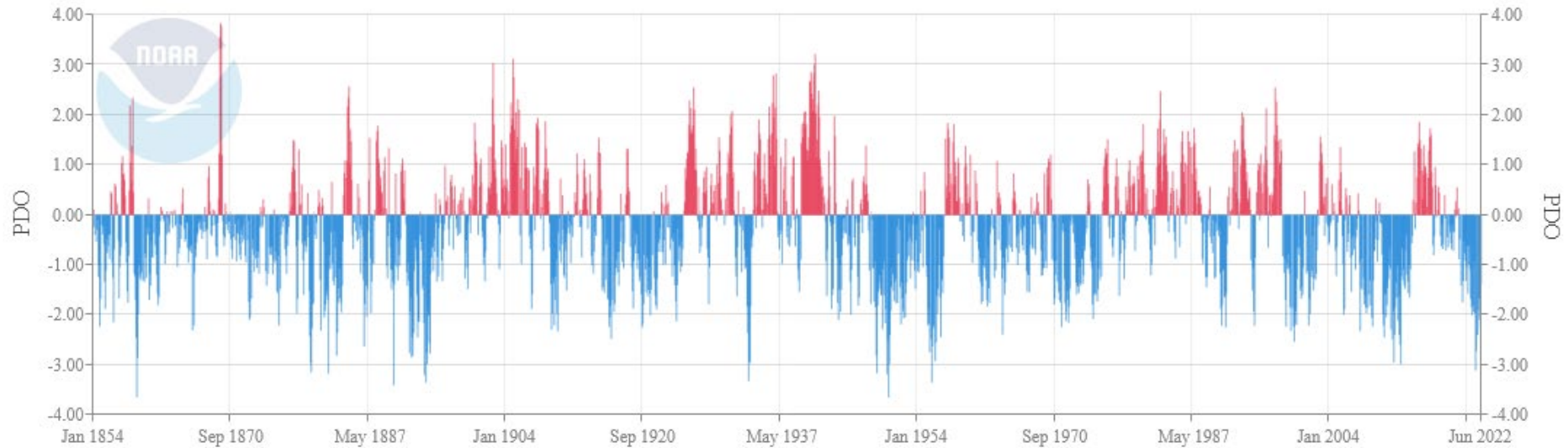


Pacific Decadal Oscillation (PDO)

Past 168 Years

Pacific Decadal Oscillation (PDO)



Source: <https://www.ncei.noaa.gov/pub/data/cmb/ersst/v5/index/ersst.v5.pdo.dat>

Pacific Decadal Oscillation (PDO)

Past 25 Years

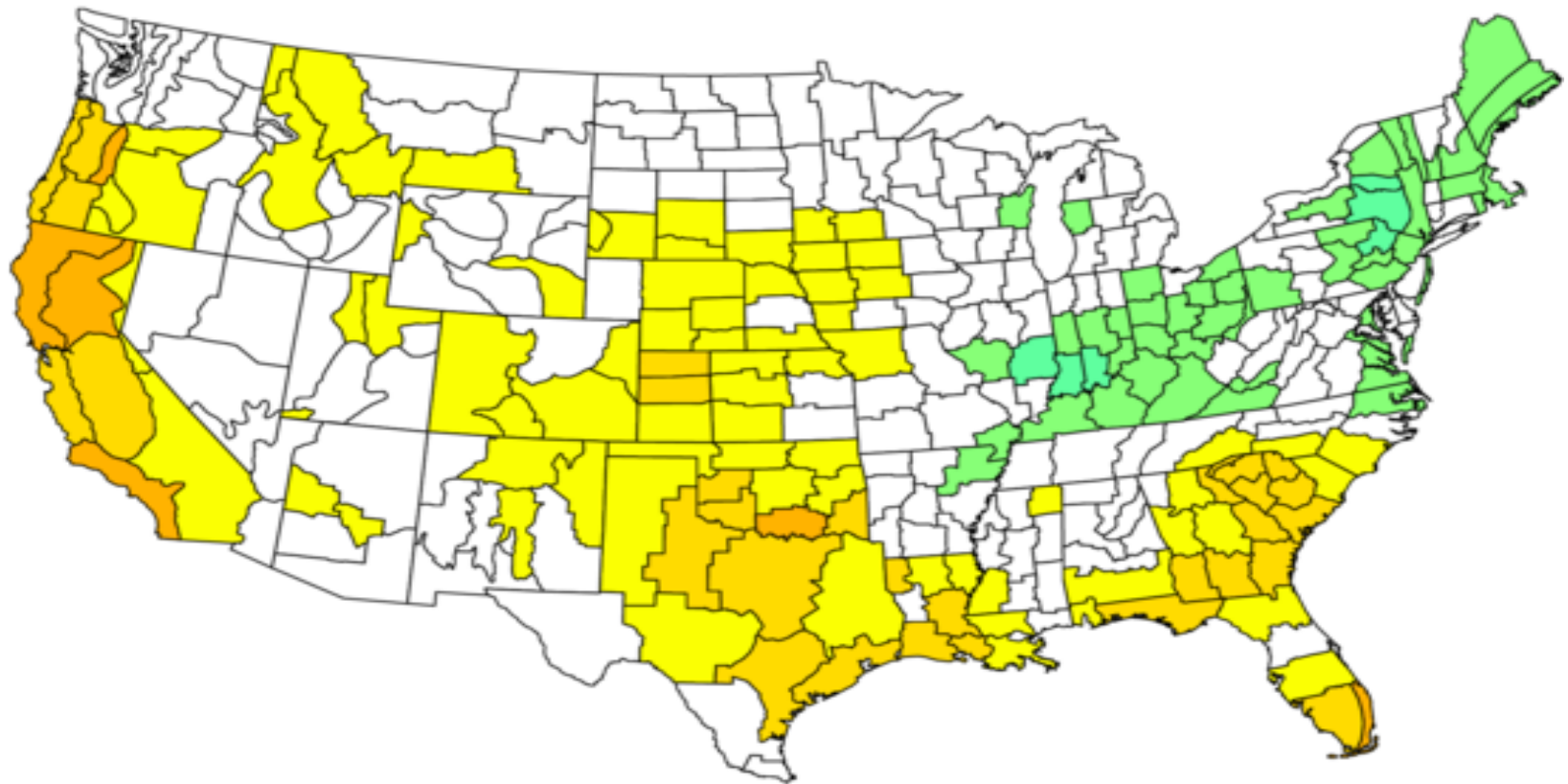
Pacific Decadal Oscillation (PDO)



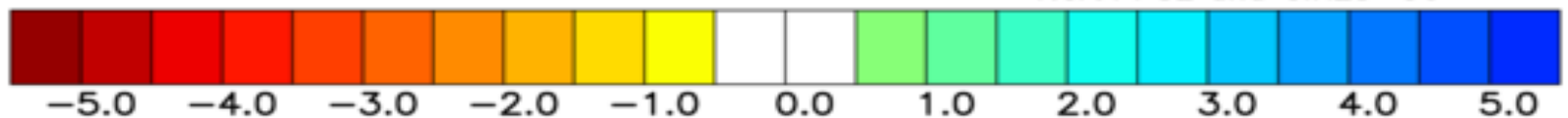
Source: <https://www.ncei.noaa.gov/pub/data/cmb/ersst/v5/index/ersst.v5.pdo.dat>

Precipitation Anomalies Past 25 Years

NOAA/NCEI Climate Division Composite Precipitation Anomalies (in)
Jan to Dec 1998 to 2022
Versus 1991–2020 Longterm Average



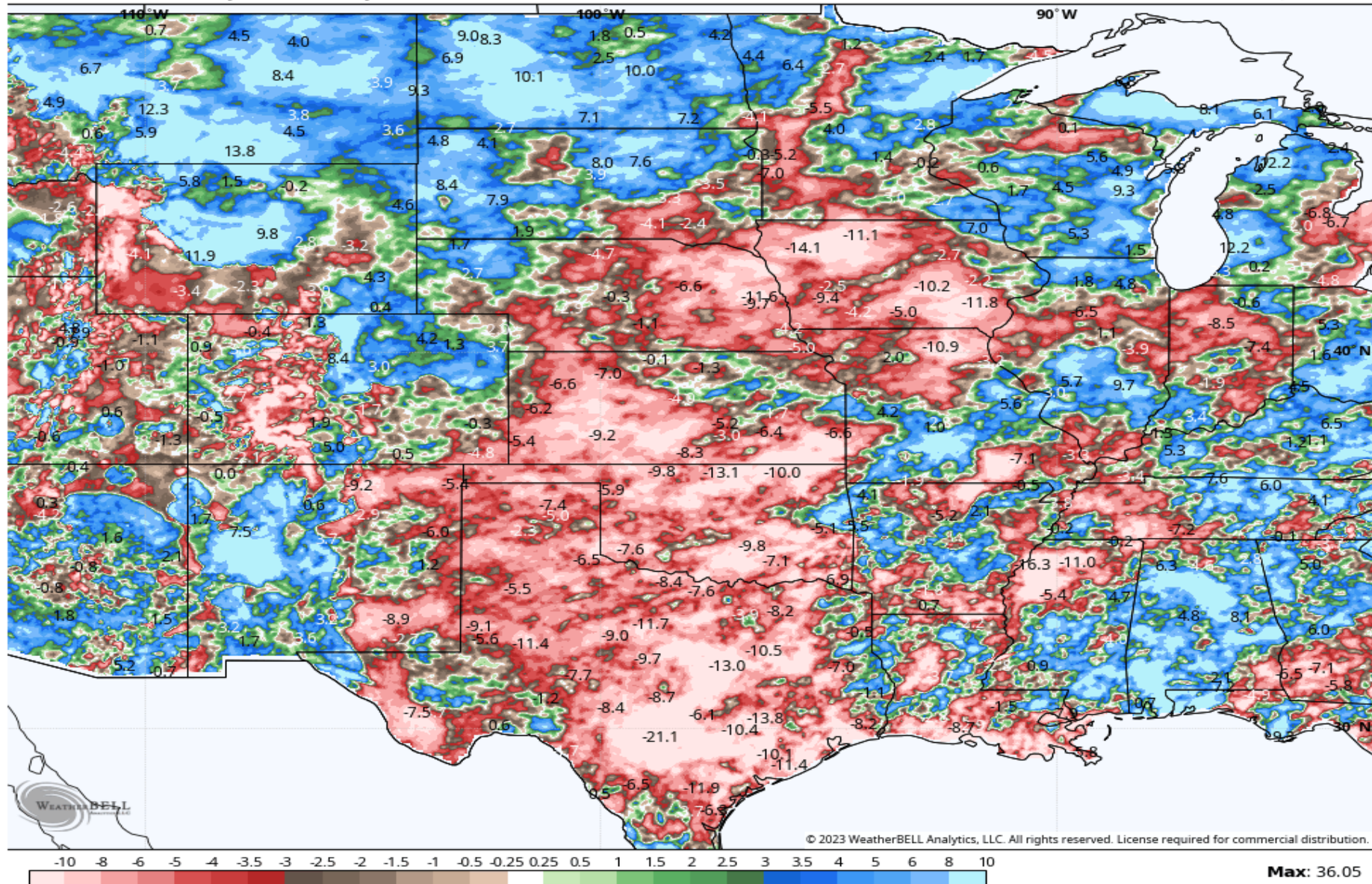
NOAA PSL and CIRES-CU



Precipitation Anomalies The Past Year...

HRAP 4 km • 365-Day Total Anomaly (Inches)

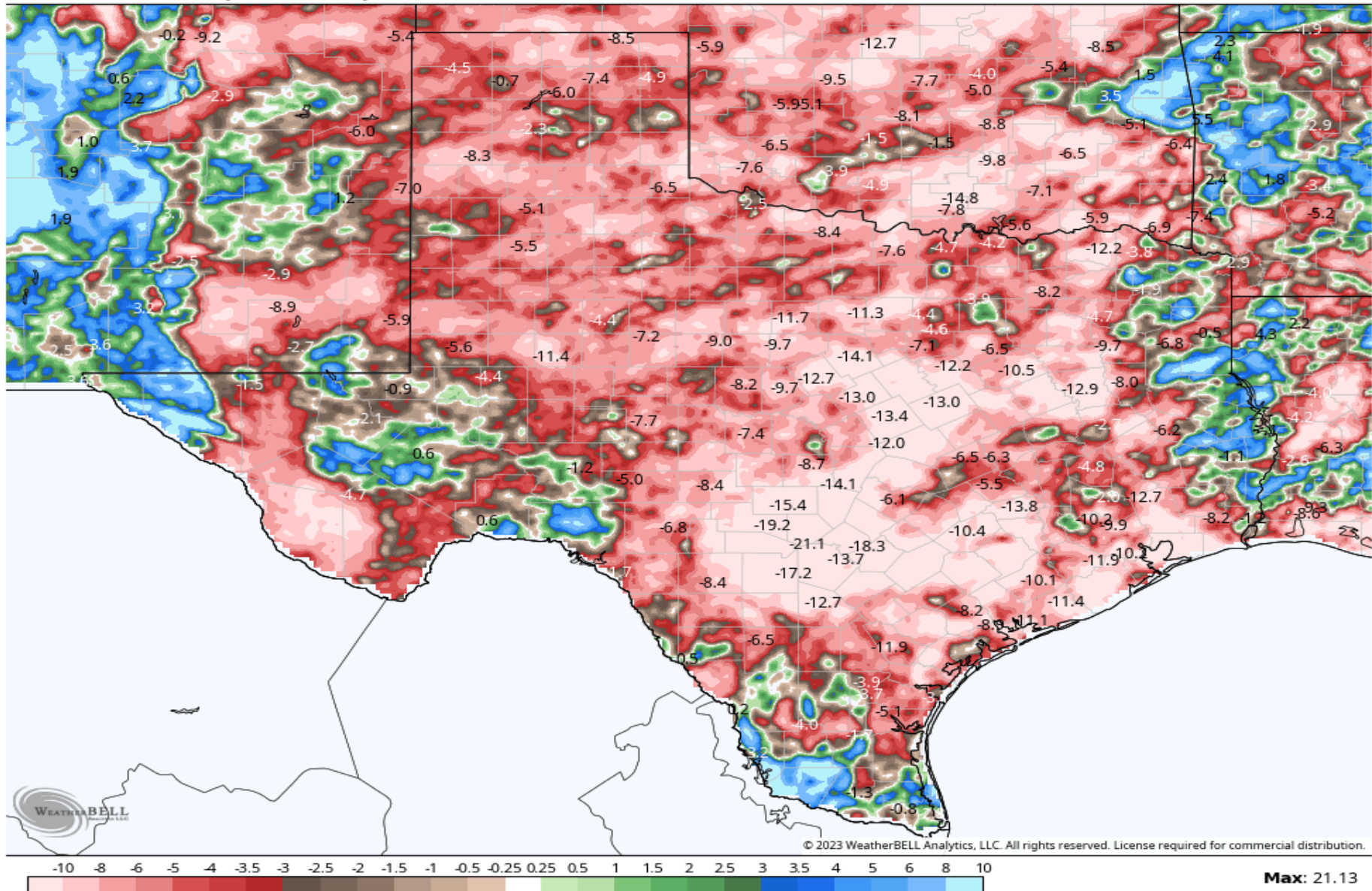
Valid: 12z Wed 18 Jan 2023



Precipitation Anomalies The Past Year...

HRAP 4 km • 365-Day Total Anomaly (Inches)

Valid: 12z Wed 18 Jan 2023



Latest Drought Monitor

U.S. Drought Monitor Texas

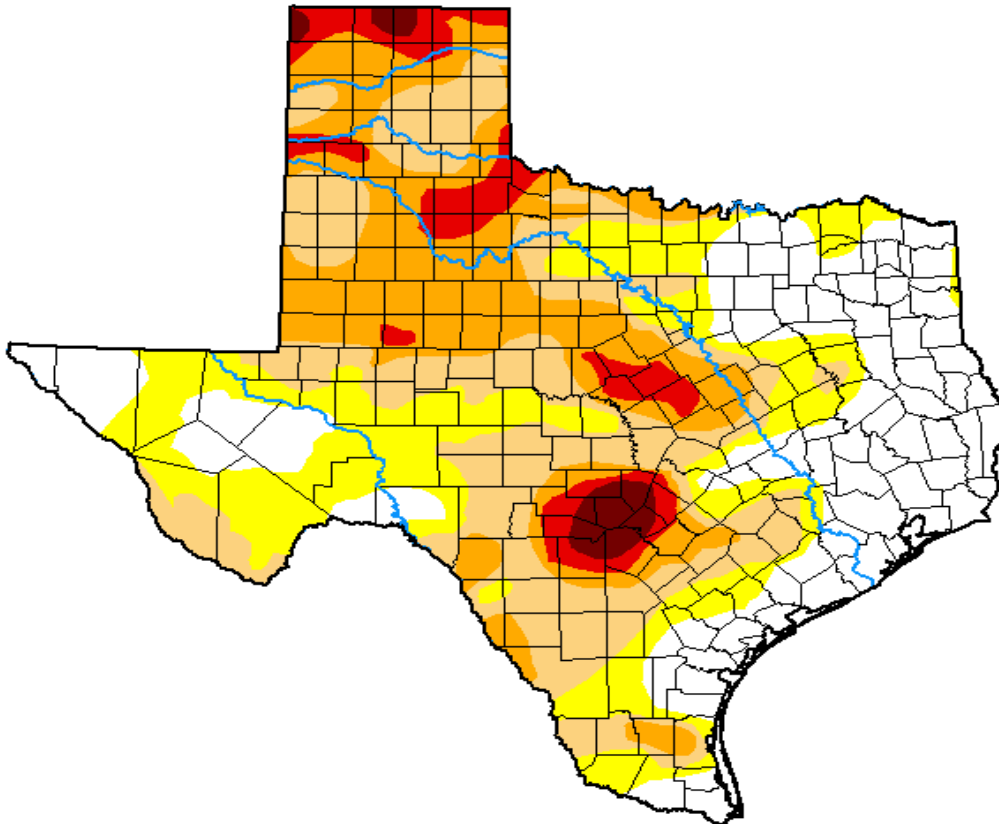
January 10, 2023

(Released Thursday, Jan. 12, 2023)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	26.83	73.17	51.66	27.31	7.70	1.80
Last Week <i>01-03-2023</i>	28.84	71.16	49.90	26.60	7.41	1.60
3 Months Ago <i>10-11-2022</i>	5.75	94.25	72.82	43.58	15.25	1.48
Start of Calendar Year <i>01-03-2023</i>	28.84	71.16	49.90	26.60	7.41	1.60
Start of Water Year <i>09-27-2022</i>	14.96	85.04	61.36	31.61	8.82	1.06
One Year Ago <i>01-11-2022</i>	3.21	96.79	82.48	62.44	21.91	0.00



Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

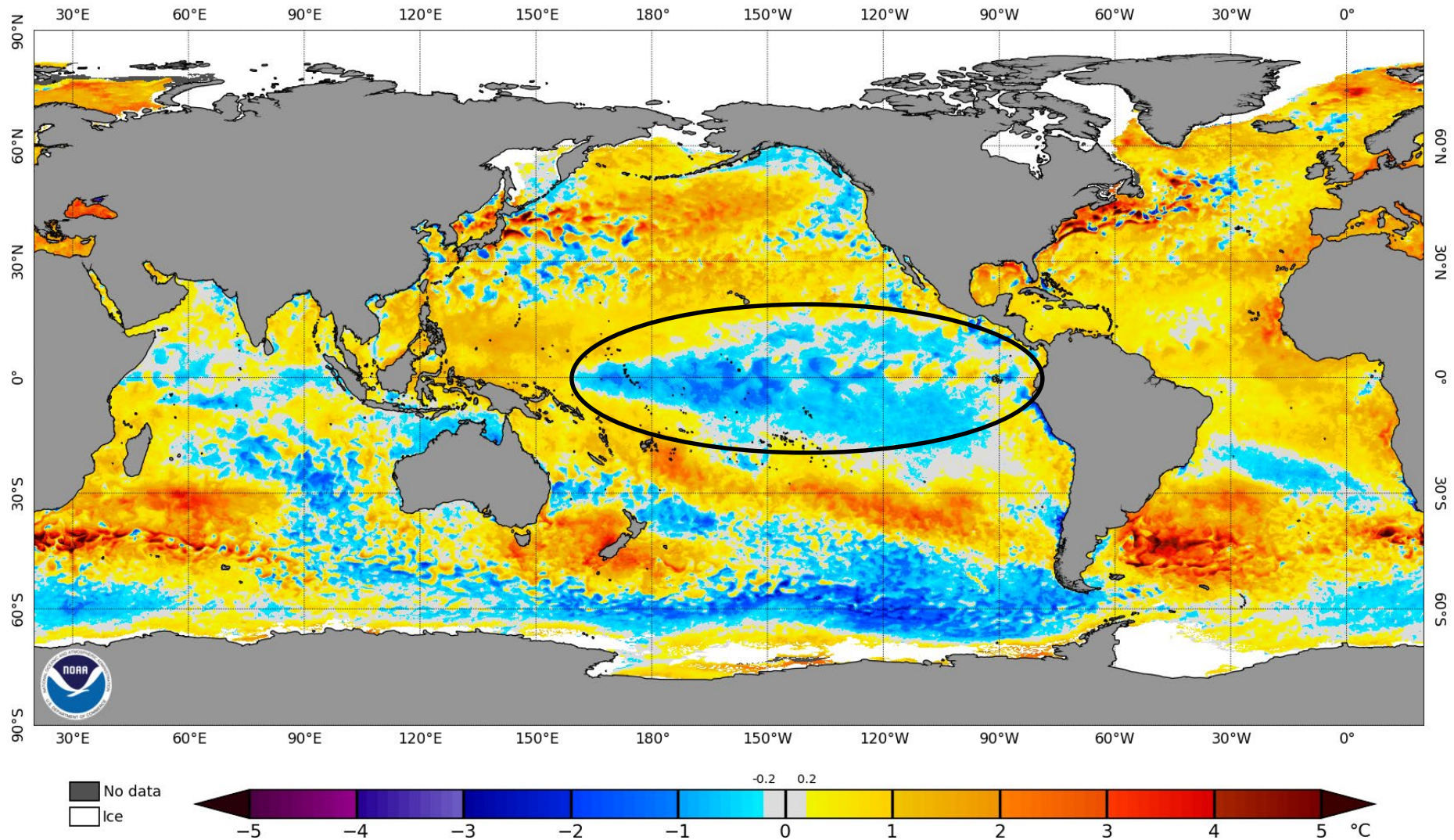
Richard Tinker
CPC/NOAA/NWS/NCEP



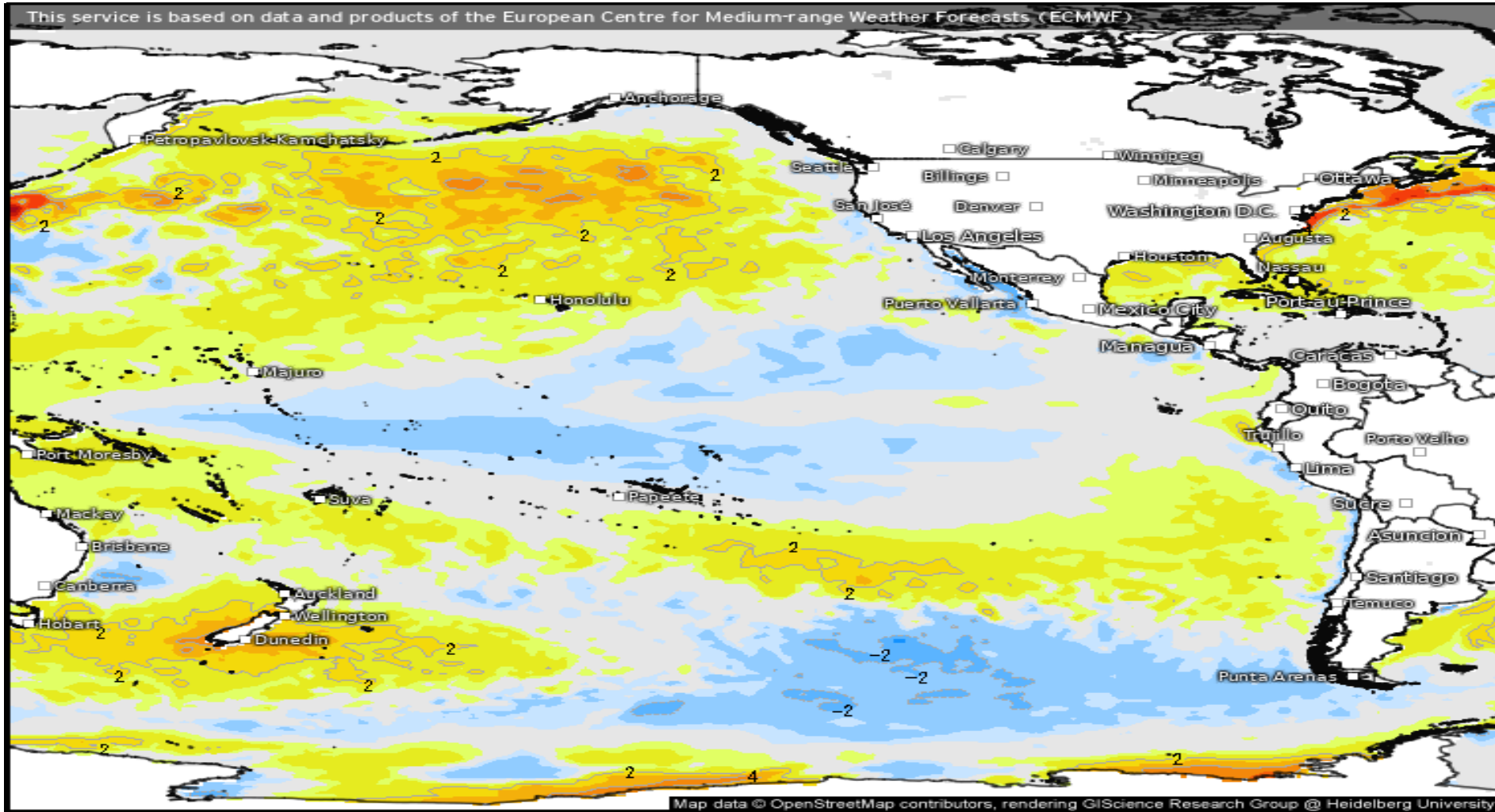
droughtmonitor.unl.edu

Current Sea Surface Temperature Anomalies

NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 17 Jan 2023



EURO Seasonal February SST Anomaly Forecast



Anomaly water temperature (°F)

Valid for
February 2023

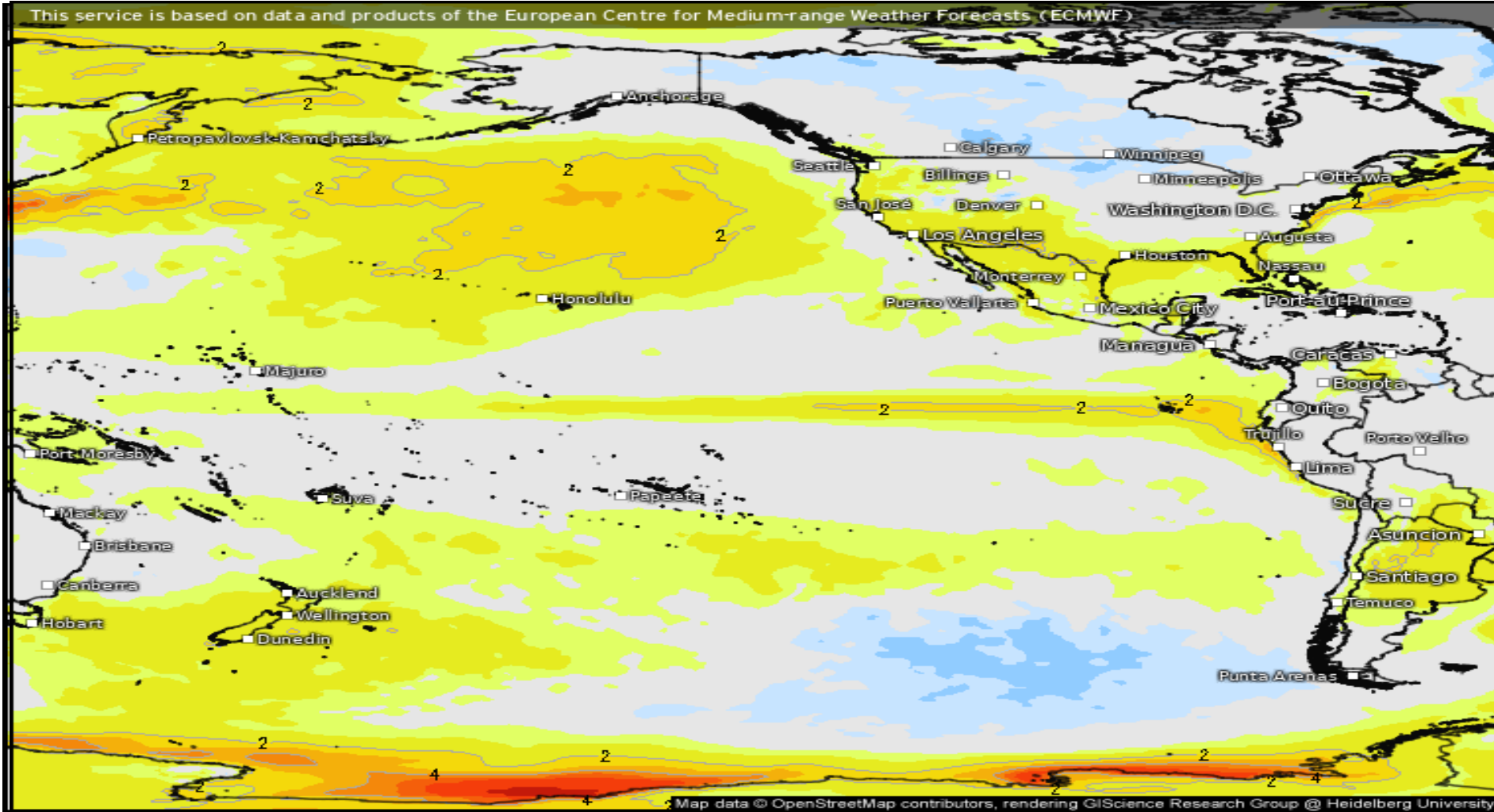
-25 -20 -15 -10 -8 -6 -5 -4 -3 -2 -1 -0.5 0.5 1 2 3 4 5 6 8 10 15 20

Australia and Americas

ECMWF SEAS5 (monthly) from 01/01/2023/00z

Model:  

EURO Seasonal April SST Anomaly Forecast



Anomaly temperature (°F)

Valid for
April 2023

-25 -20 -15 -10 -8 -6 -5 -4 -3 -2 -1 -0.5 0.5 1 2 3 4 5 6 8 10 15 20

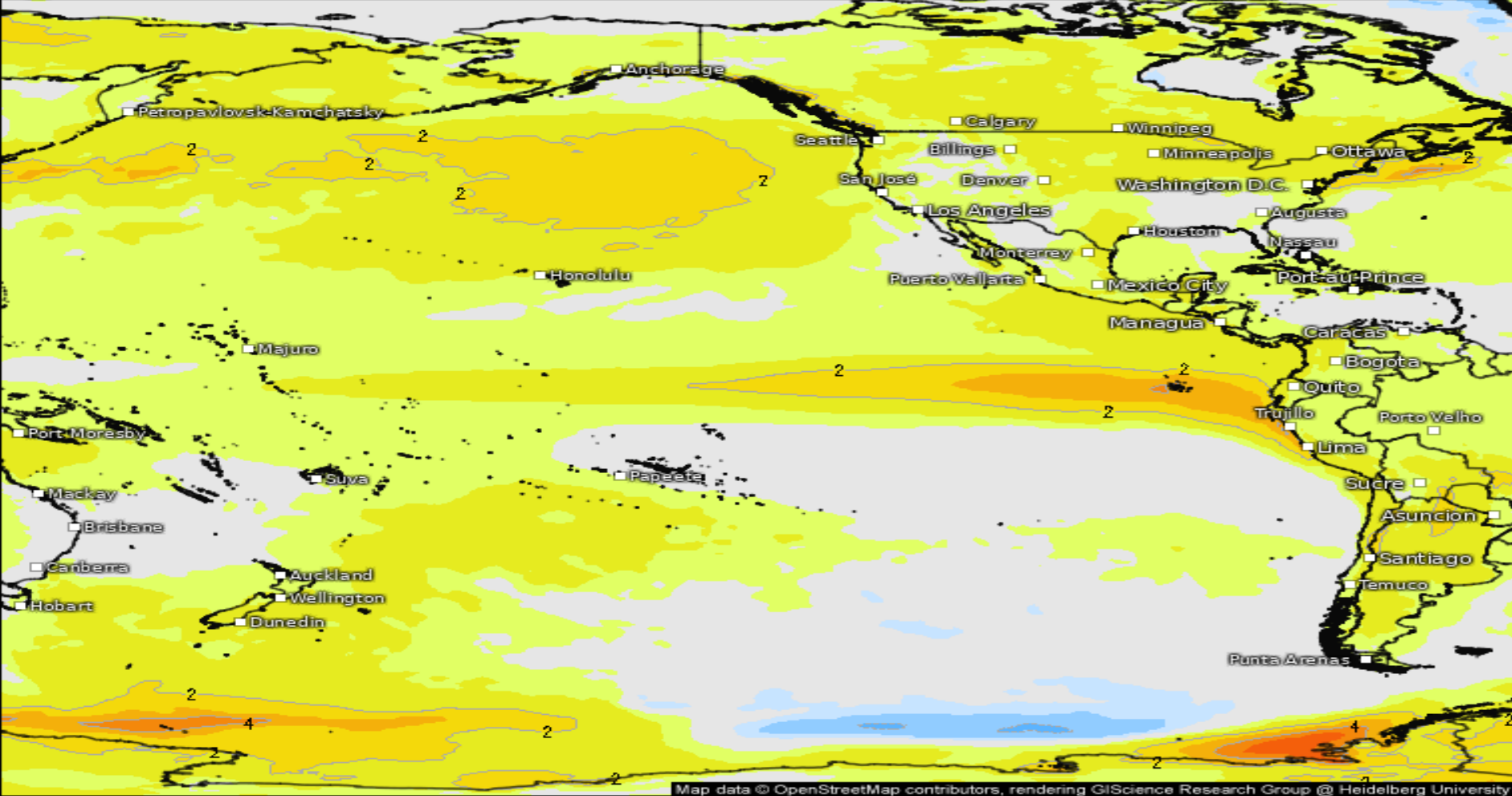
Australia and Americas

ECMWF SEAS5 (monthly) from 01/01/2023/00z

Model:  

EURO Seasonal July SST Anomaly Forecast

This service is based on data and products of the European Centre for Medium-range Weather Forecasts (ECMWF)



Map data © OpenStreetMap contributors, rendering GIScience Research Group @ Heidelberg University

Anomaly temperature (°F)

Valid for
July 2023

-25 -20 -15 -10 -8 -6 -5 -4 -3 -2 -1 -0.5 0.5 1 2 3 4 5 6 8 10 15 20

Australia and Americas

ECMWF SEAS5 (monthly) from 01/01/2023/00z

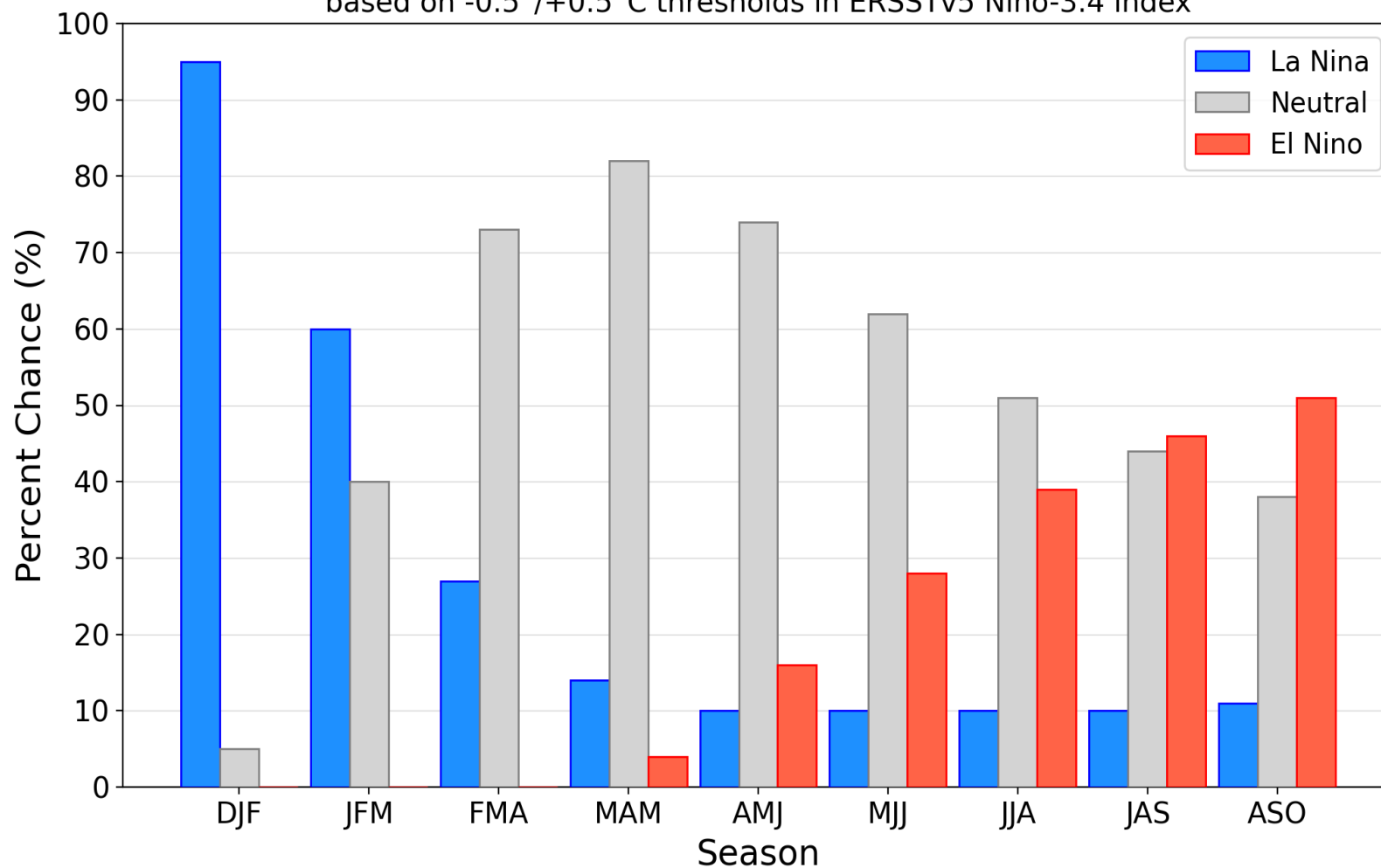
Model:



La Niña Transitions to El Niño?

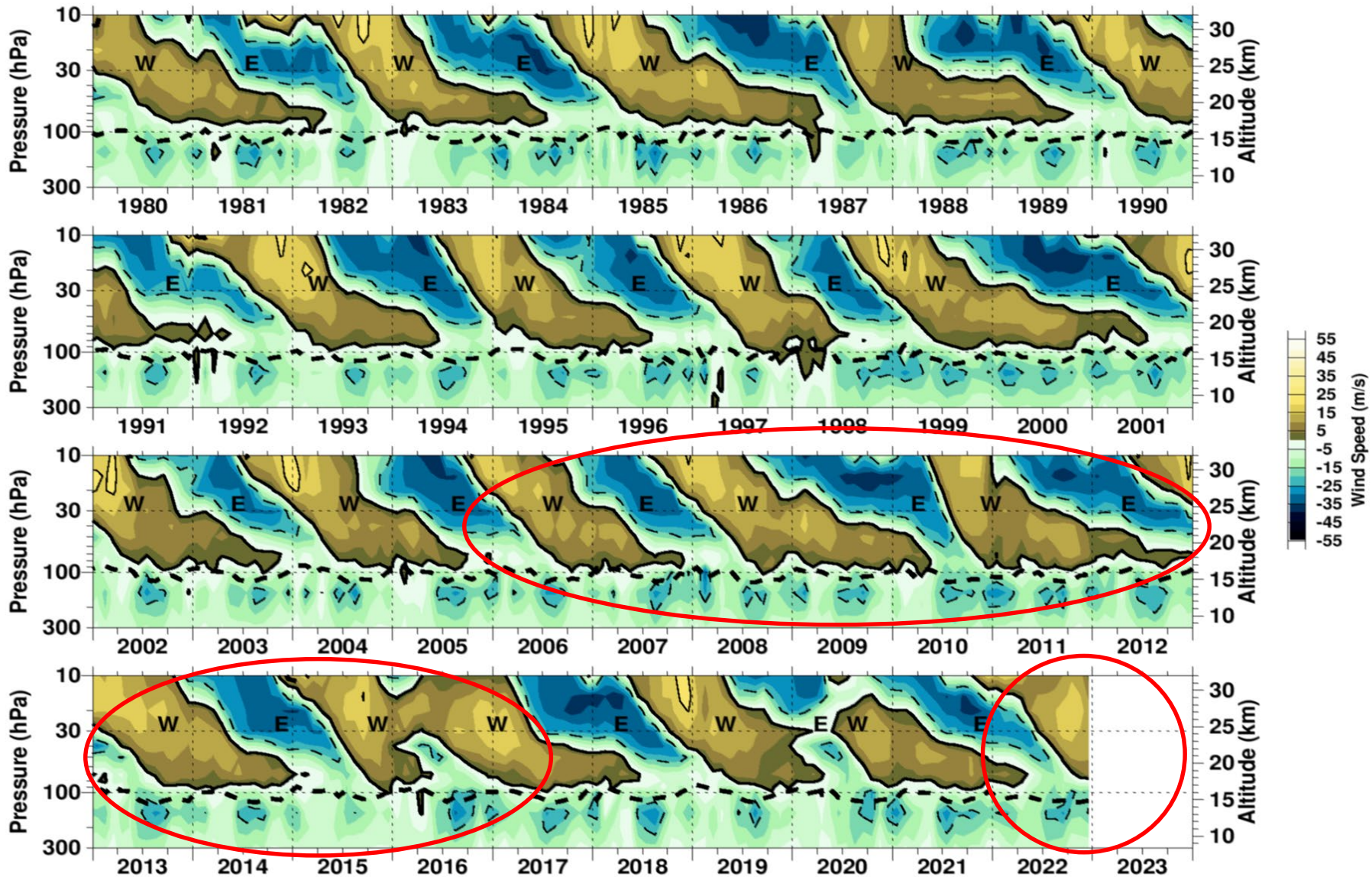
Official NOAA CPC ENSO Probabilities (issued Jan. 2023)

based on $-0.5^{\circ}/+0.5^{\circ}\text{C}$ thresholds in ERSSTv5 Niño-3.4 index



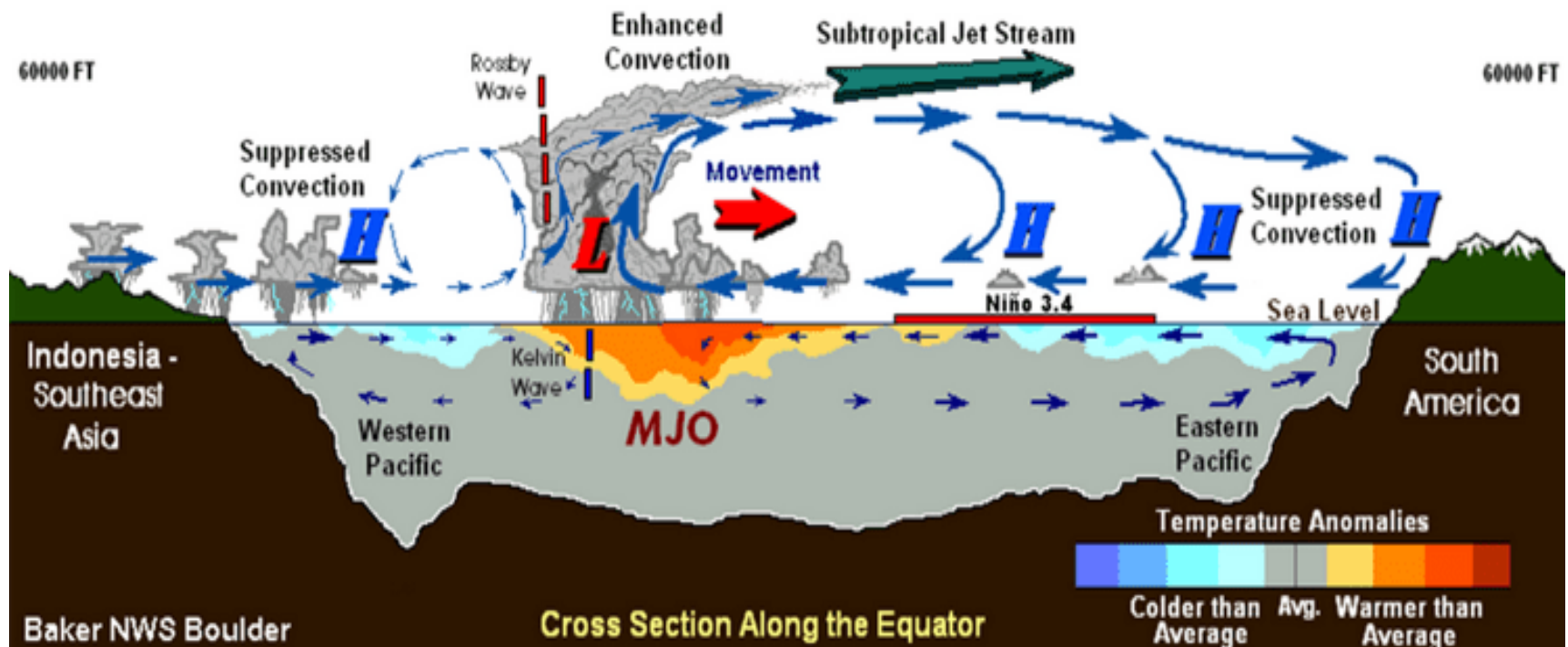
Westerly QBO Favors La Niña Ending ...

U



One of The Most Important Oscillations...

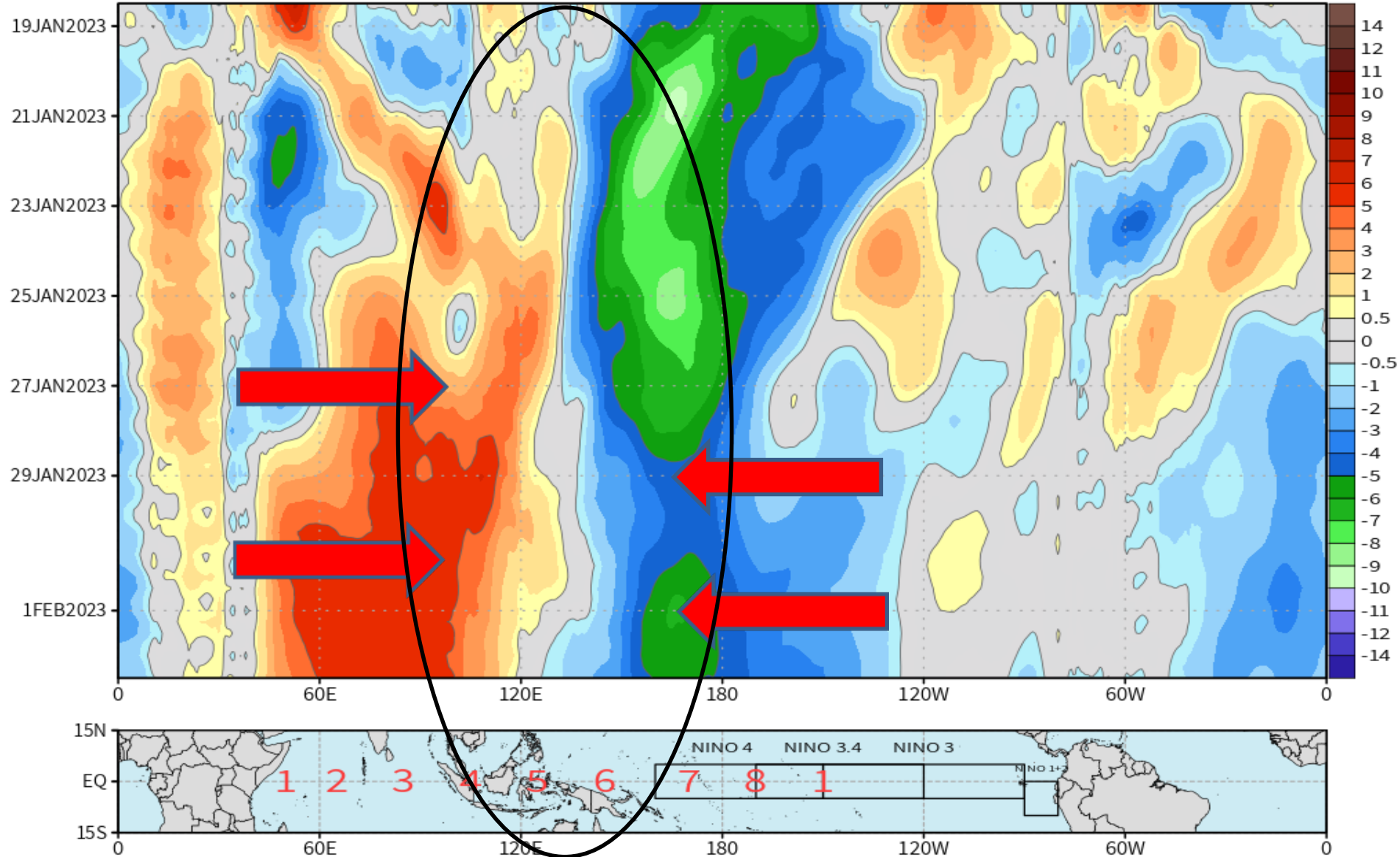
Madden-Julian Oscillation (MJO) in the Tropical Pacific Ocean



Easterlies Fade...Westerlies Getting Stronger!

ECMWF EPS 850 hPa Zonal Wind Anomaly (m/s) averaged 5°S to 5°N
Init: 12Z18JAN2023 -- Next 15-days --> Valid thru 12Z02FEB2023

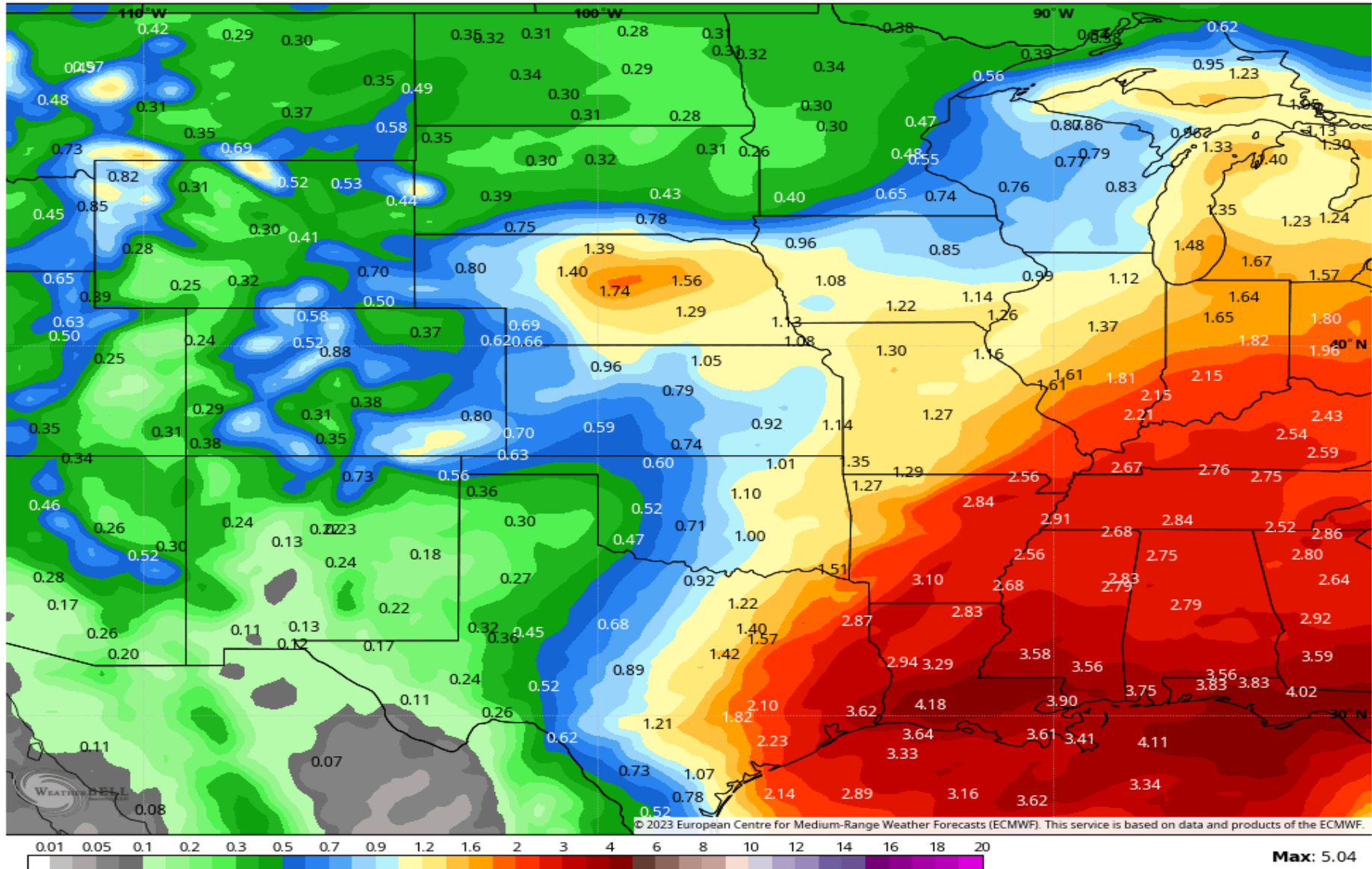
weathermodels.com



The Next Two Weeks...

ECMWF Ens [M] 0.2° Init 12z 18 Jan 2023 • Total Precipitation (Inches)

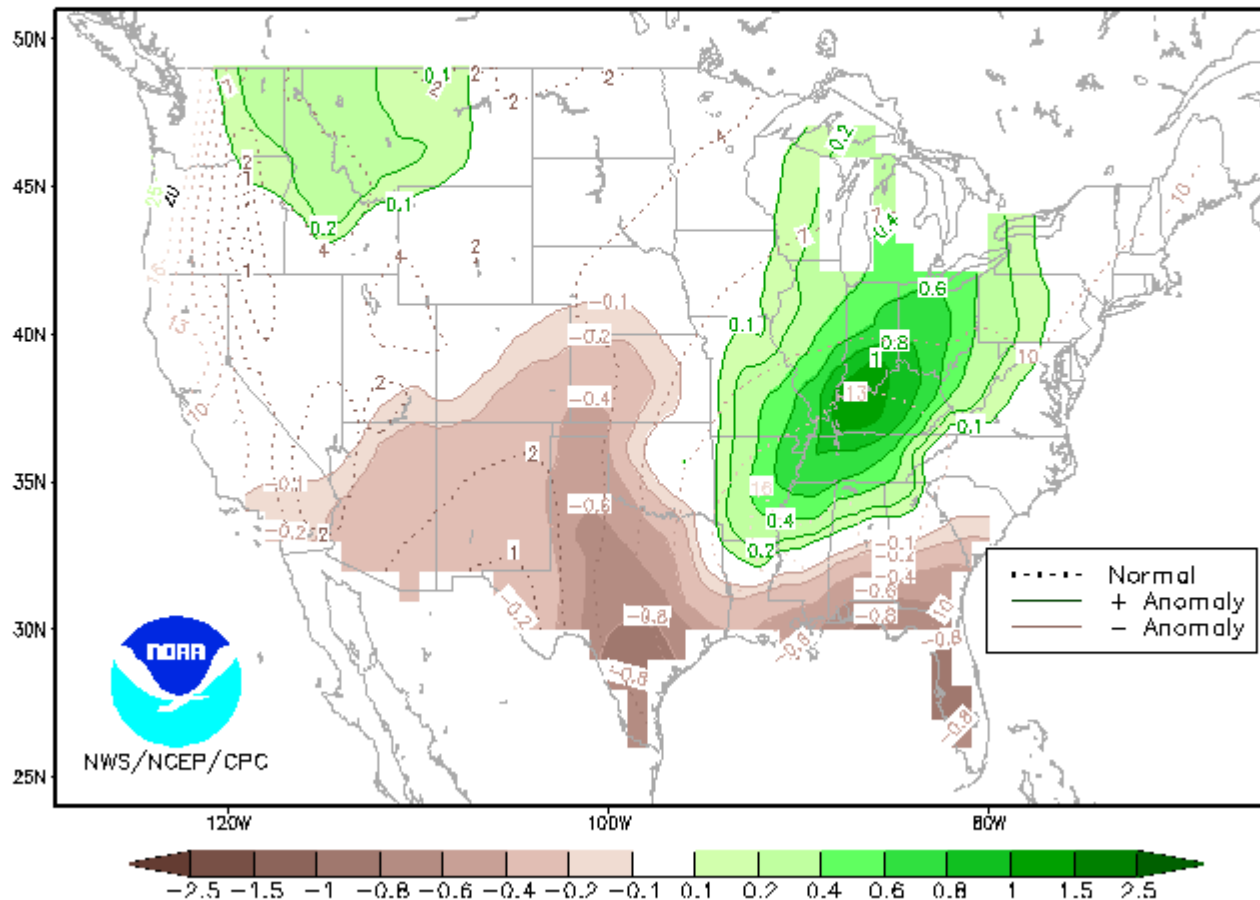
Hour: 360 • Valid: 12z Thu 2 Feb 2023



Climate Prediction Center Precipitation Anomaly Forecast

Anomaly (inches) of the Mid-value of the 3-Month Precipitation Outlook Distribution for FMA 2023

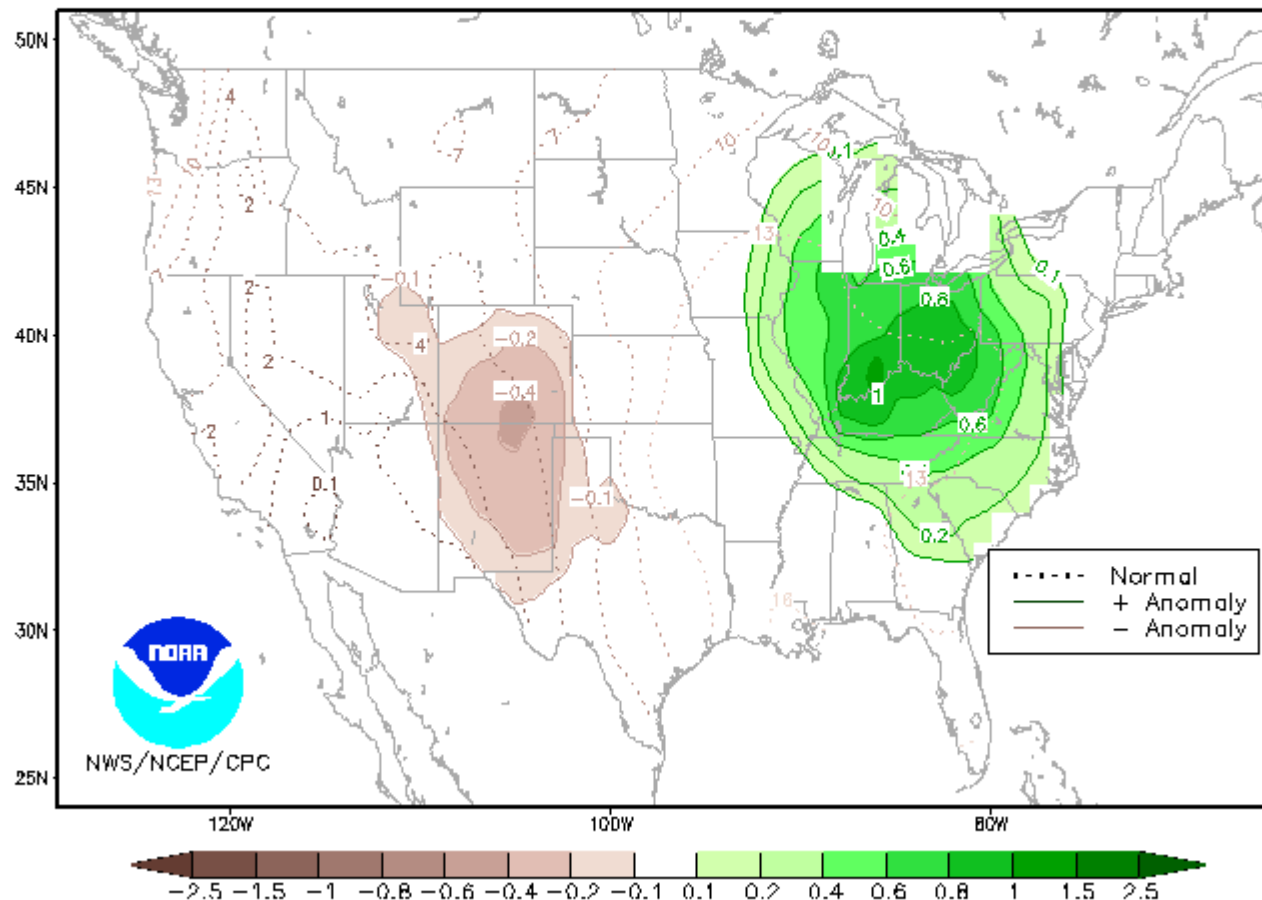
Dashed lines are the median 3-month precipitation (inches) based on observations from 1991–2020. Shaded areas indicate whether the anomaly of the mid-value is positive (green) or negative (brown) compared to the 1991–2020 average. Non-shaded regions indicate that the absolute value of the anomaly of 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.



Climate Prediction Center Precipitation Anomaly Forecast

Anomaly (inches) of the Mid-value of the 3-Month Precipitation Outlook Distribution for AMJ 2023

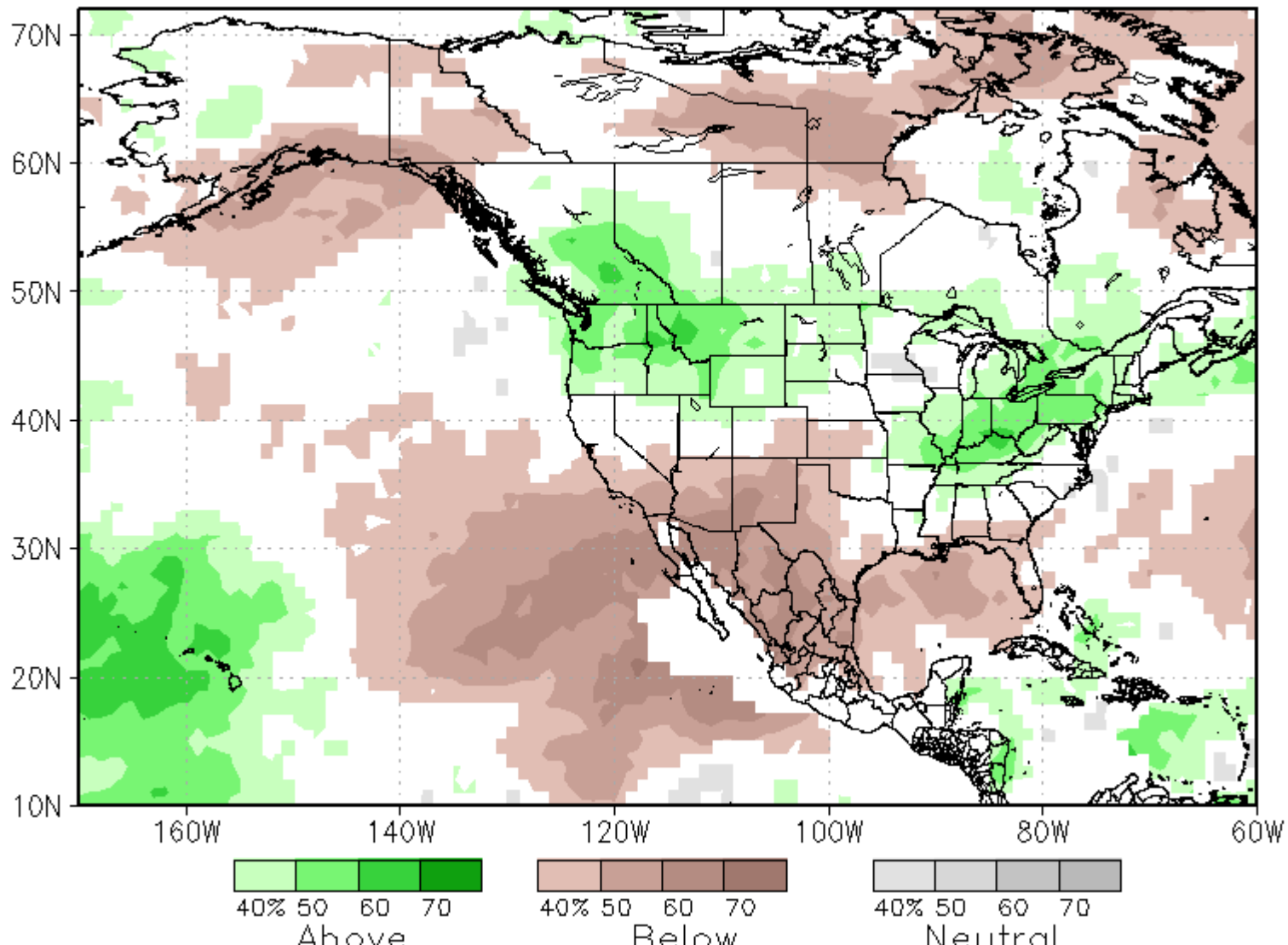
Dashed lines are the median 3-month precipitation (inches) based on observations from 1991–2020. Shaded areas indicate whether the anomaly of the mid-value is positive (green) or negative (brown) compared to the 1991–2020 average. Non-shaded regions indicate that the absolute value of the anomaly of 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.



NMME Model Precipitation Forecast

Green = Wetter Brown = Drier White = “Average”

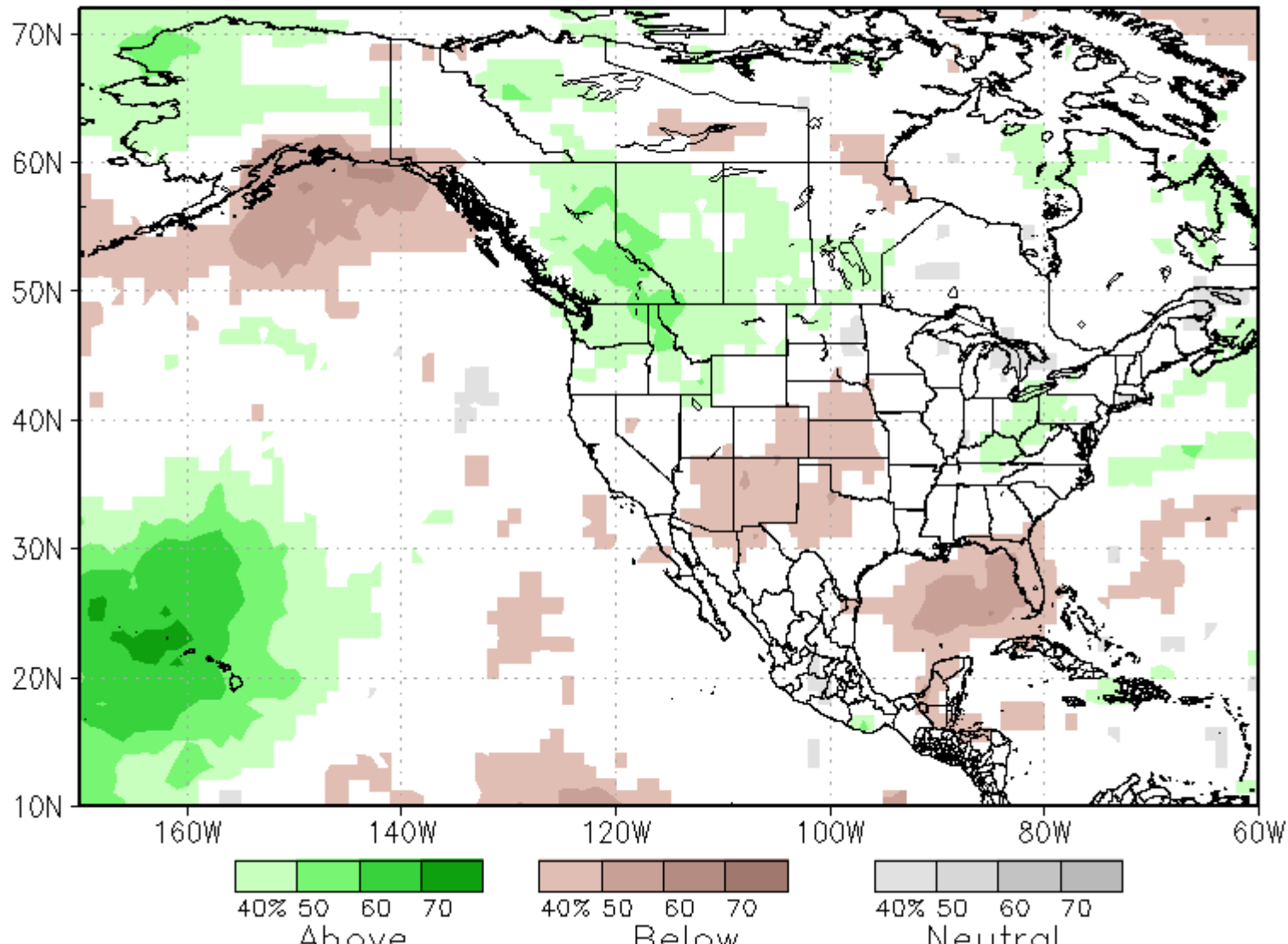
NMME prob fcst Prate IC=202301 for lead 1 2023 Feb



NMME Model Precipitation Forecast

Green = Wetter Brown = Drier White = “Average”

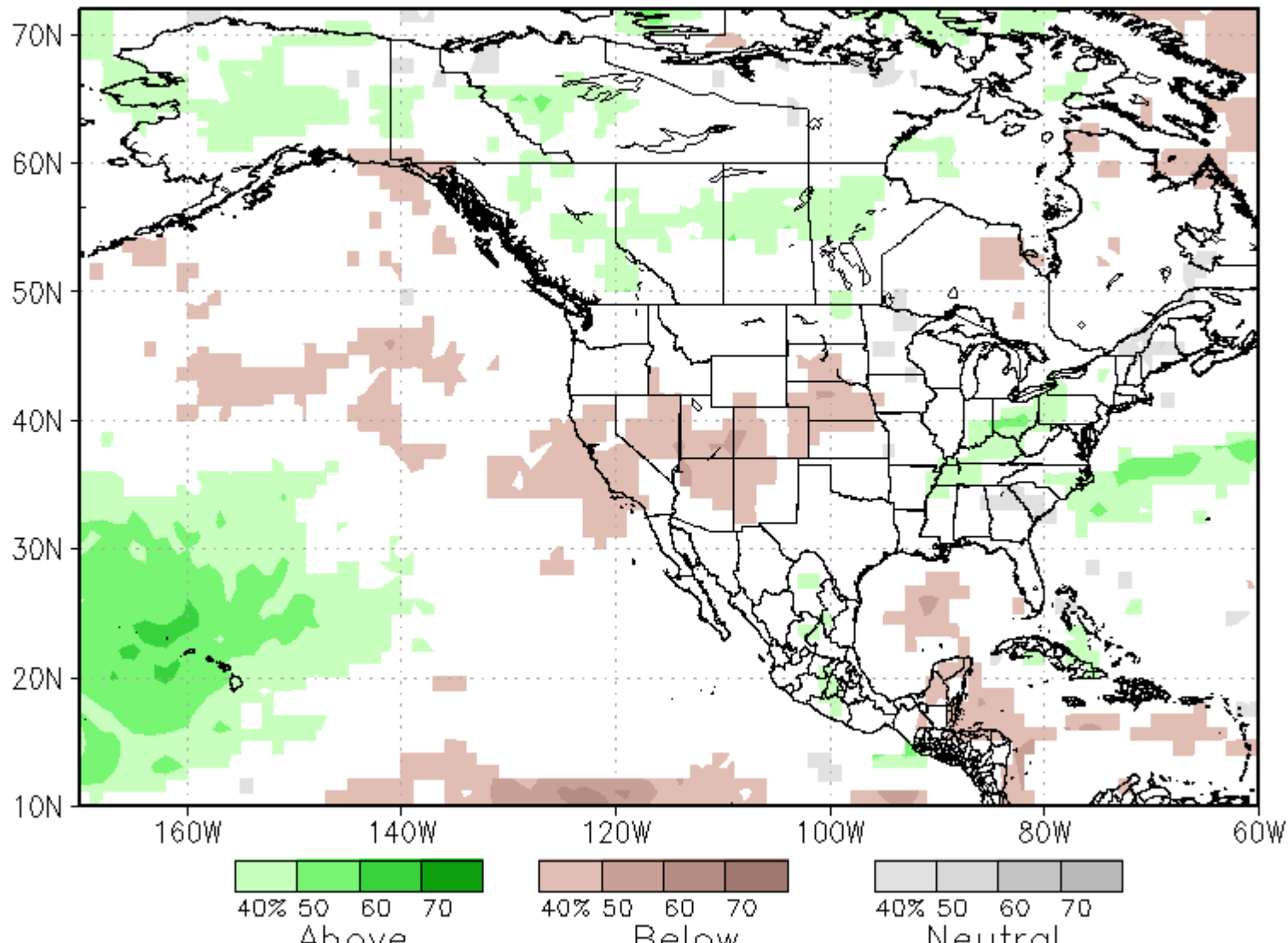
NMME prob fcst Prate IC=202301 for lead 2 2023 Mar



NMME Model Precipitation Forecast

Green = Wetter Brown = Drier White = “Average”

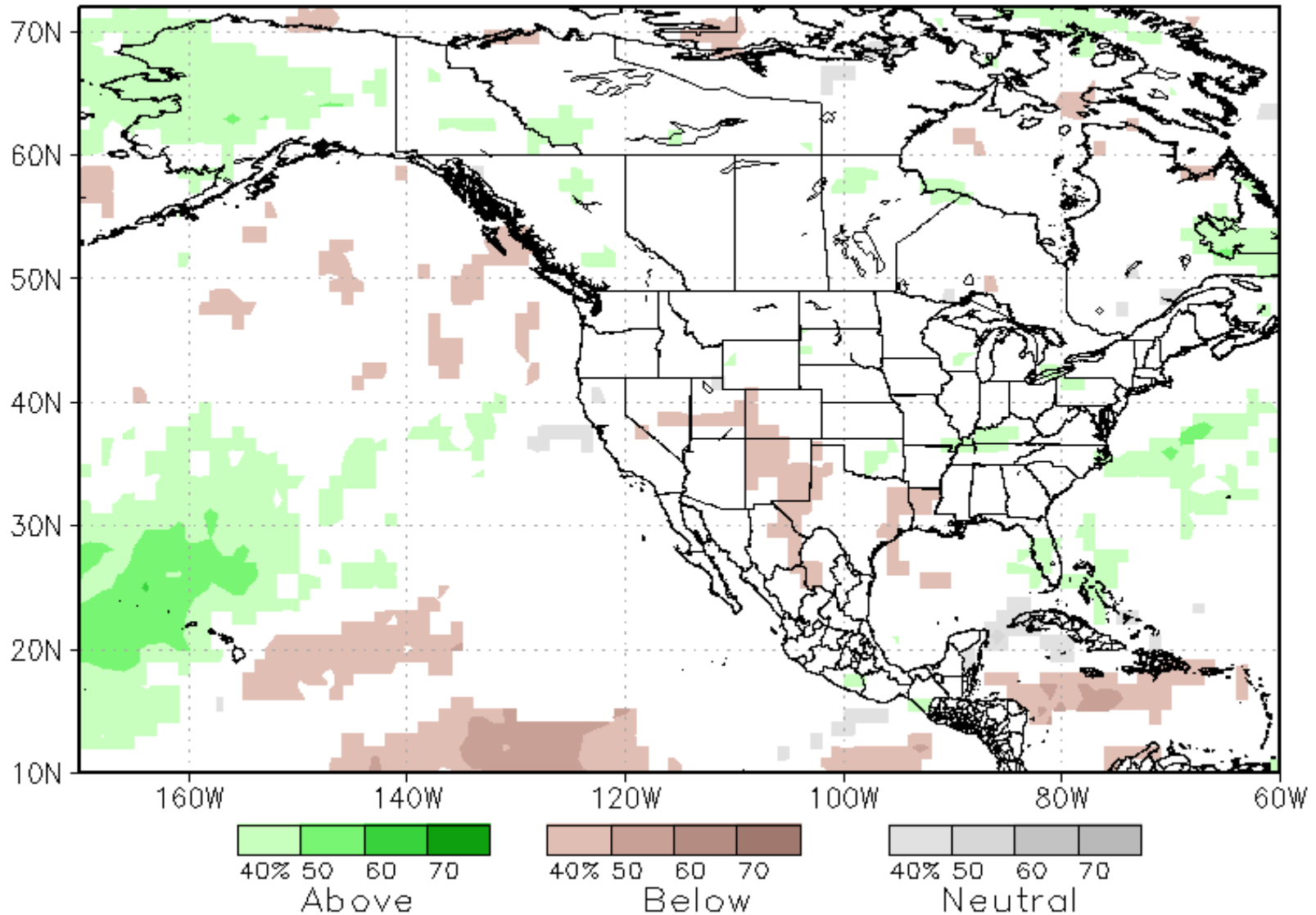
NMME prob fcst Prate IC=202301 for lead 3 2023 Apr



NMME Model Precipitation Forecast

Green = Wetter Brown = Drier White = “Average”

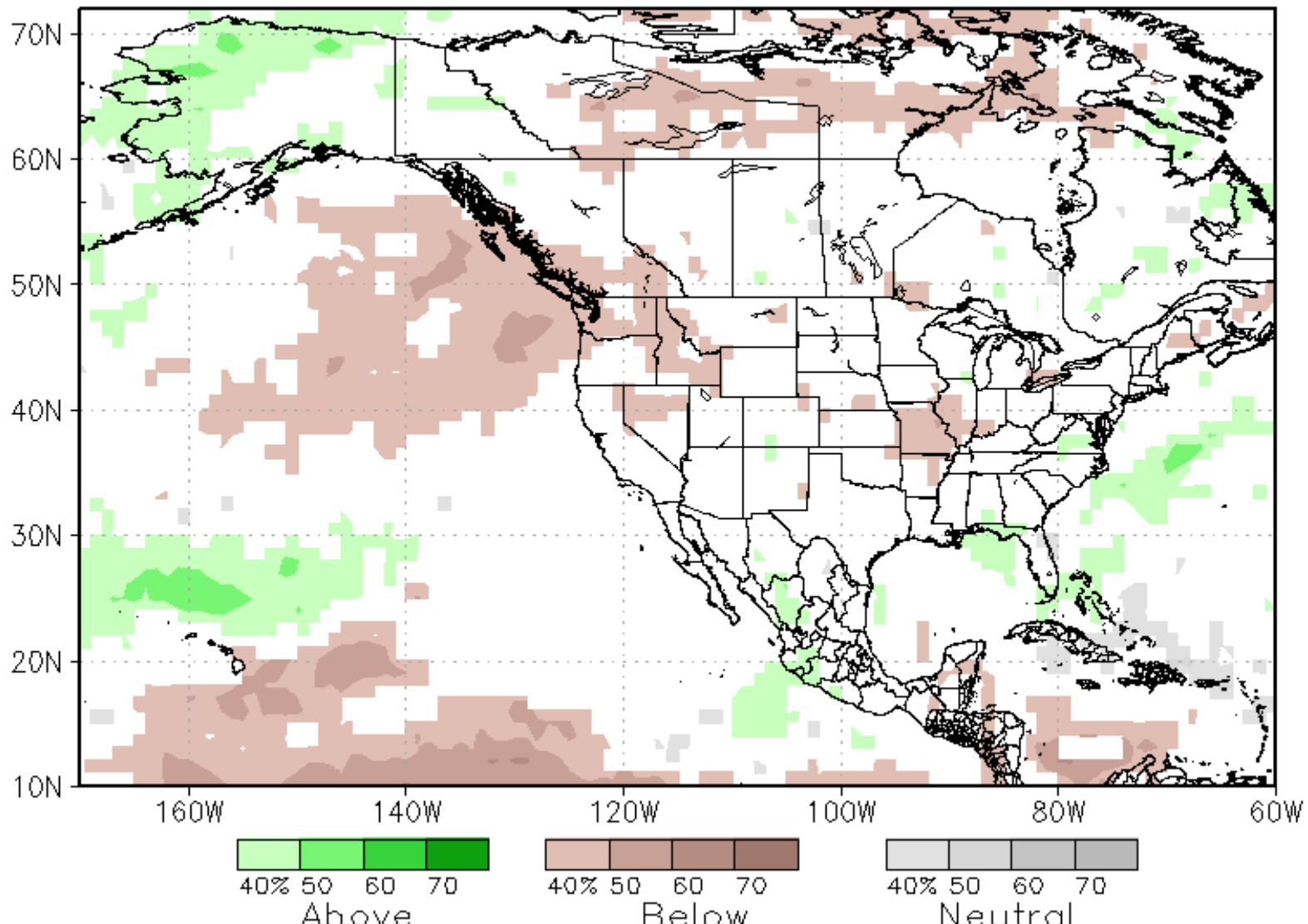
NMME prob fcst Prate IC=202301 for lead 4 2023 May



NMME Model Precipitation Forecast

Green = Wetter Brown = Drier White = “Average”

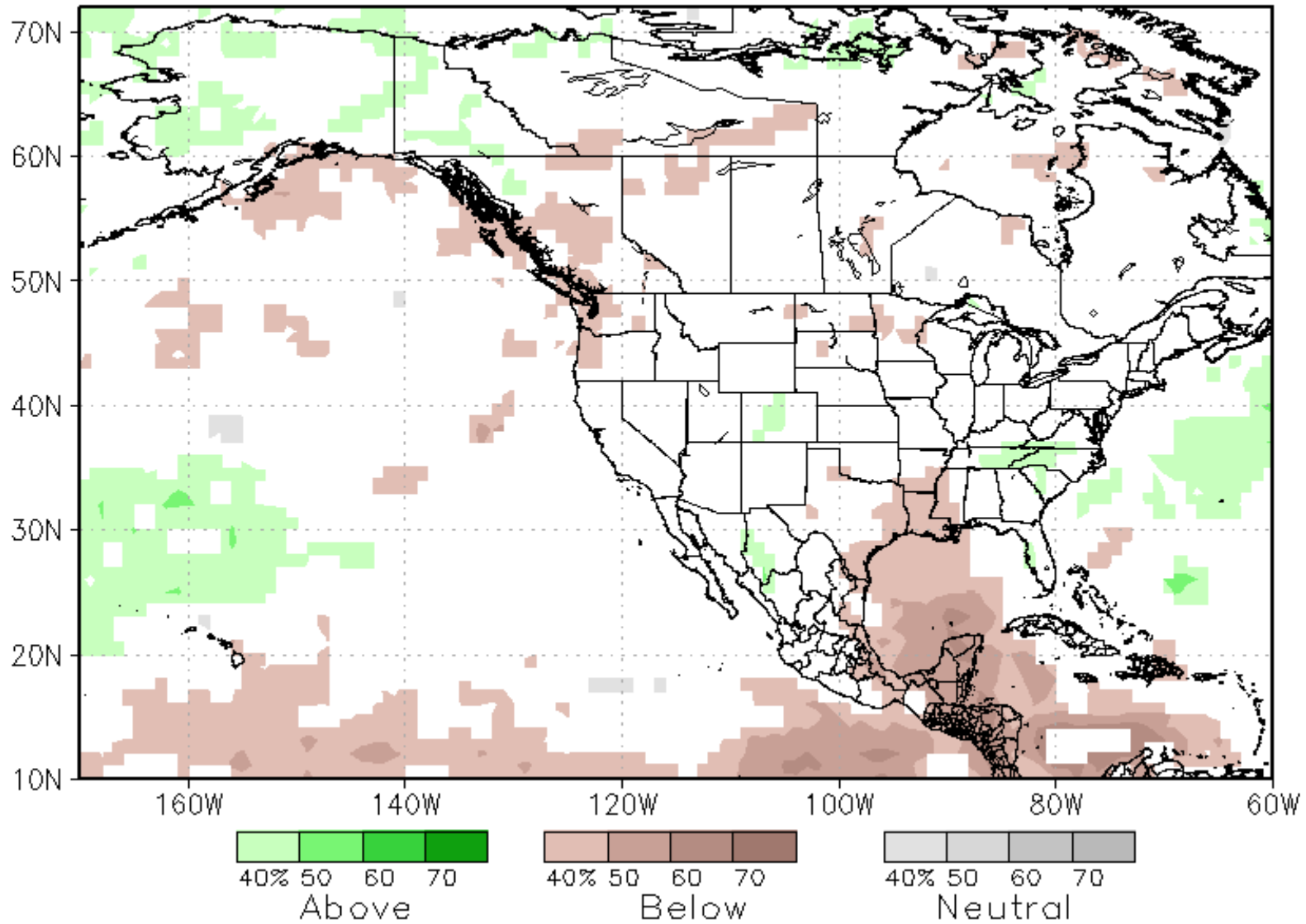
NMME prob fcst Prate IC=202301 for lead 5 2023 Jun



NMME Model Precipitation Forecast

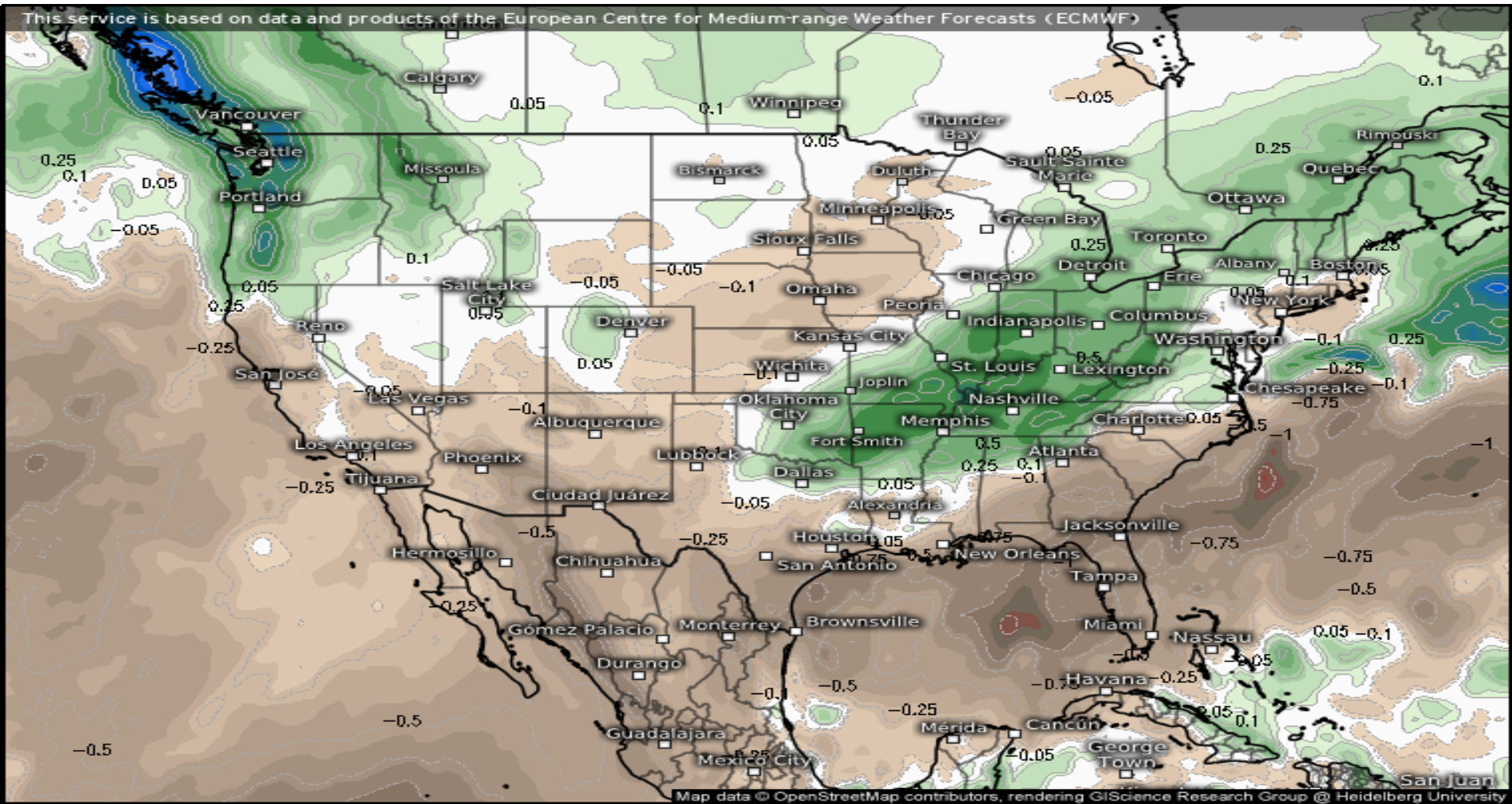
Green = Wetter Brown = Drier White = “Average”

NMME prob fcst Prate IC=202301 for lead 6 2023 Jul



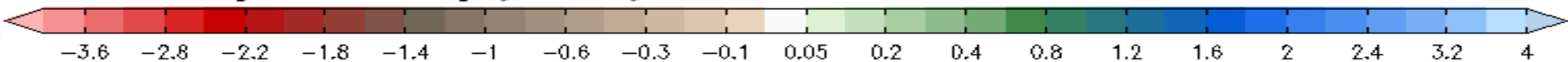
EURO Seasonal Model Precipitation Forecast

Green/Blue = Wetter Yellow/Brown = Drier Gray = "Average"



Anomaly monthly precipitation (in)

Valid for
February 2023



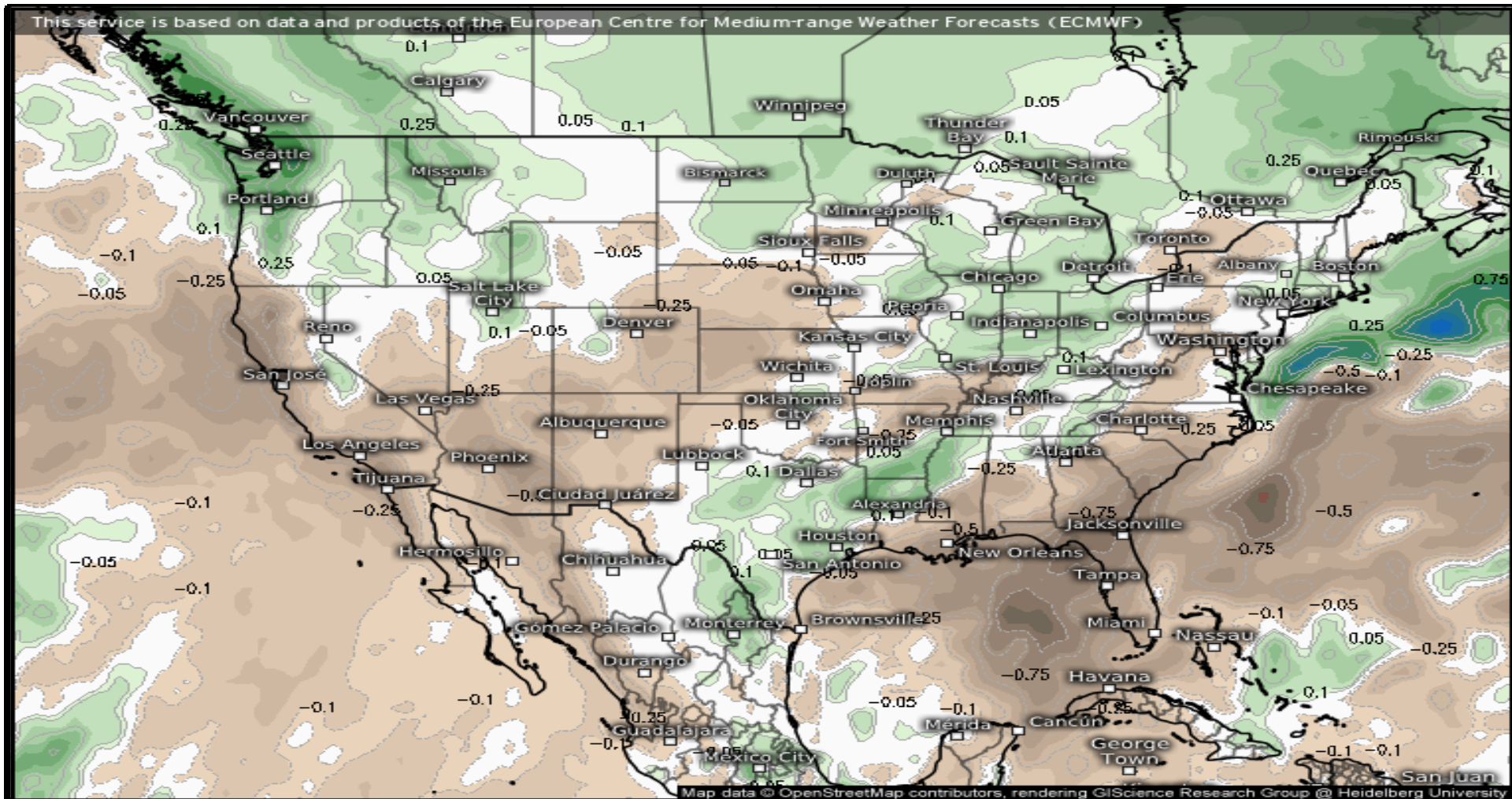
USA
ECMWF SEASS (monthly) from 01/01/2023/00z

Model:

EURO Seasonal Model Precipitation Forecast

Green/Blue = Wetter Yellow/Brown = Drier Gray = "Average"

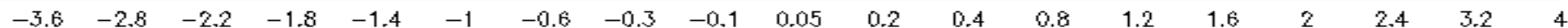
This service is based on data and products of the European Centre for Medium-range Weather Forecasts (ECMWF)



Map data © OpenStreetMap contributors, rendering GIScience Research Group @ Heidelberg University

Anomaly monthly precipitation (in)

Valid for
March 2023



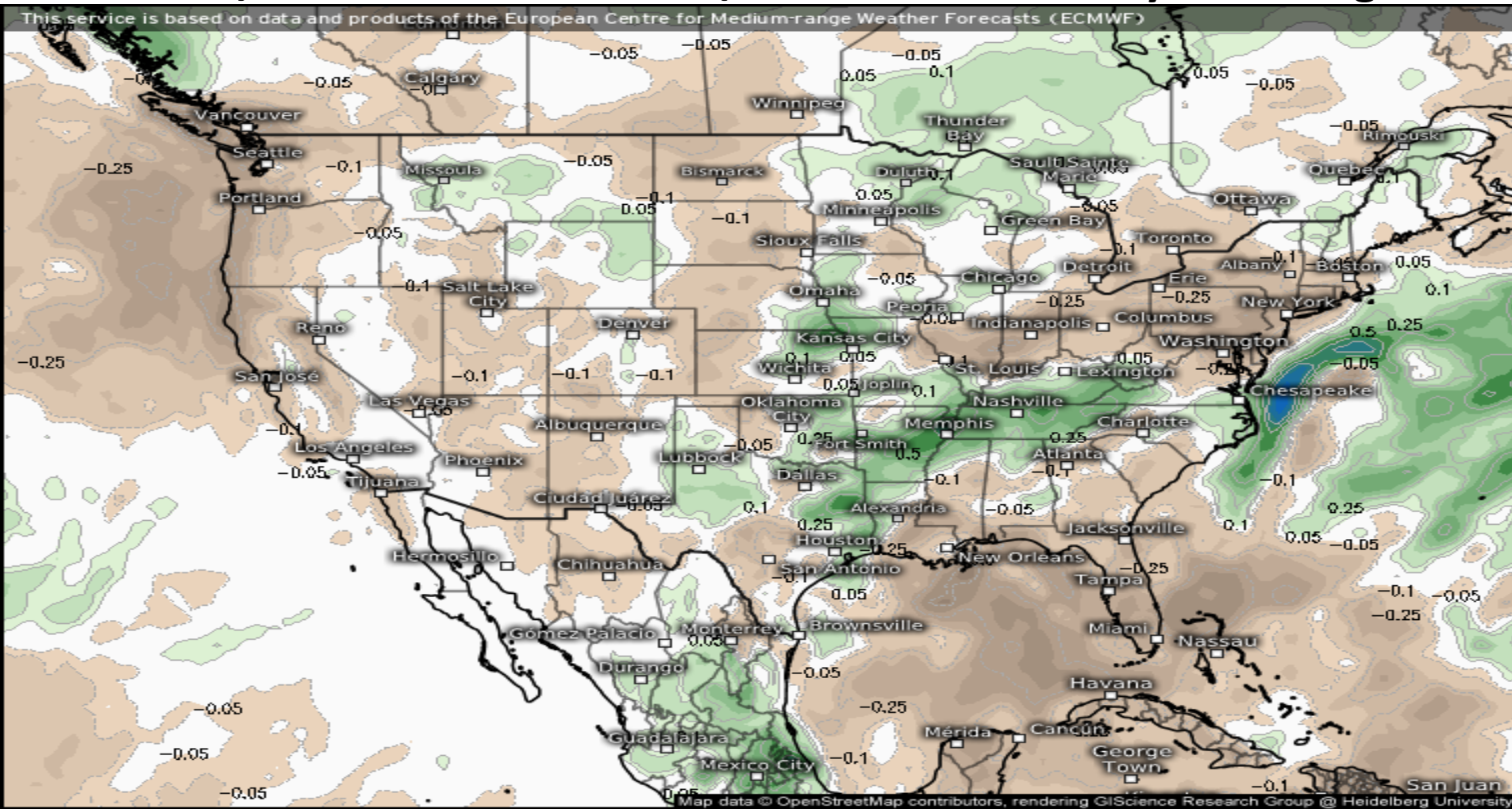
USA

ECMWF SEAS5 (monthly) from 01/01/2023/00z

Model:  

EURO Seasonal Model Precipitation Forecast

Green/Blue = Wetter Yellow/Brown = Drier Gray = "Average"



Anomaly monthly precipitation (in)

Valid for
April 2023

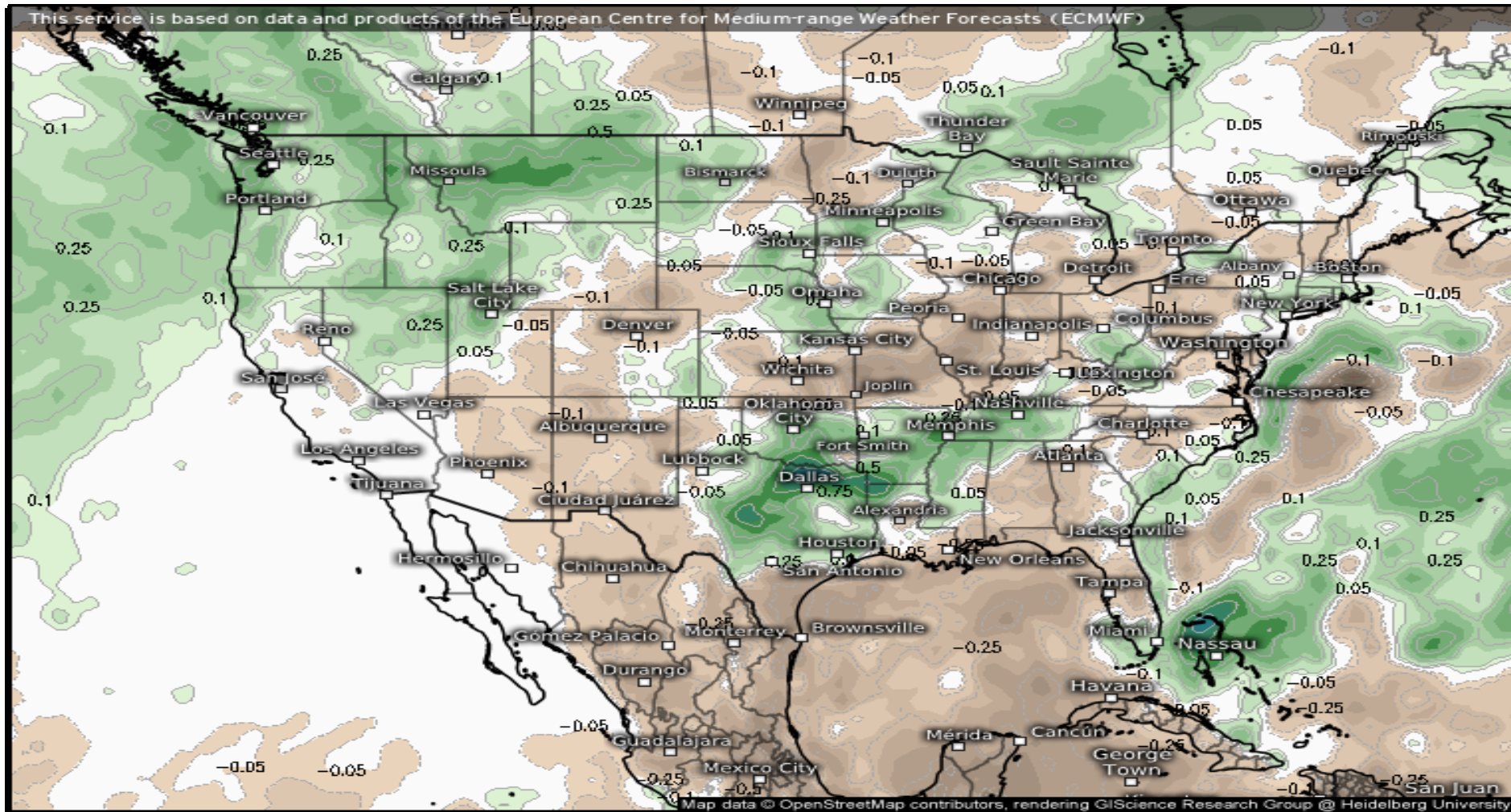


USA
ECMWF SEAS5 (monthly) from 01/01/2023/00z

Model:

EURO Seasonal Model Precipitation Forecast

Green/Blue = Wetter Yellow/Brown = Drier Gray = "Average"



Anomaly monthly precipitation (in)

Valid for
May 2023

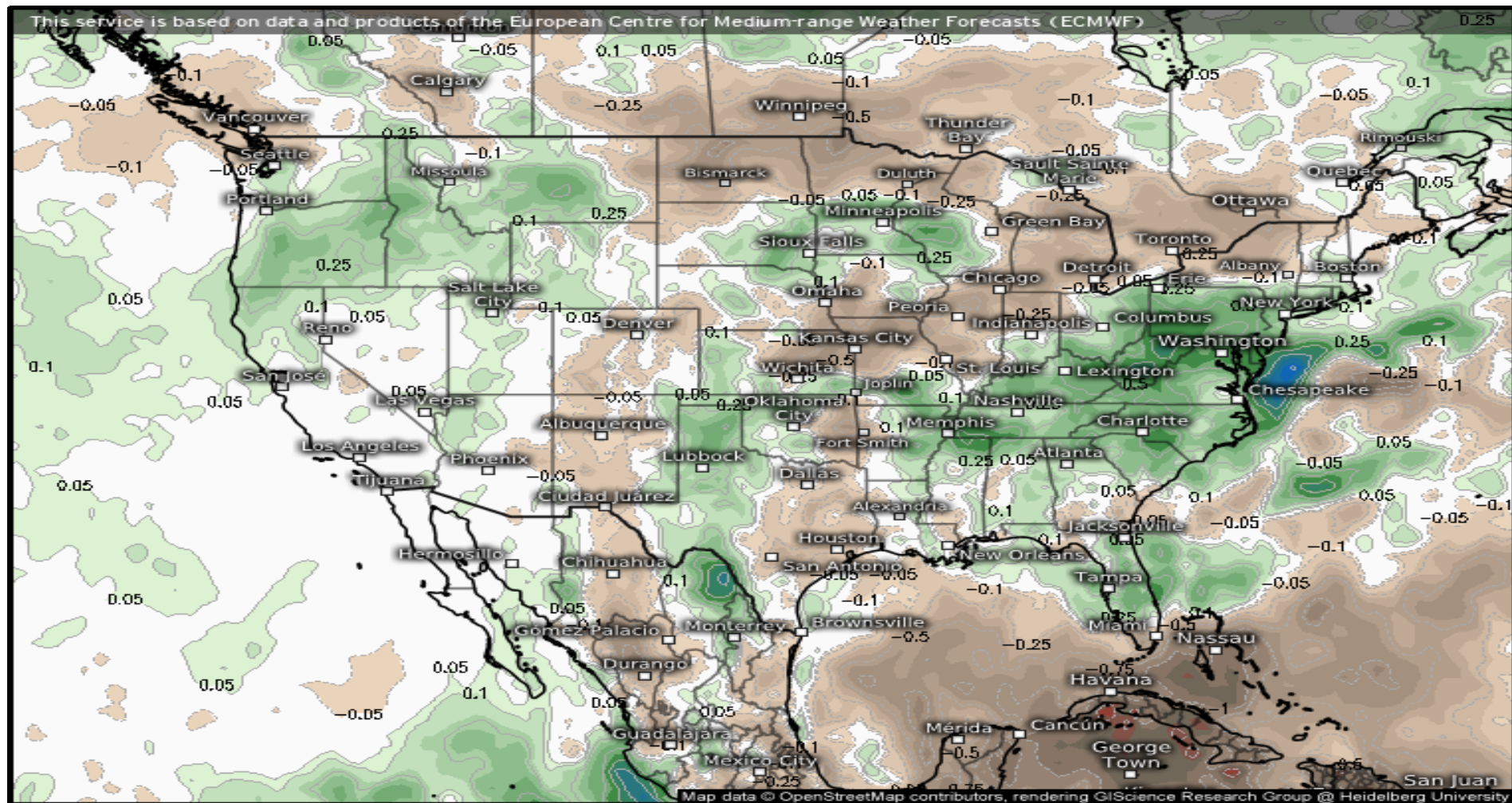


USA
ECMWF SEASS (monthly) from 01/01/2023/00z

Model:

EURO Seasonal Model Precipitation Forecast

Green/Blue = Wetter Yellow/Brown = Drier Gray = "Average"



Anomaly monthly precipitation (in)

Valid for
June 2023

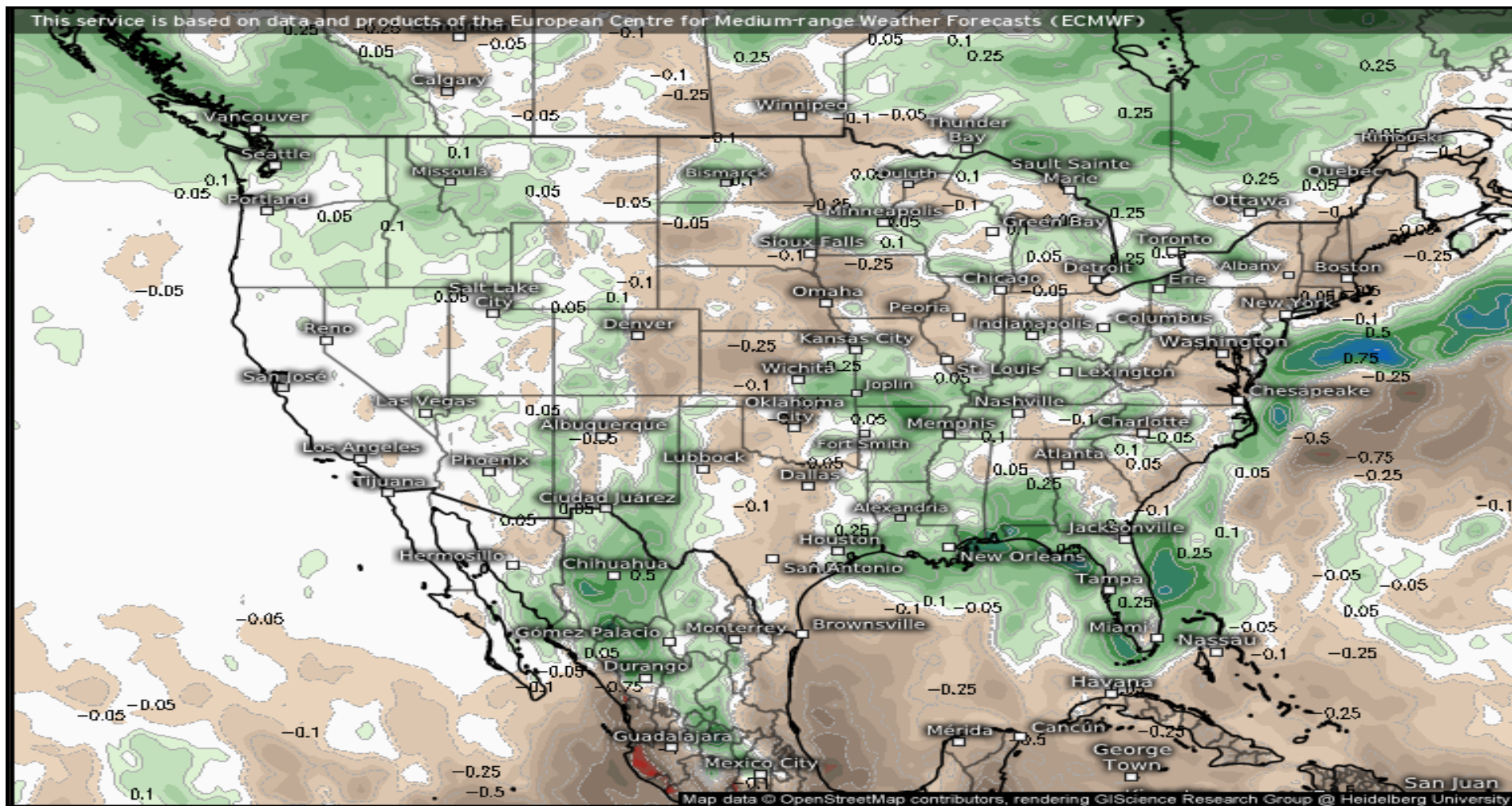
-3.6 -2.8 -2.2 -1.8 -1.4 -1 -0.6 -0.3 -0.1 0.05 0.2 0.4 0.8 1.2 1.6 2 2.4 3.2 4

USA
ECMWF SEAS5 (monthly) from 01/01/2023/00Z

Model:  

EURO Seasonal Model Precipitation Forecast

Green/Blue = Wetter Yellow/Brown = Drier Gray = "Average"



Anomaly monthly precipitation (in)

Valid for
July 2023

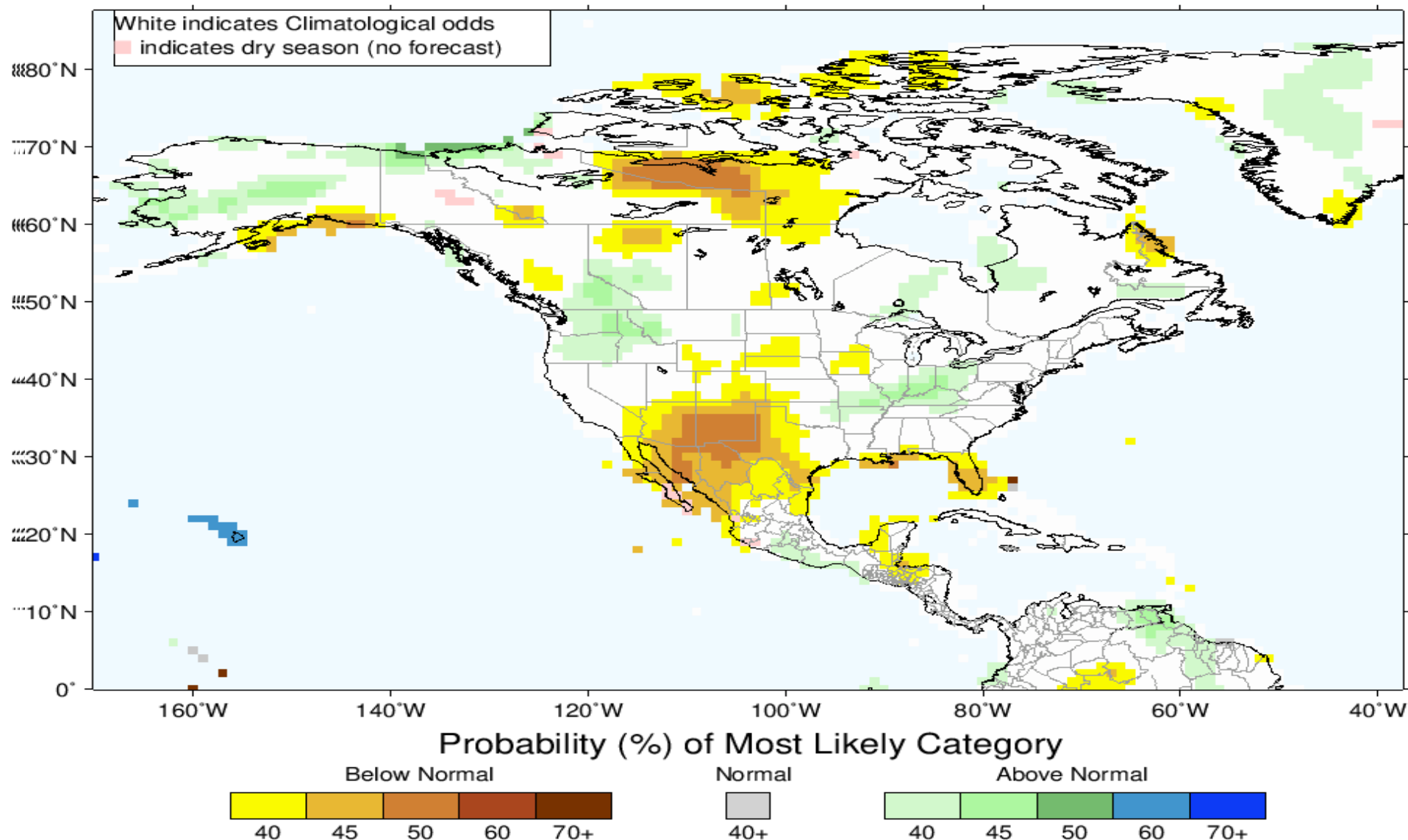
-3.6 -2.8 -2.2 -1.8 -1.4 -1 -0.6 -0.3 -0.1 0.05 0.2 0.4 0.8 1.2 1.6 2 2.4 3.2 4

USA
ECMWF SEAS5 (monthly) from 01/01/2023/00z

Model:  

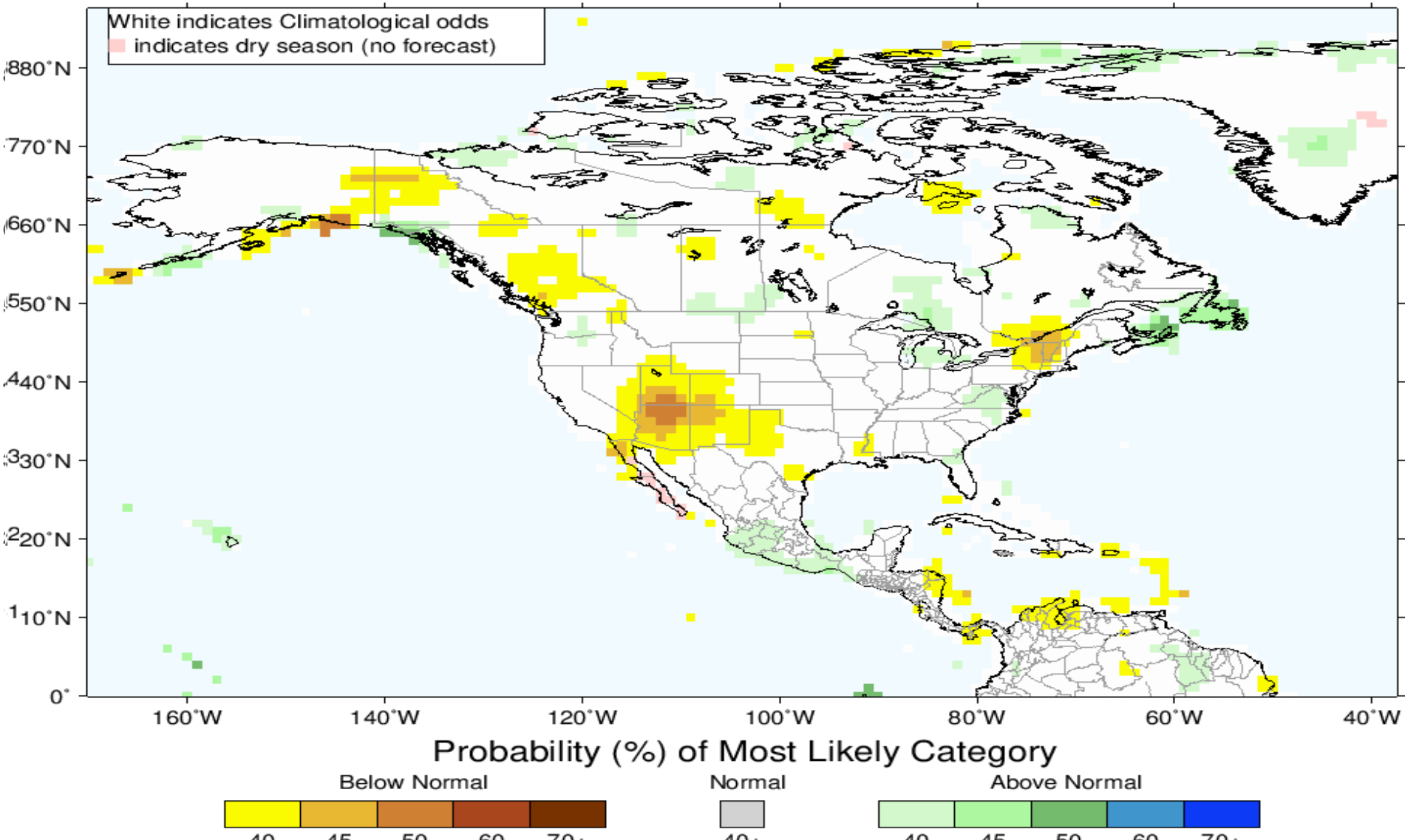
Green/Blue = Wetter Yellow/Brown = Drier White = “Average”

**IRI Multi-Model Probability Forecast for Precipitation for
February–March–April 2023, Issued December 2022**



Green/Blue = Wetter Yellow/Brown = Drier White = “Average”

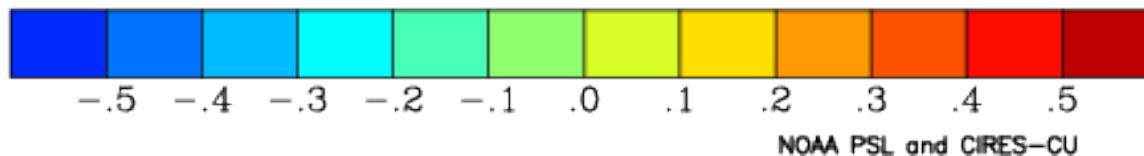
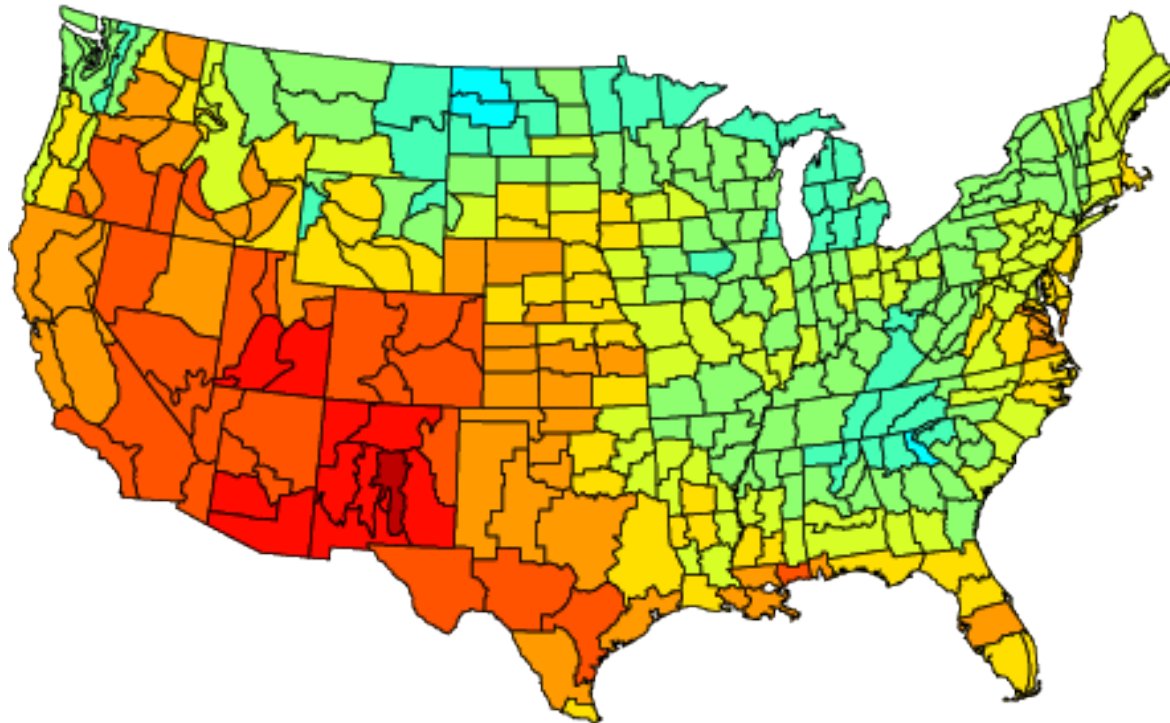
IRI Multi-Model Probability Forecast for Precipitation for April–May–June 2023, Issued December 2022



Historic Negative PDO Precipitation Anomalies...

Yellow/Brown=Drier Green/Blue=Wetter

Correlation Precipitation Feb to Jun
With Feb to Jun PDO
1948 to 2020

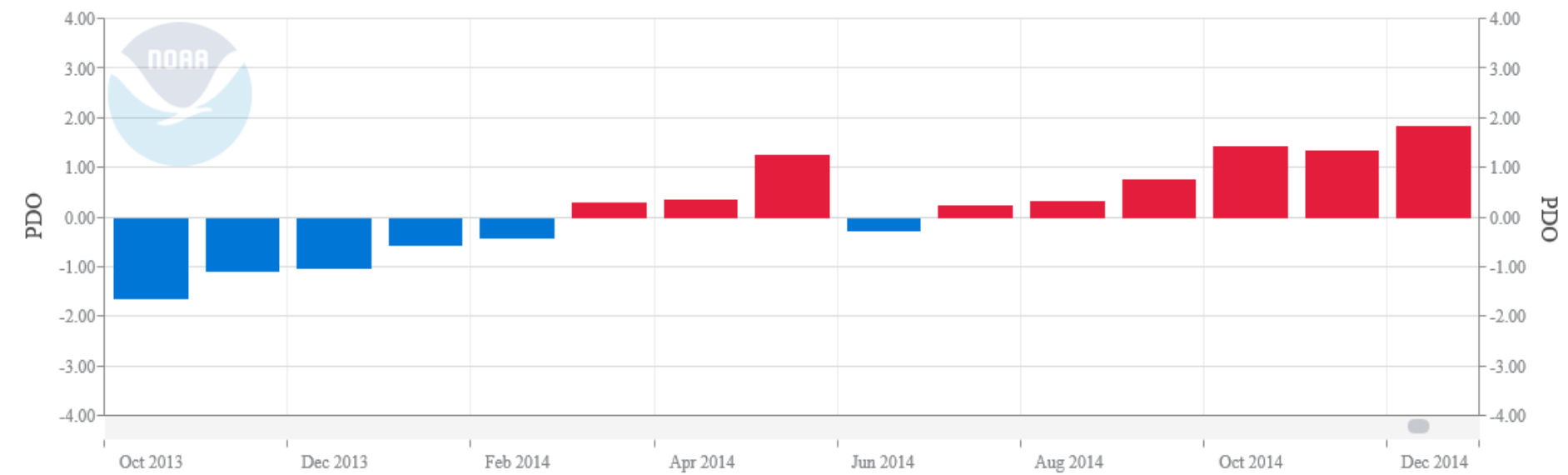


Pacific Decadal Oscillation (PDO)

Oct 2013 – Dec 2014

NOAA | NOAA.gov | NOAA.gov | NOAA.gov | NOAA.gov | NOAA.gov

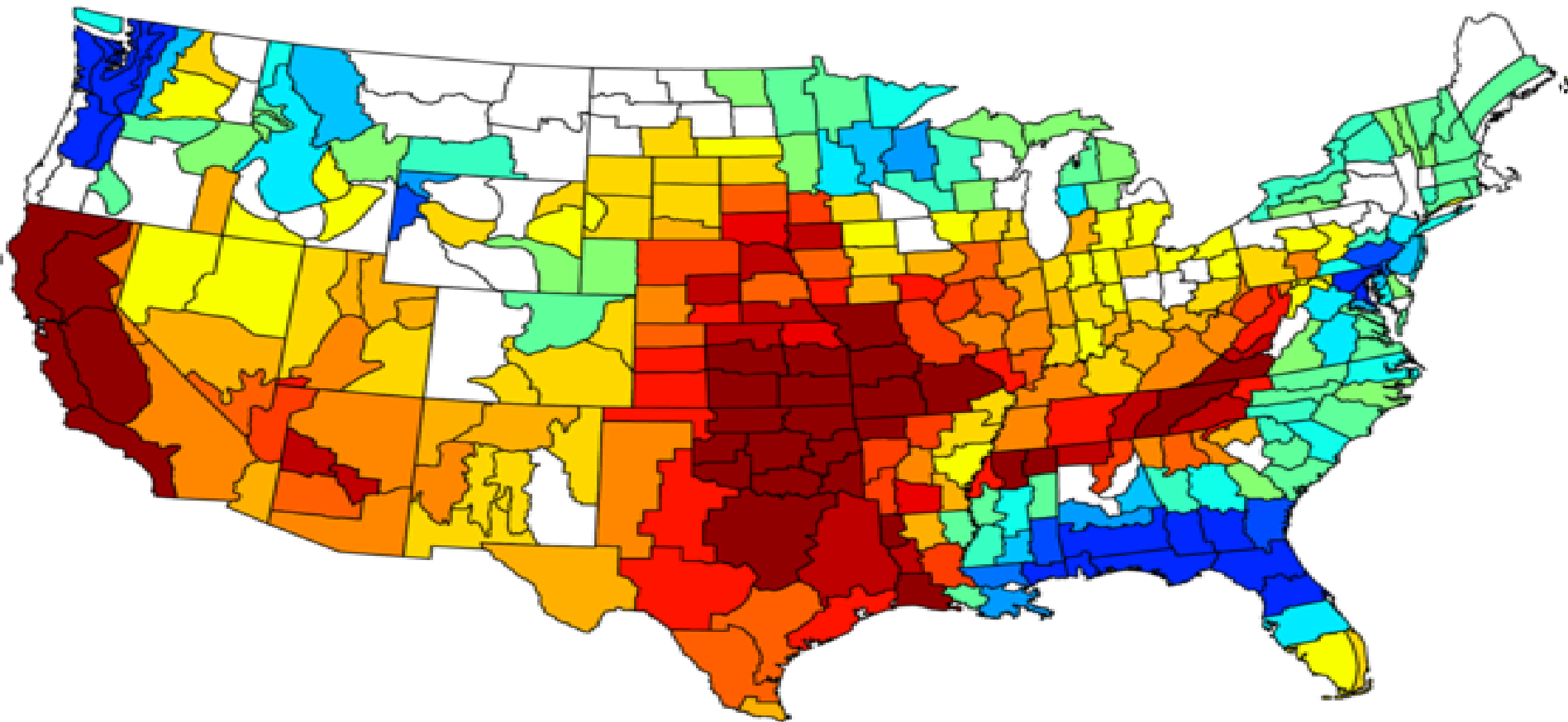
Pacific Decadal Oscillation (PDO)



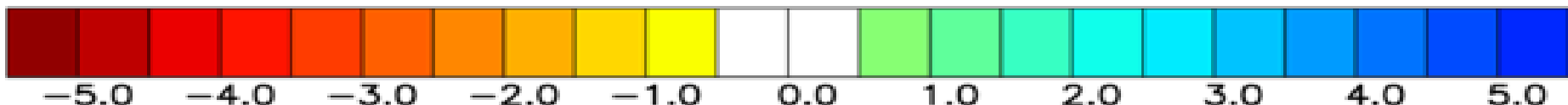
Source: <https://www.ncei.noaa.gov/pub/data/cmb/ersst/v5/index/ersst.v5.pdo.dat>

Potential Analog Year for The PDO Transition...

NOAA/NCEI Climate Division Precipitation Anomalies (in)
Jan to May 2014
Versus 1991–2020 Longterm Average

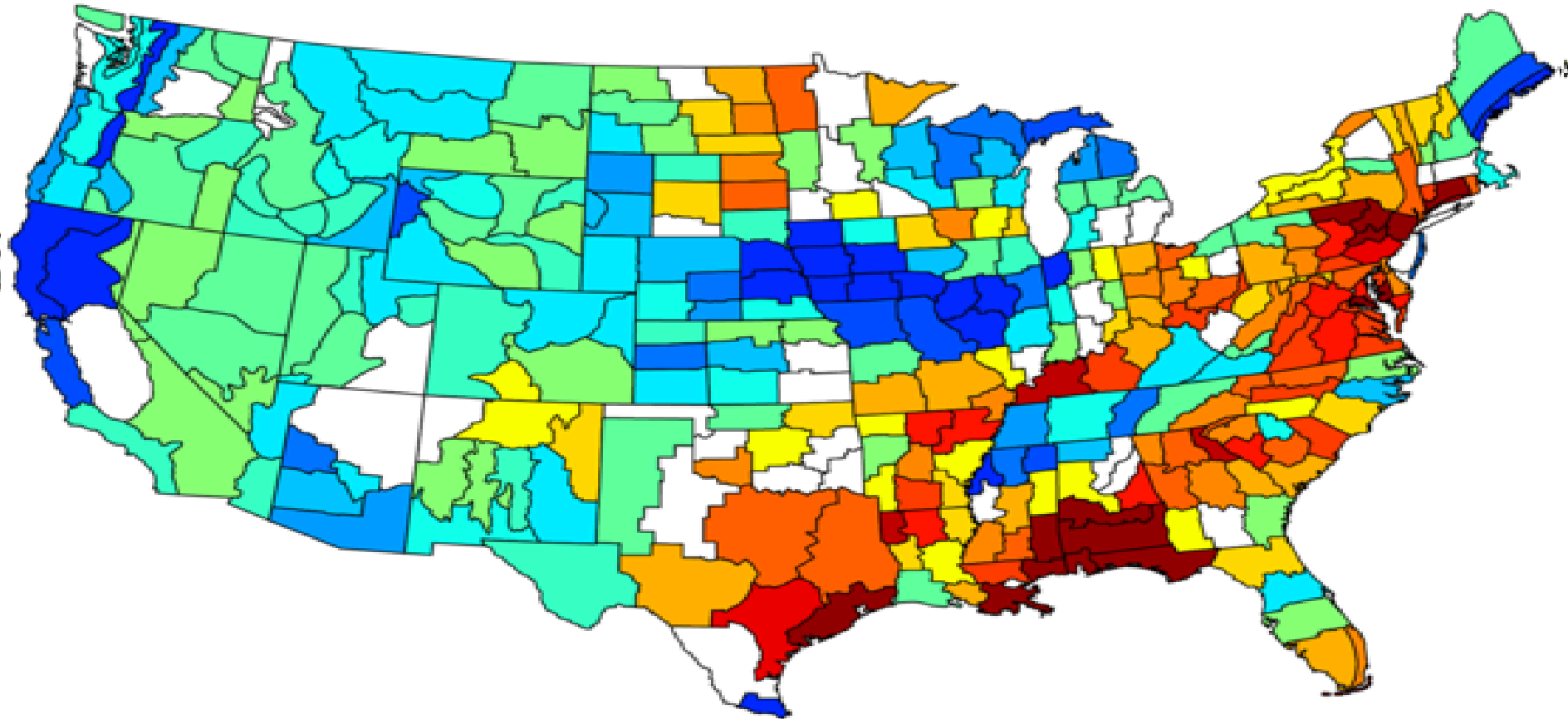


NOAA PSL and CIRES-CU



Potential Analog Year for The PDO Transition...

NOAA/NCEI Climate Division Precipitation Anomalies (in)
Jun to Dec 2014
Versus 1991–2020 Longterm Average

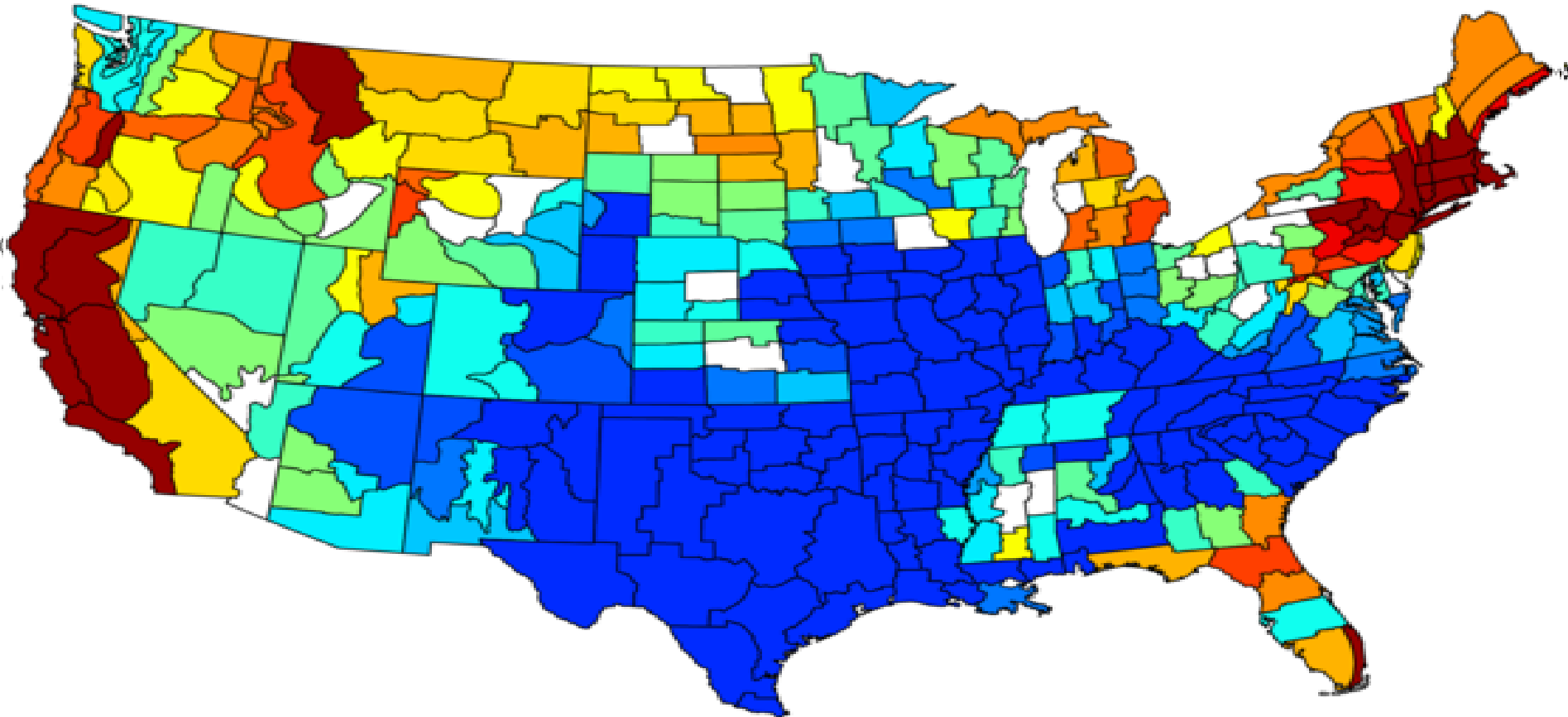


NOAA PSL and CIRES-CU

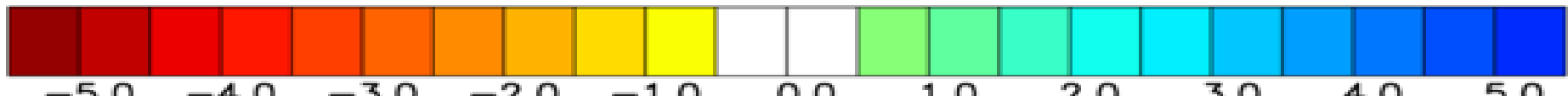


Last El Niño Followed Prolonged La Niña...

NOAA/NCEI Climate Division Precipitation Anomalies (in)
Jan to Dec 2015
Versus 1991–2020 Longterm Average



NOAA PSL and CIRES—CU



In Summary...

- 1) La Niña going away is a GOOD thing!!!
- 2) PDO still quite negative, but should become less negative in time. Possible phase shift is important in facilitating long term pattern change.
- 3) El Niño development later this year is not a certainty, but certainly seems likely. Doesn't necessarily imply immediate relief...see PDO
- 4) If nothing else, the pattern that has continuously caused and reinforced drought will loosen its grip on us. As always, it is VERY important to capitalize on the moisture we receive.
- 5) CAUTIOUS OPTIMISM!

BrianBledsoeWx, LLC

Making The Weather Work for You



Brian Bledsoe

Chief Meteorologist / Climatologist

719-661-1364

brianbledsoewx@gmail.com