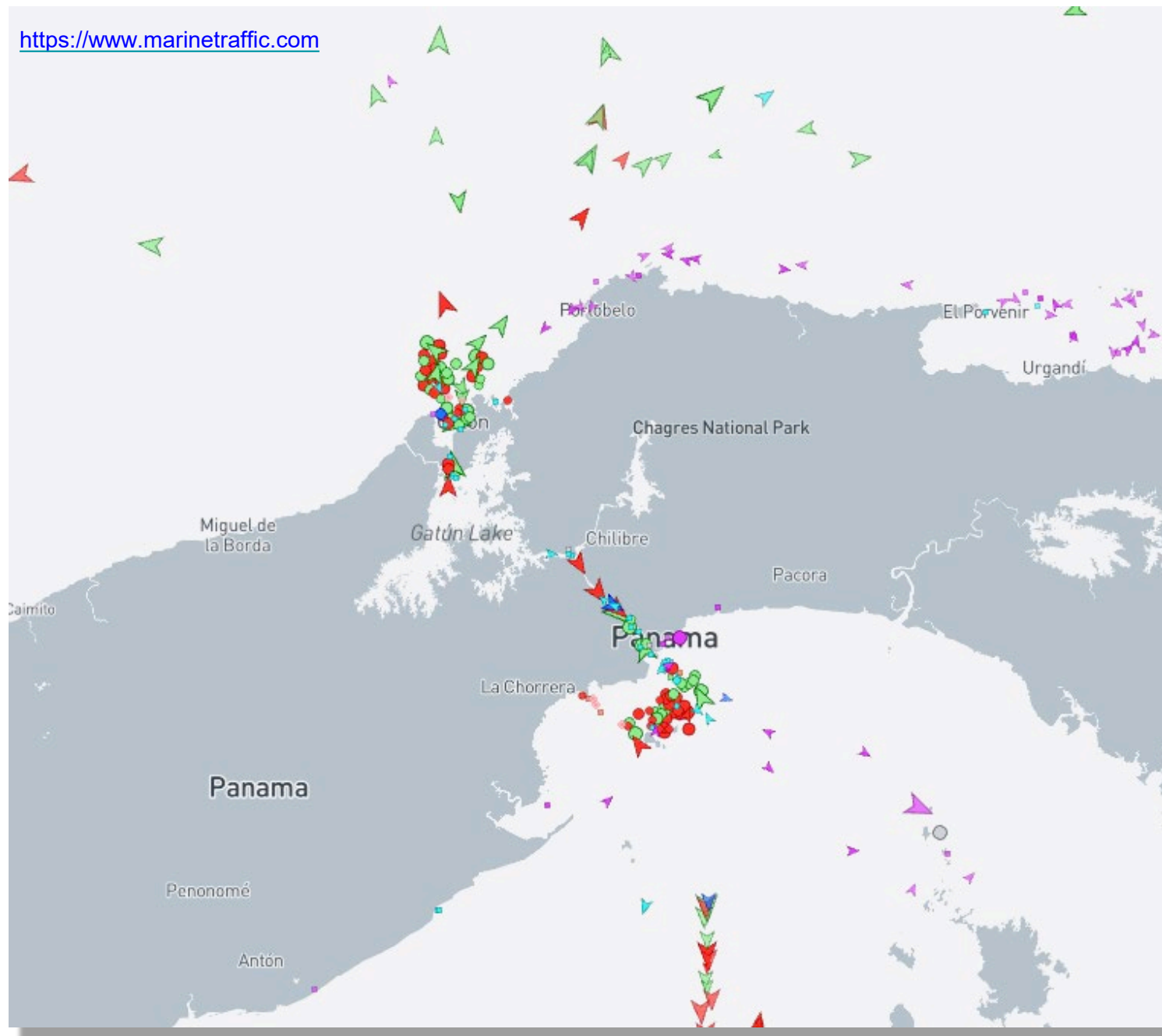


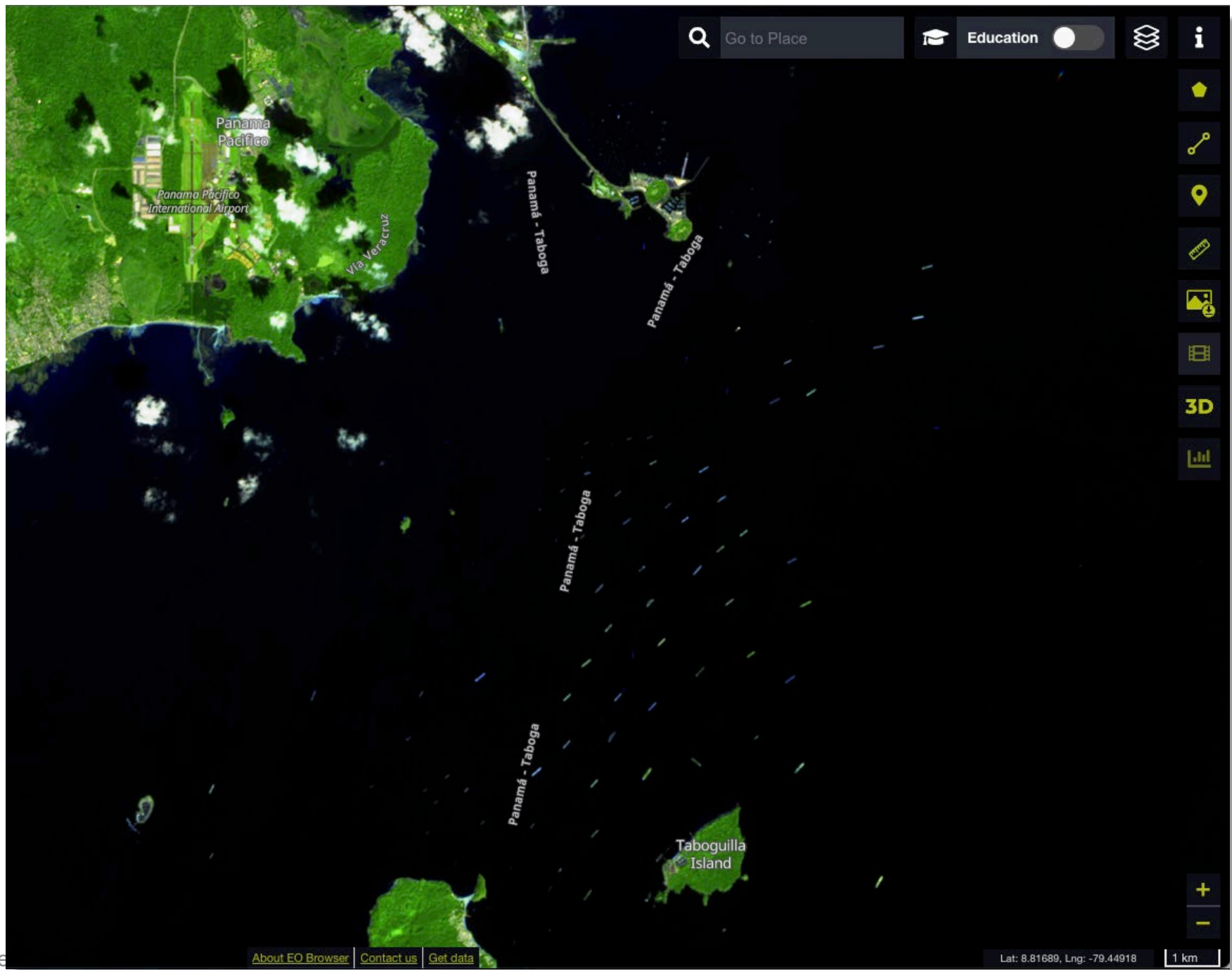
Susan Stroud ✓ @SusanNOBULL · 15h

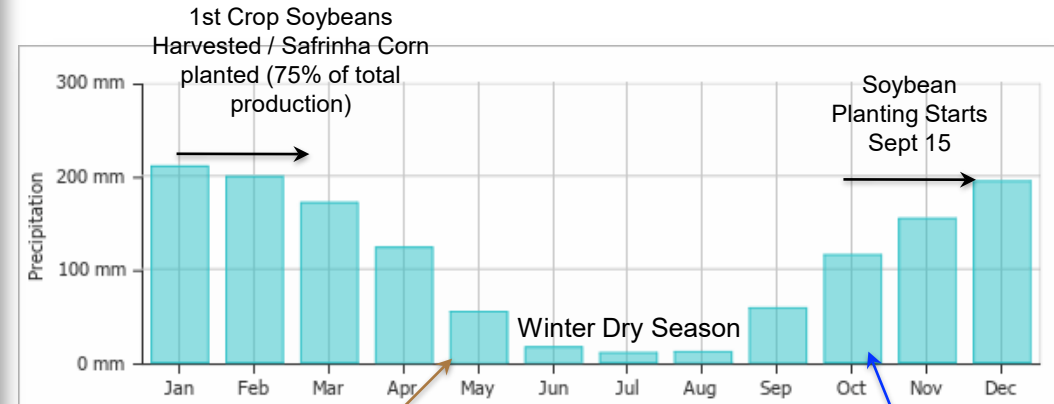
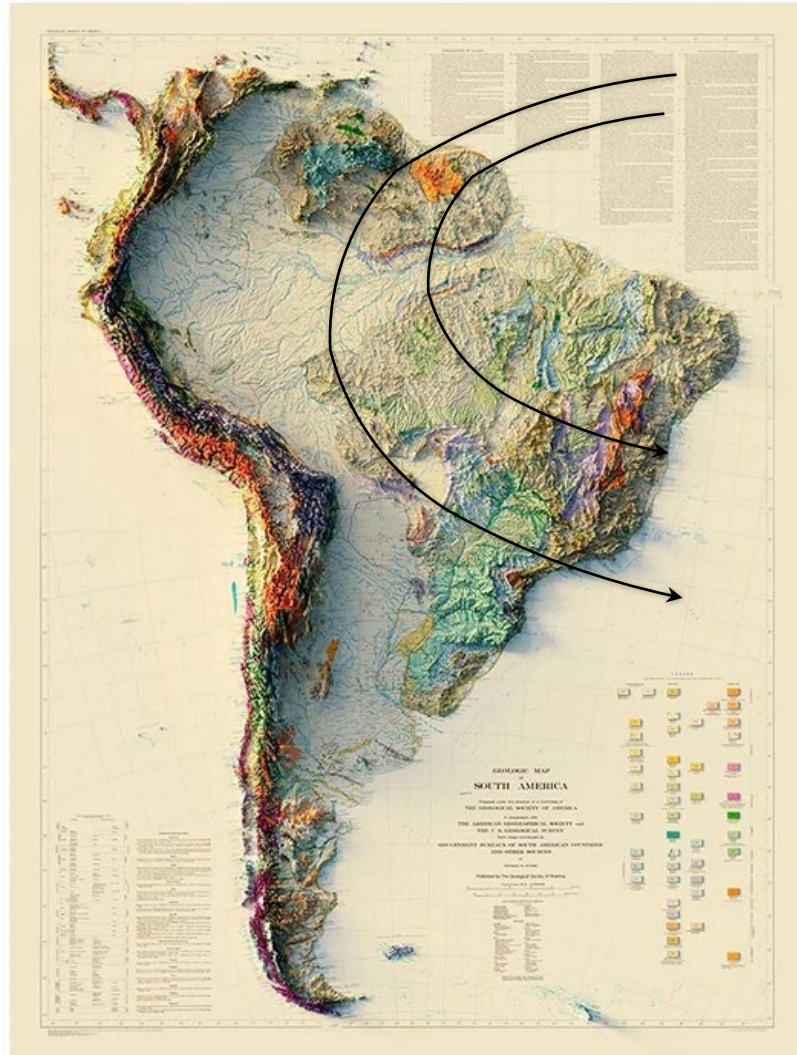
7 days and \$3.975 million later - Eneos Group's LPG tanker made it through the Panama Canal, en route to reload in the US Gulf 🚢

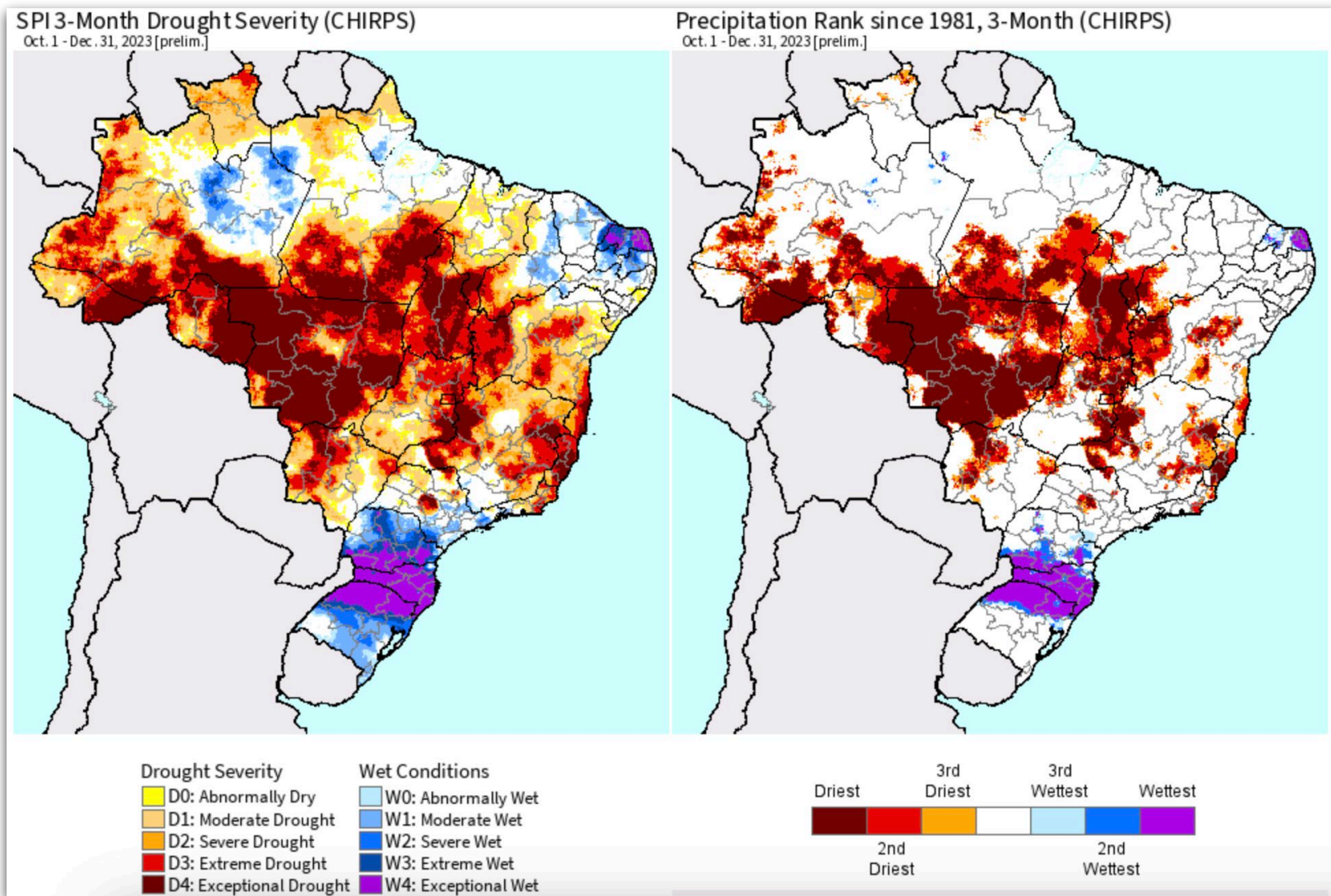
Looks like she was about to head around Cape Horn but did a U-turn after the auction was won 🏆



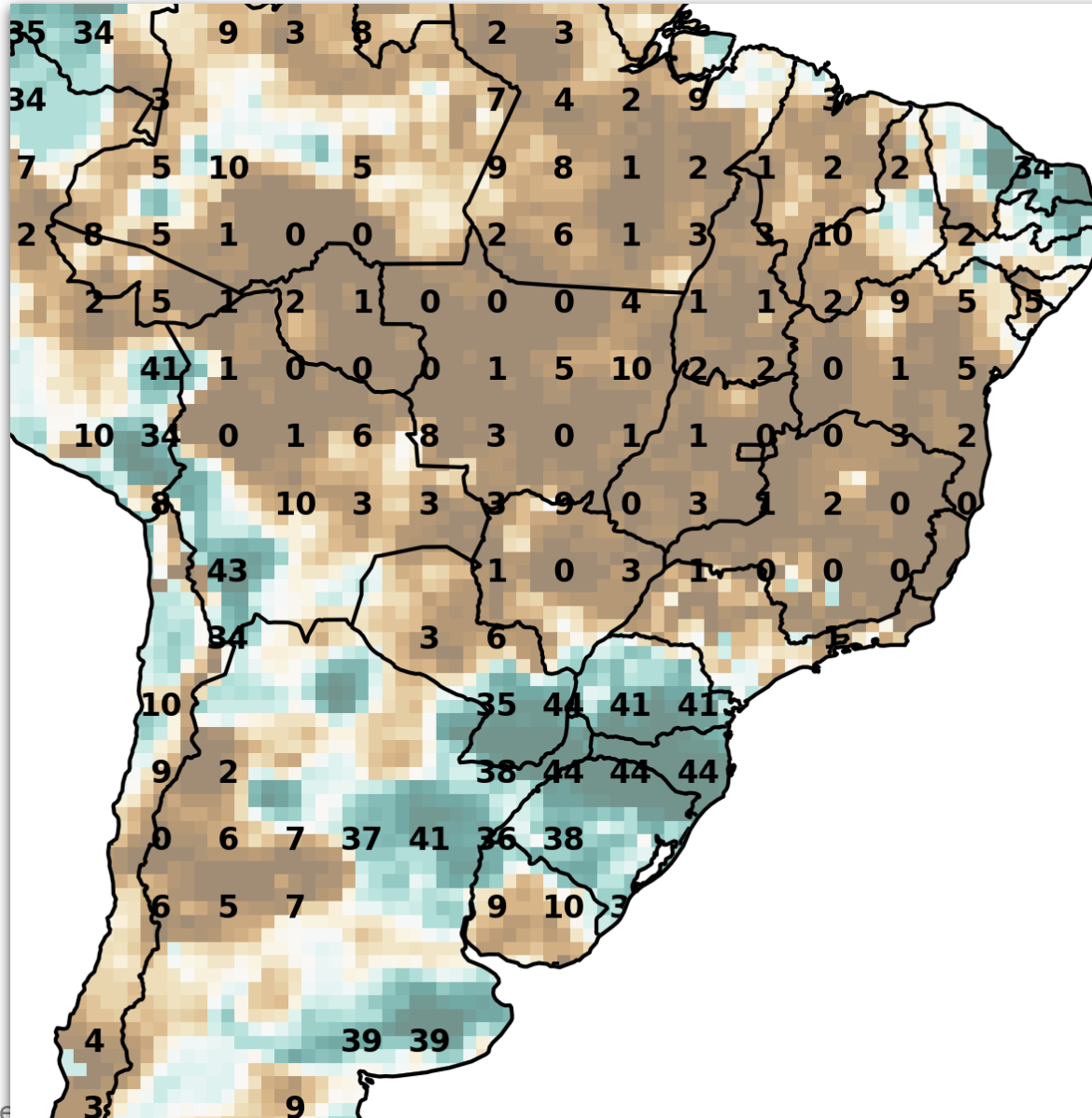




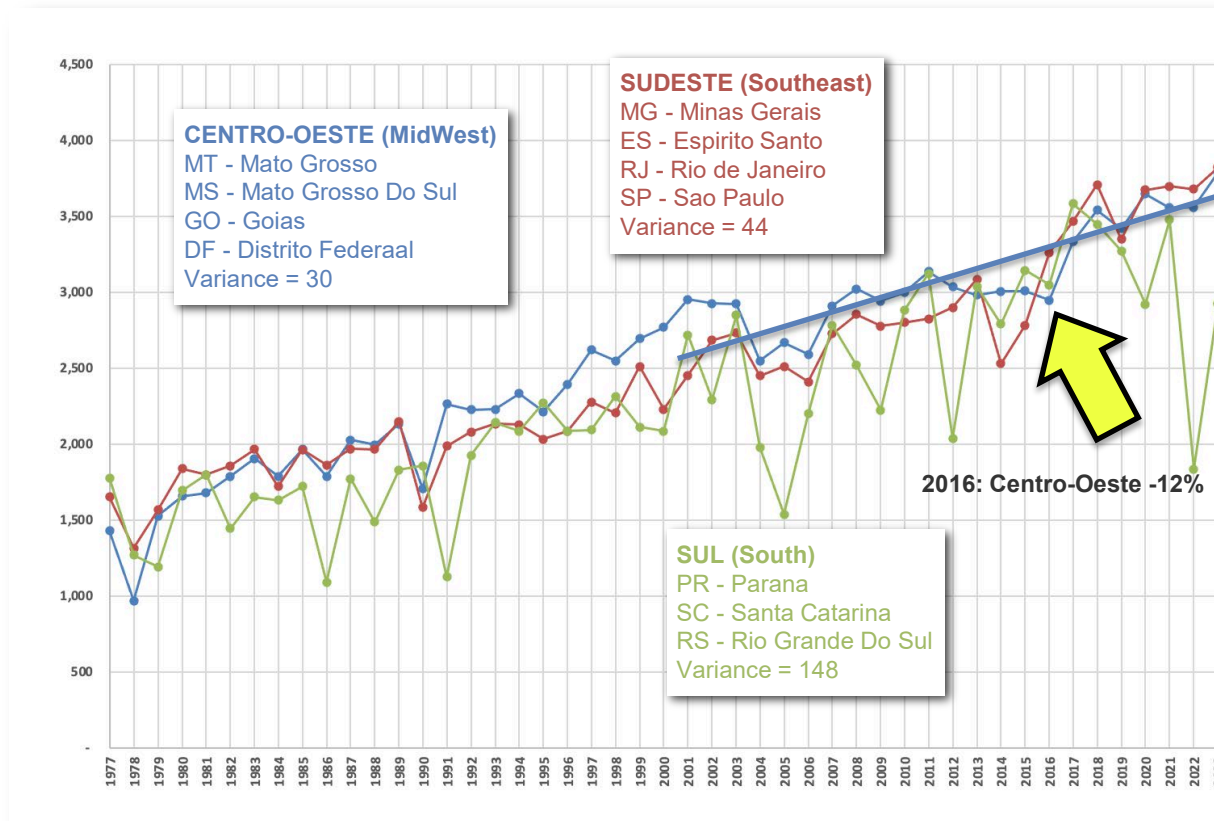




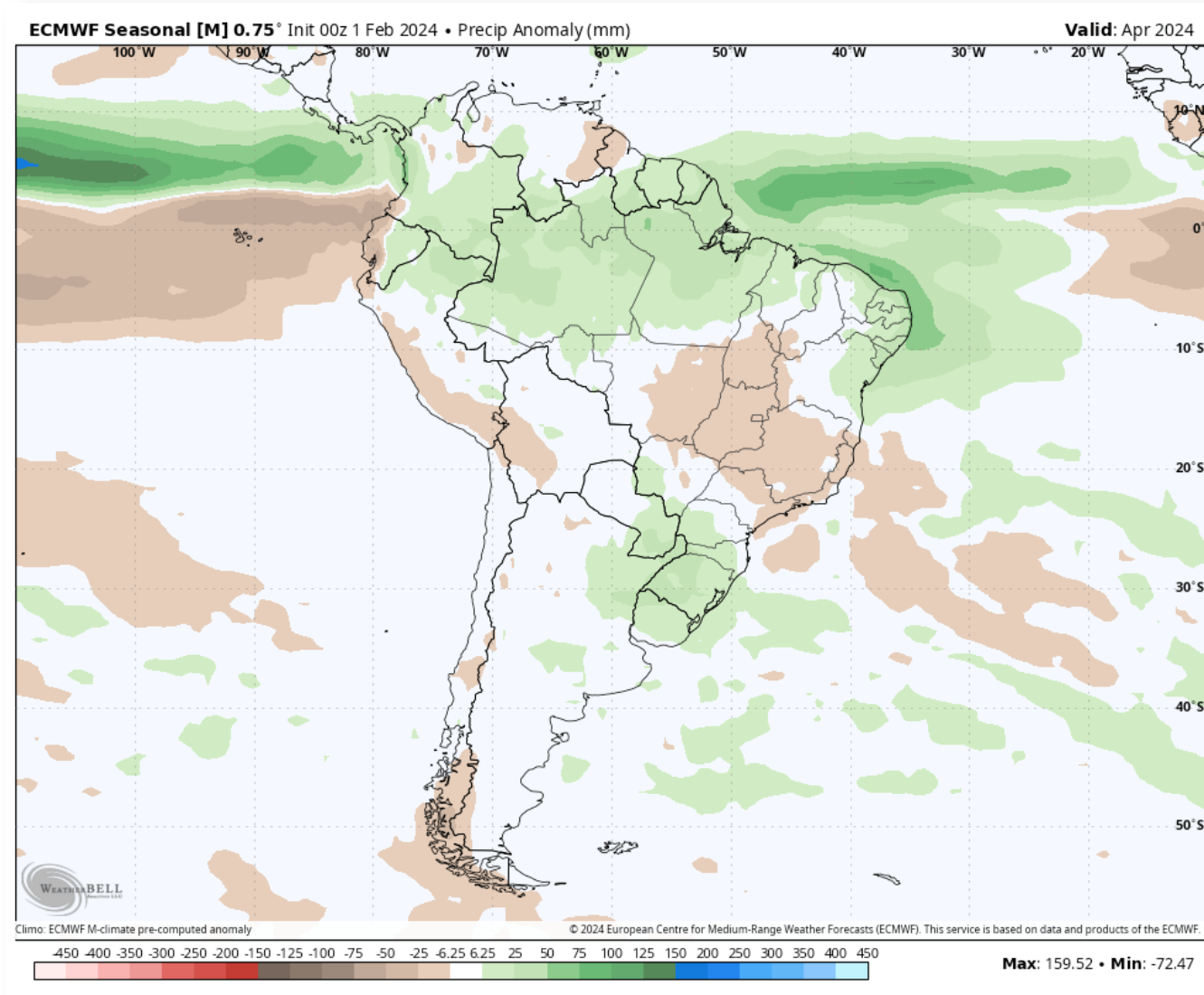
10/31 - 12/31/2023 (1979-Present Precip Rank)



Soybean Yield Variance by Region(1977 - 2023)



April ECMWF Precip Anomaly Forecast



Thank you!

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