DAYWEATHER

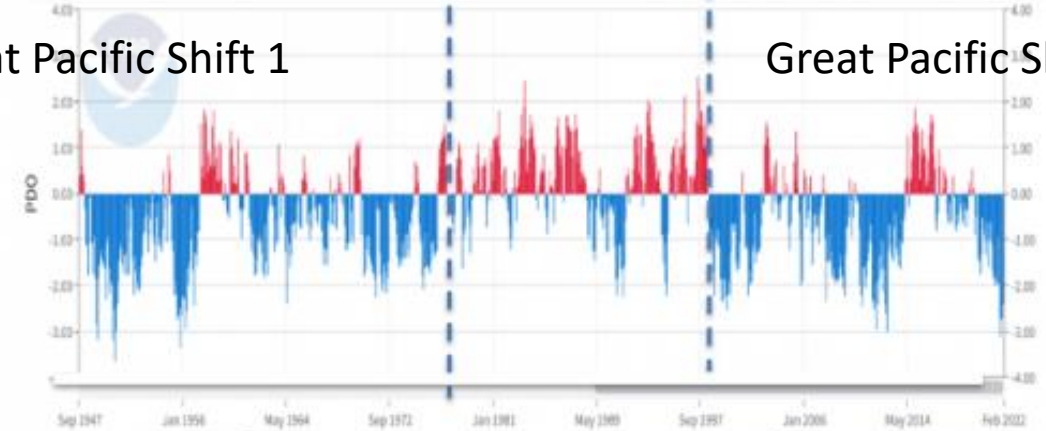
Long Range Outlook

Spring-Summer 2025

North Pacific Sea Surface Temperatures (PDO)

Great Pacific Shift 1

Great Pacific Shift 2



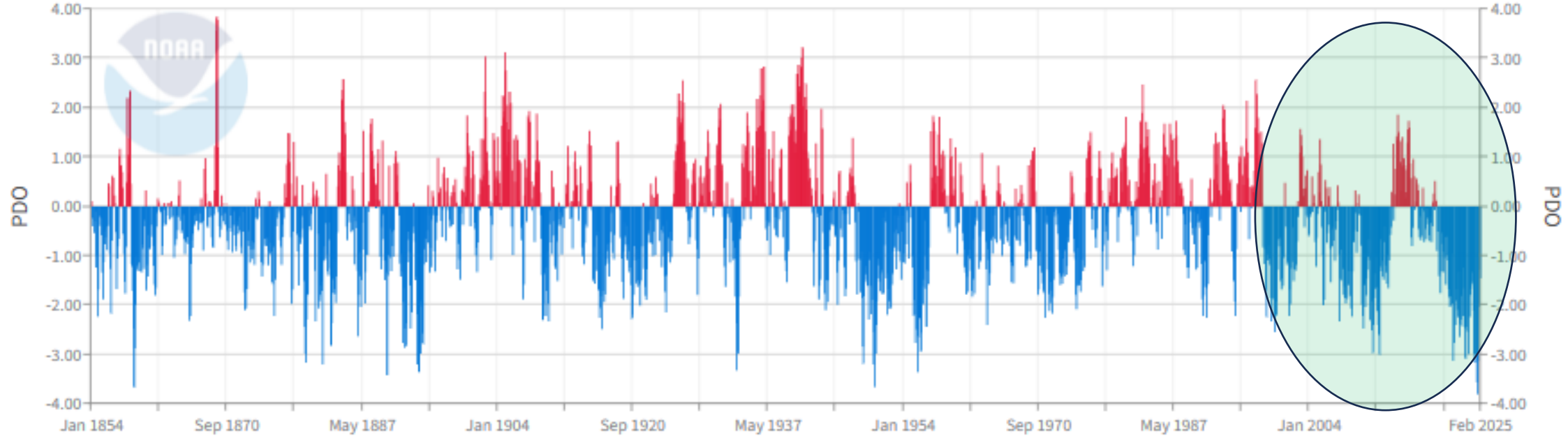
PDO	**Cold**	**Warm**	**Cold**
	1947-1977	**1978-1998**	**1999-2022**
El Nino	7	10	8
La Nina	14	3	13

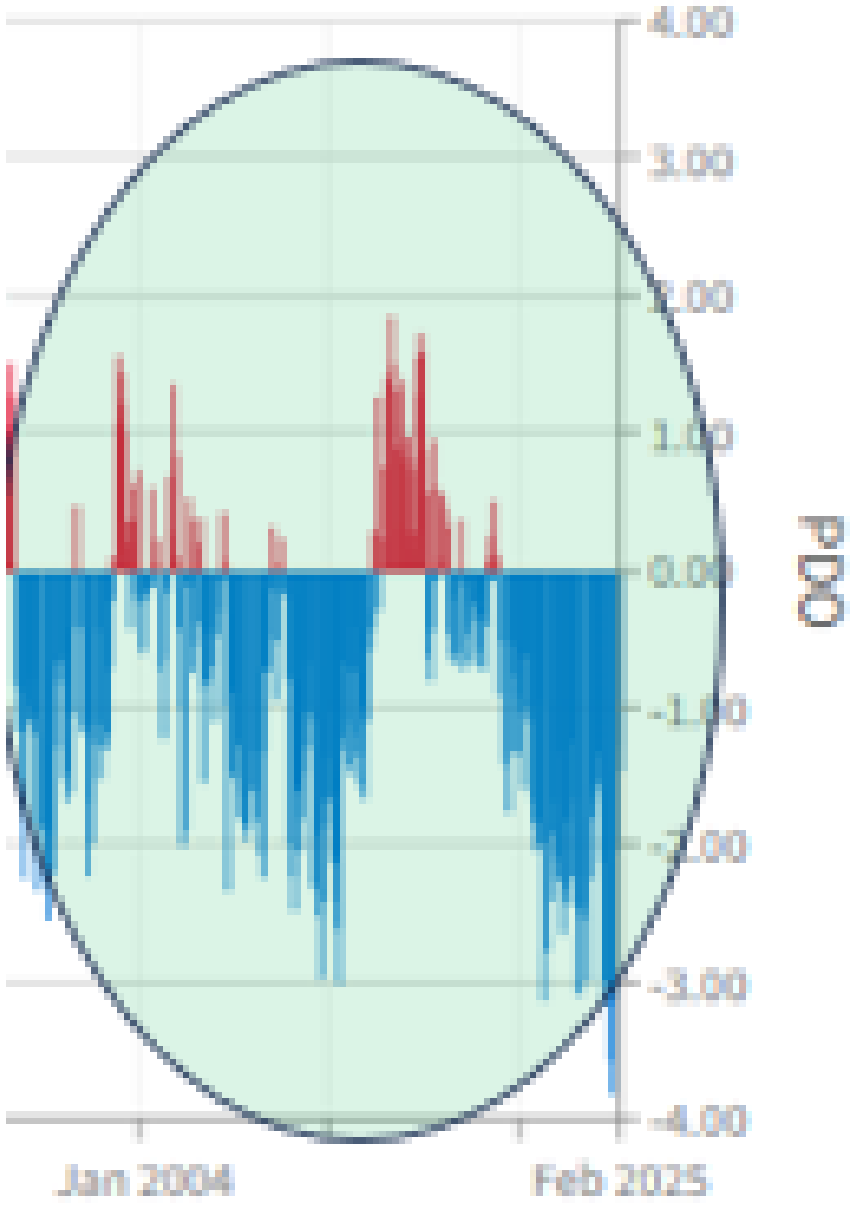
NOAA CDC

ENSO Duration in Months		
	El Nino	La Nina
Positive PDO	21	12
Negative PDO	13	21

Pacific Decadal Oscillation (PDO)

January 1854-February 2025

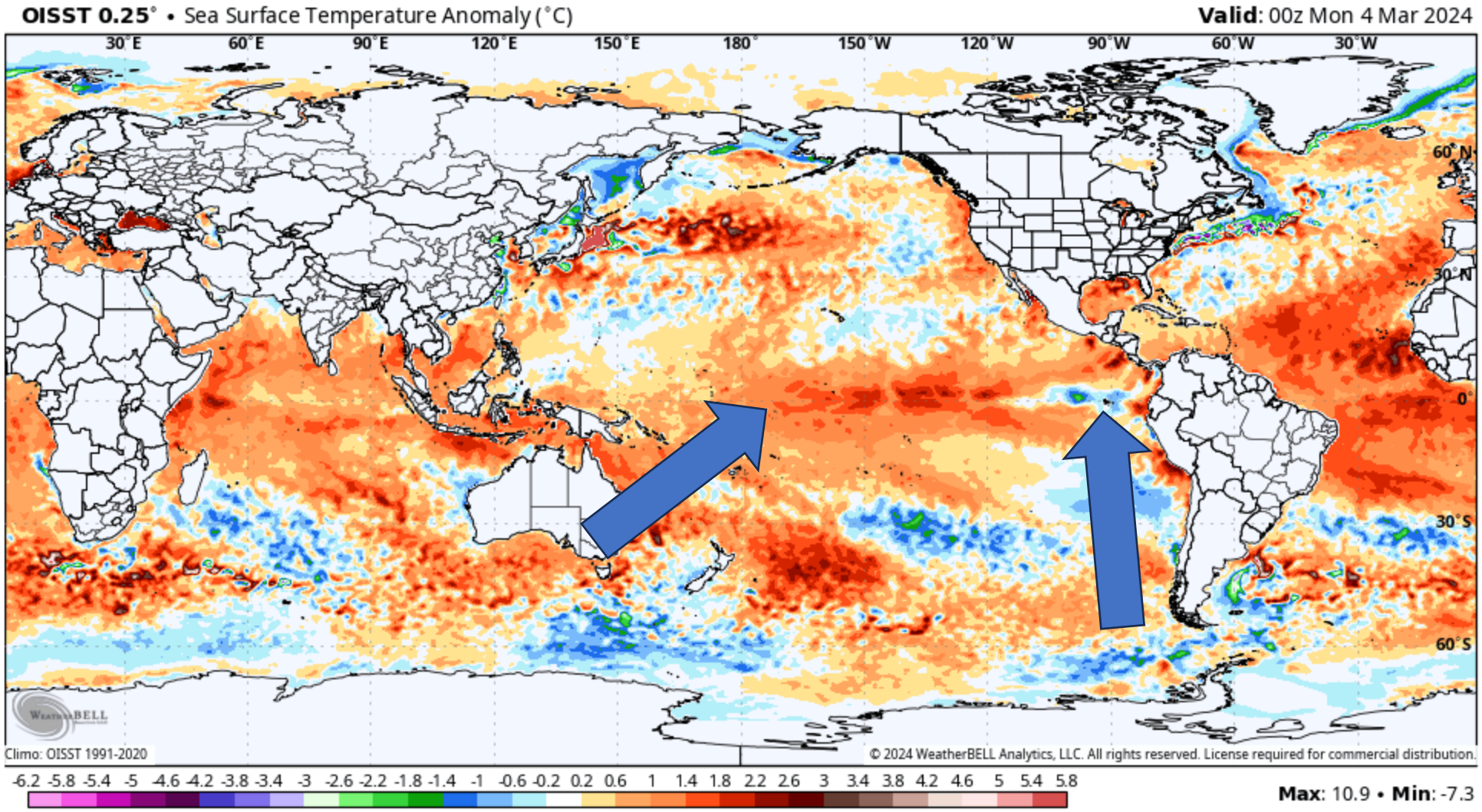



4.00
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
-4.00
PDO
Jan 2004
Feb 2025

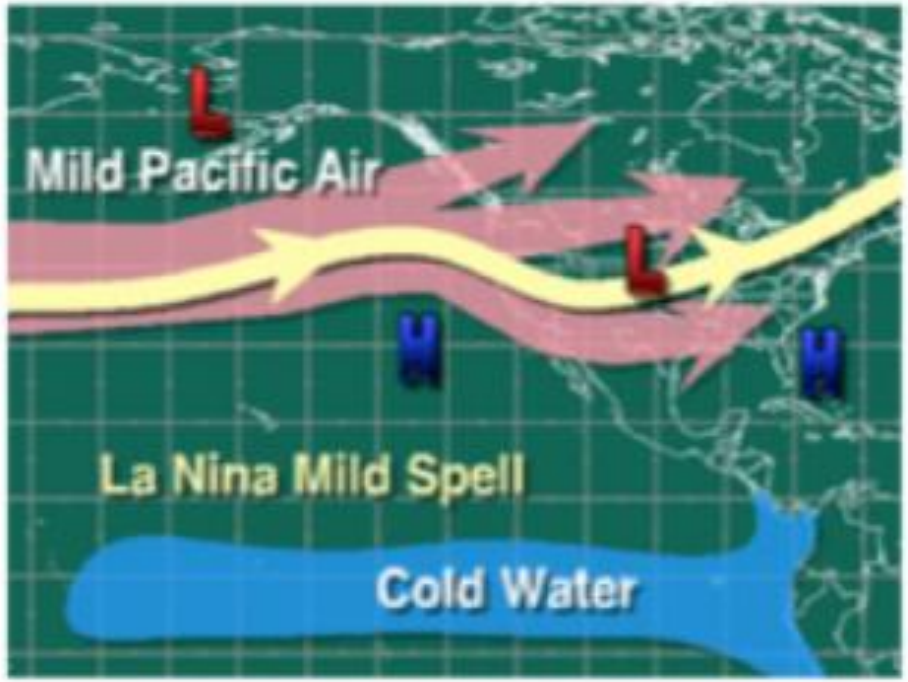
Overview

- ENSO whiplash
  - 2022-2023 Winter – La Nina Fall to El Nino developing in winter + Possible Tonga Volcano impacts
  - 2023-2024 – Winter – El Nino Fall/early winter to La Nina Spring/Summer
  - 2024- 2025 Winter – La Nina Fall/early winter to ENSO neutral by Spring/Summer
  - La Nina patterns overall bring “islands of extreme” to the western states, large islands of drought and smaller islands of more wet conditions with drought being dominant
  - La Nina keeps jet stream more north, less opportunity for upslope storm events on the plains
  - El Nino or ENSO neutral patterns bring better precipitation and less extremes

March 2024

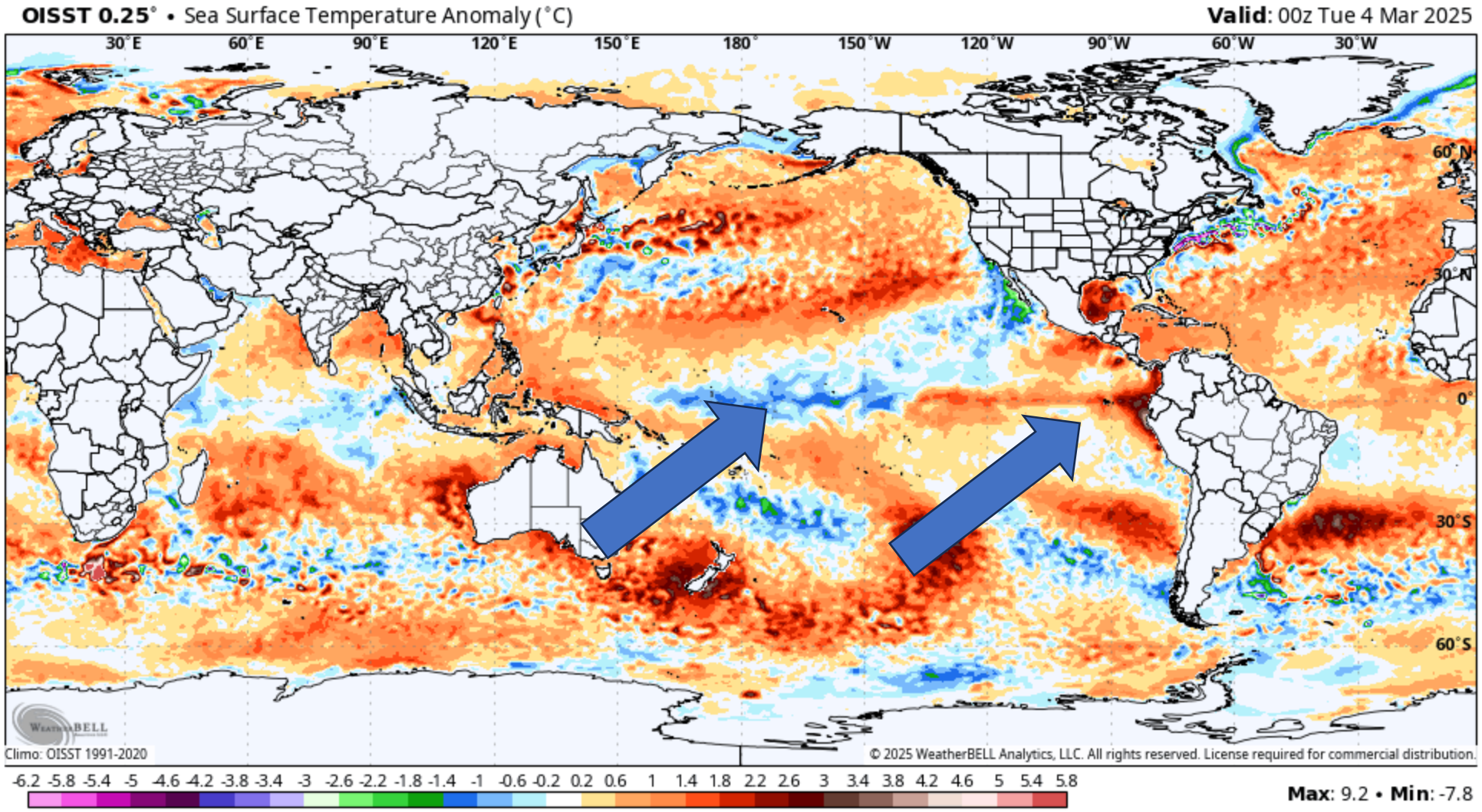

OISST 0.25° • Sea Surface Temperature Anomaly (°C)
Valid: 00z Mon 4 Mar 2024
30°E 60°E 90°E 120°E 150°E 180° 150°W 120°W 90°W 60°W 30°W
60°N 30°N 0° 30°S 60°S
Climo: OISST 1991-2020
© 2024 WeatherBELL Analytics, LLC. All rights reserved. License required for commercial distribution.
-6.2 -5.8 -5.4 -5 -4.6 -4.2 -3.8 -3.4 -3 -2.6 -2.2 -1.8 -1.4 -1 -0.6 -0.2 0.2 0.6 1 1.4 1.8 2.2 2.6 3 3.4 3.8 4.2 4.6 5 5.4 5.8
Max: 10.9 • Min: -7.3

La Nina Phase 1



La Nina Phase 2

March 2025 – La Nina Fading Fast

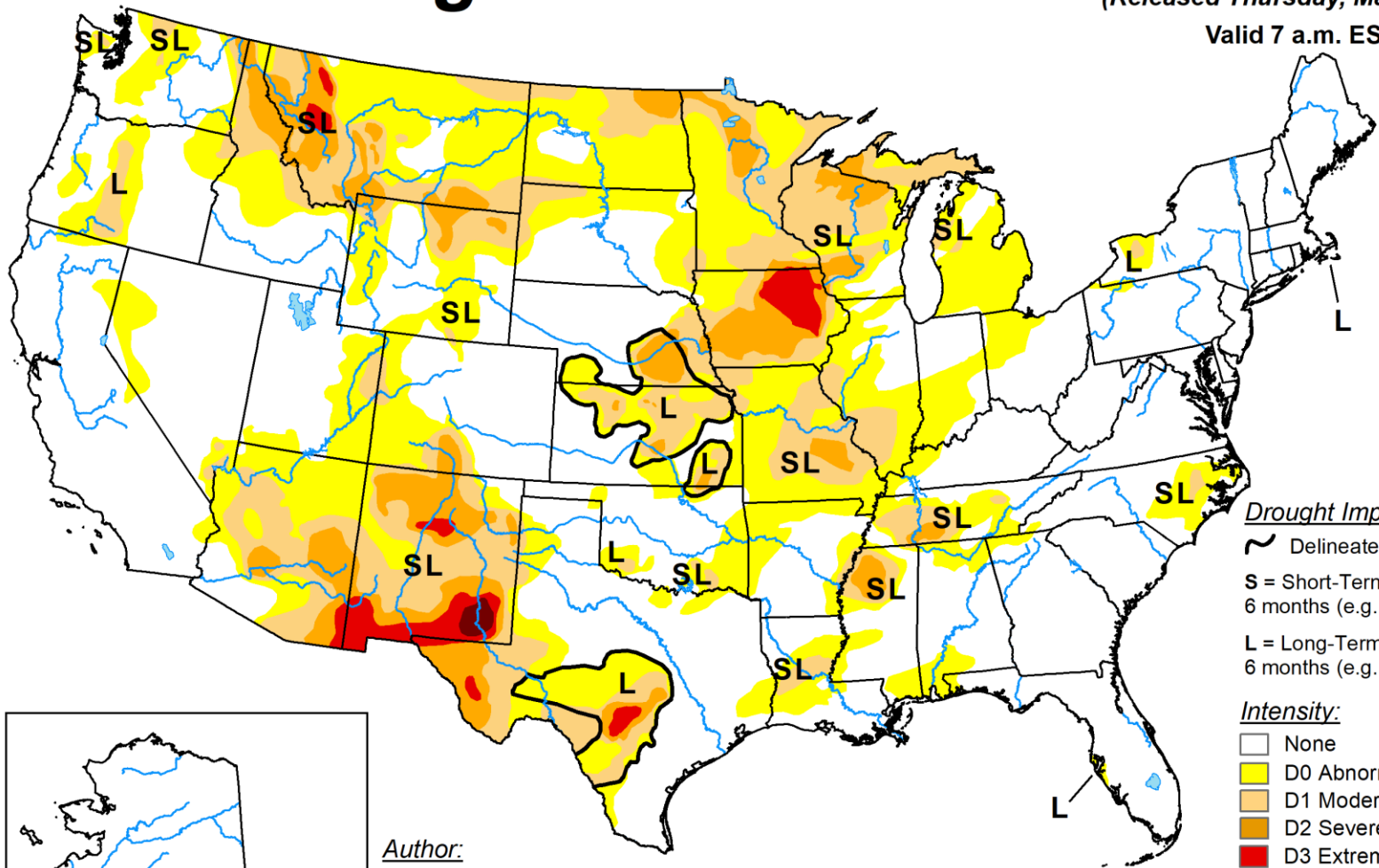


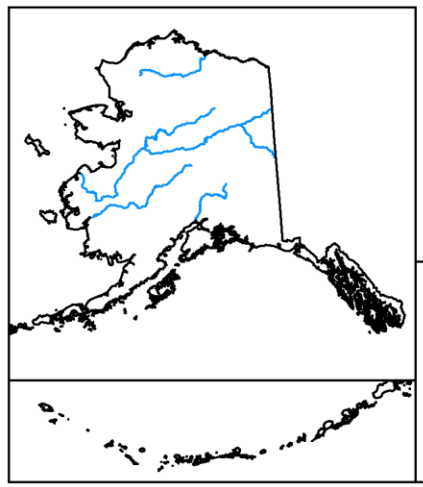
U.S. Drought Monitor

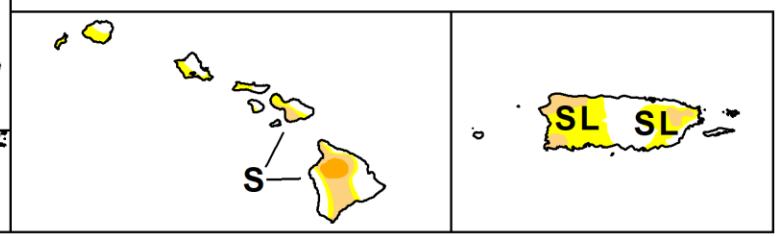
March 5, 2024

(Released Thursday, Mar. 7, 2024)

Valid 7 a.m. EST







Drought Impact Types:

Delineates dominant impacts

S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)

L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

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

Author:

Curtis Riganti

National Drought Mitigation Center

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

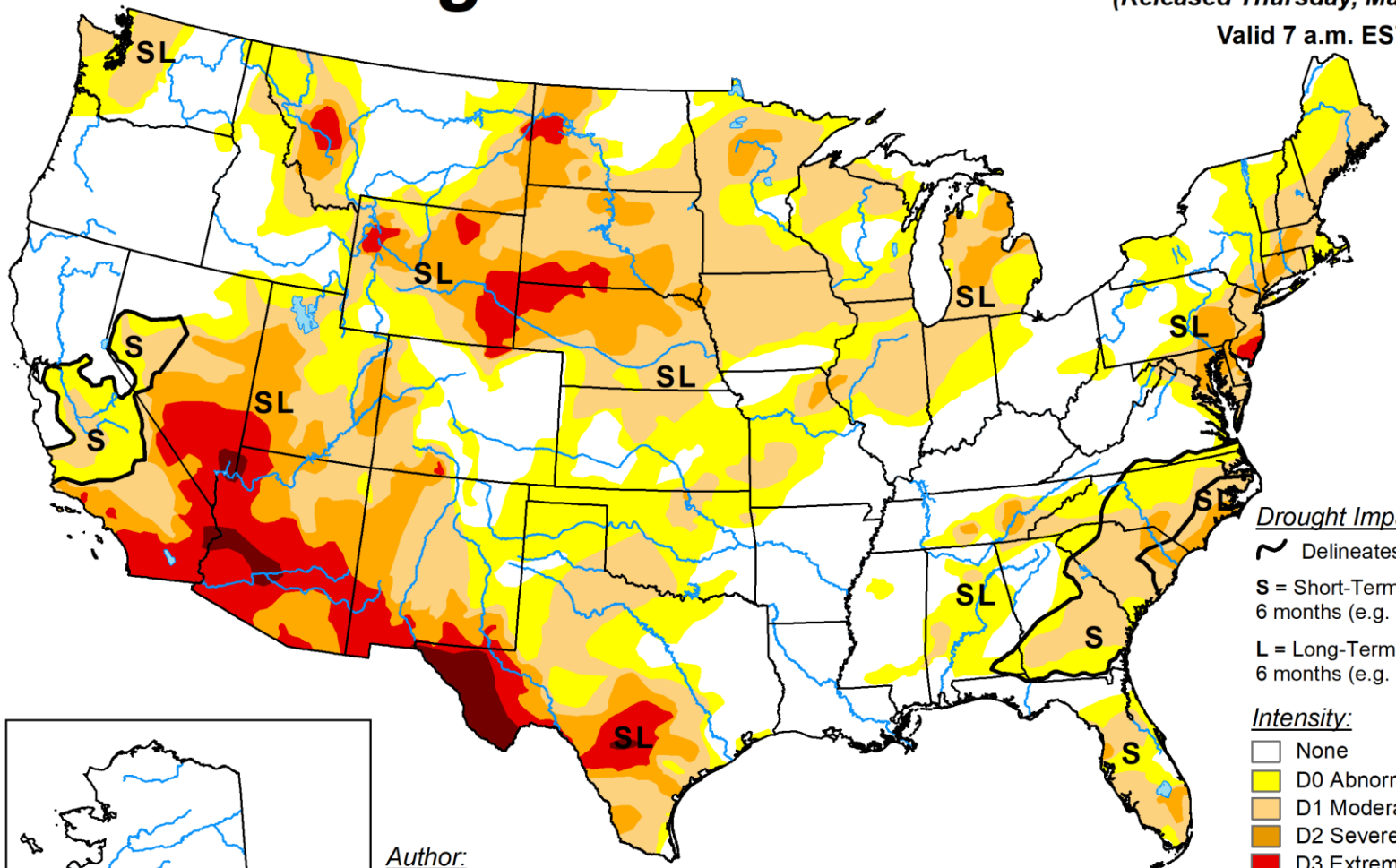
droughtmonitor.unl.edu

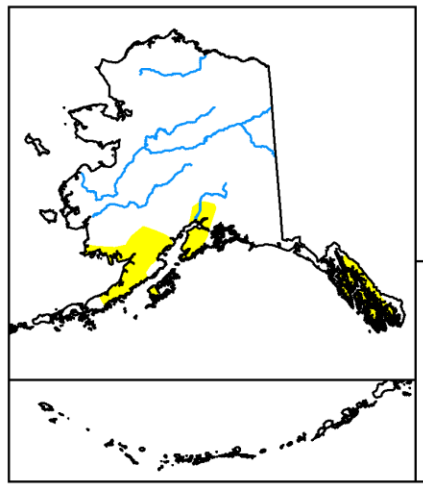
U.S. Drought Monitor

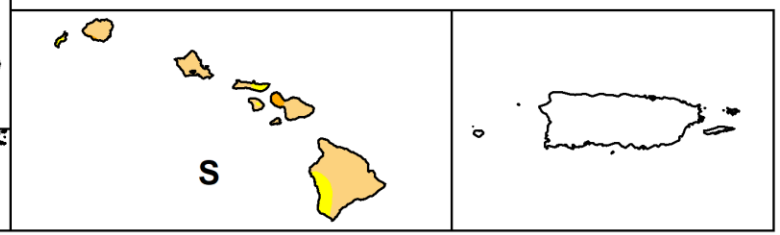
March 4, 2025

(Released Thursday, Mar. 6, 2025)

Valid 7 a.m. EST







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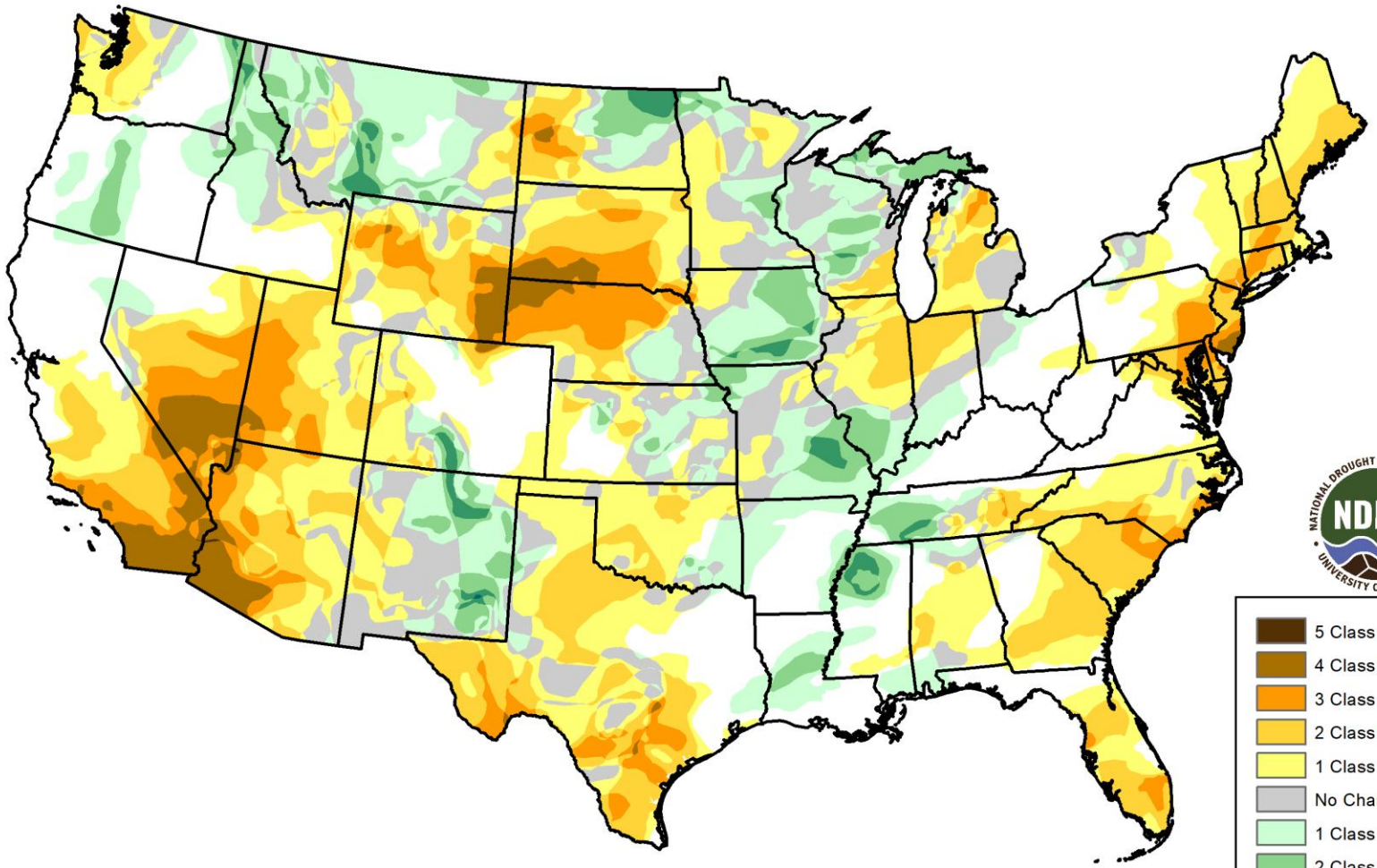
U.S. Drought Monitor Class Change - CONUS

52 Week

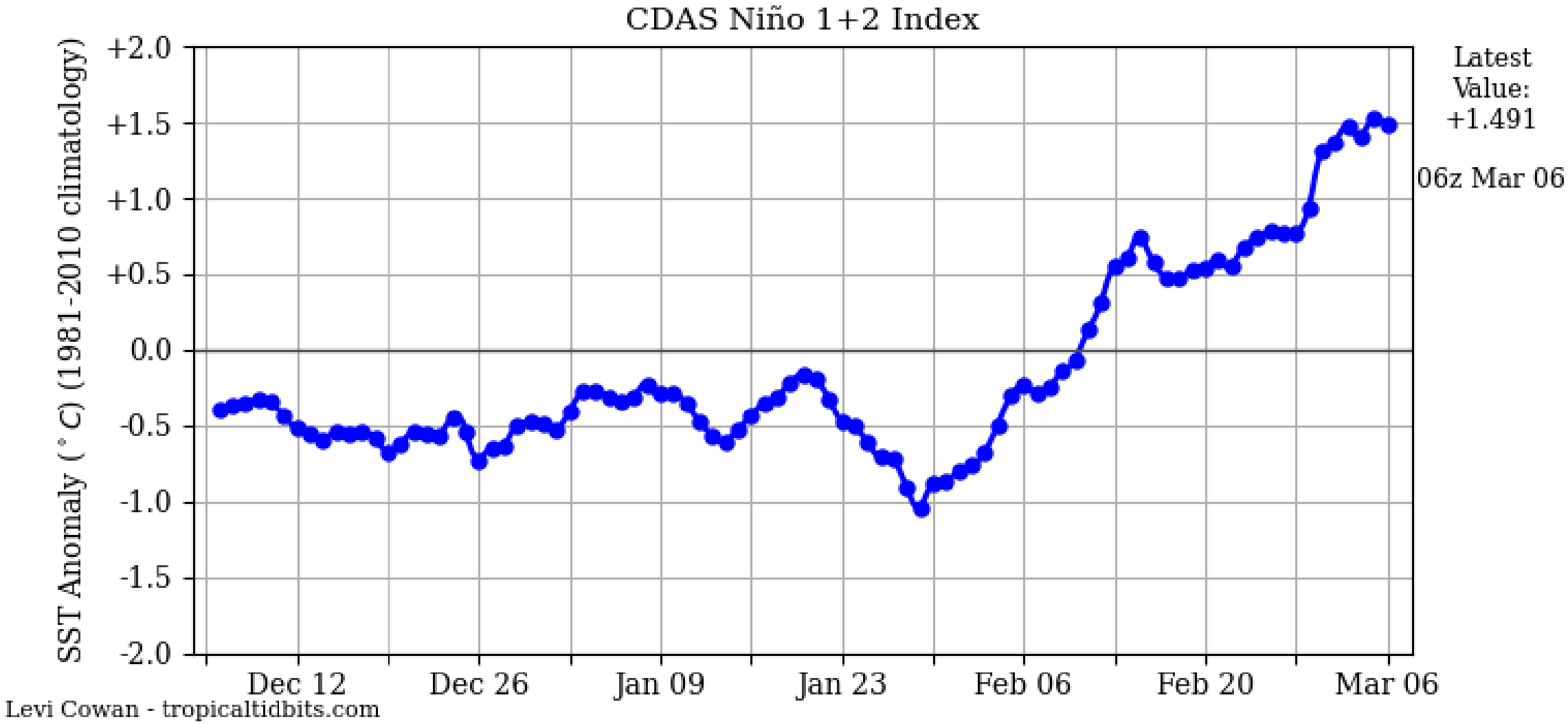


March 4, 2025
compared to
March 5, 2024

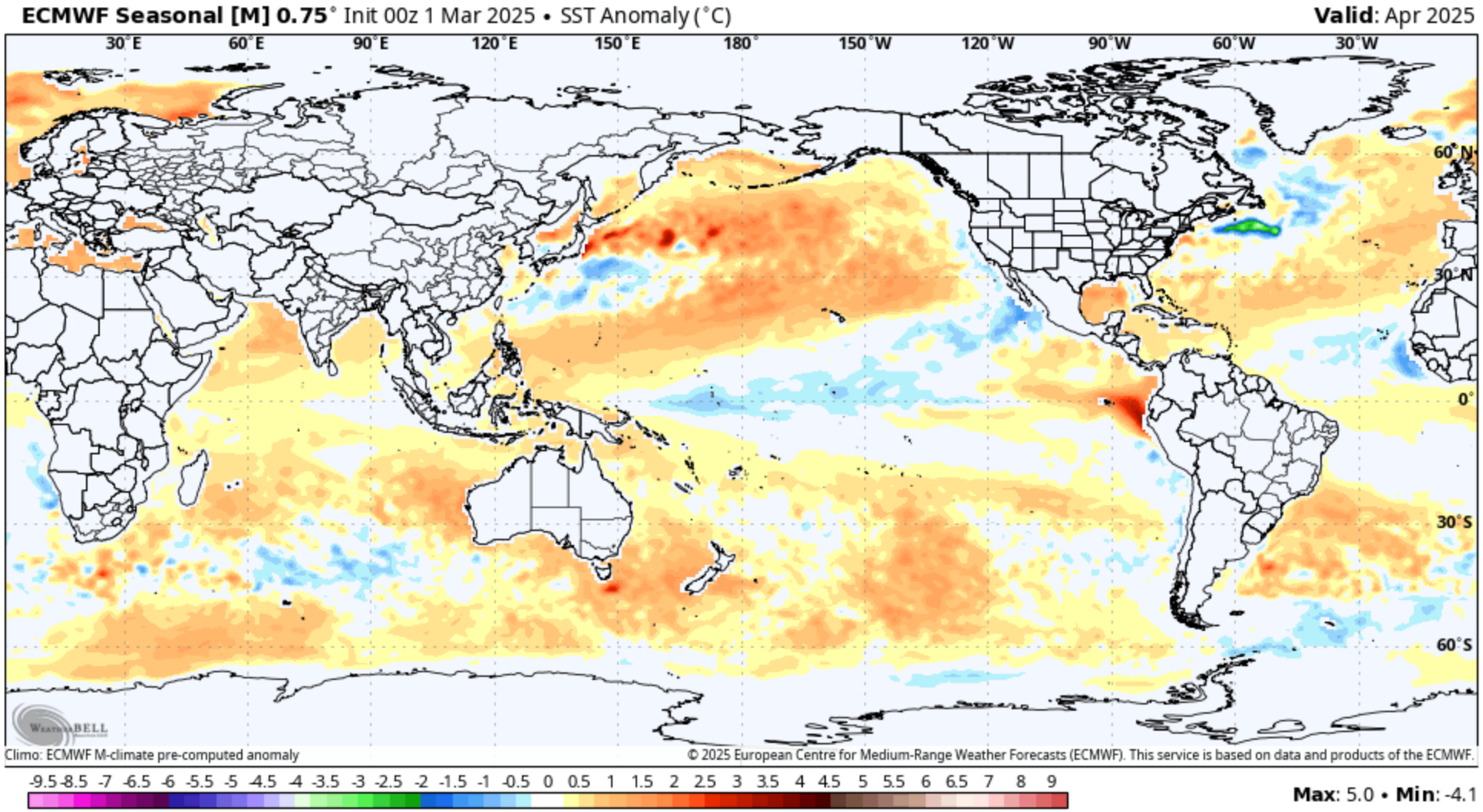
droughtmonitor.unl.edu

NATIONAL DROUGHT MITIGATION CENTER
NDMC
UNIVERSITY OF NEBRASKA

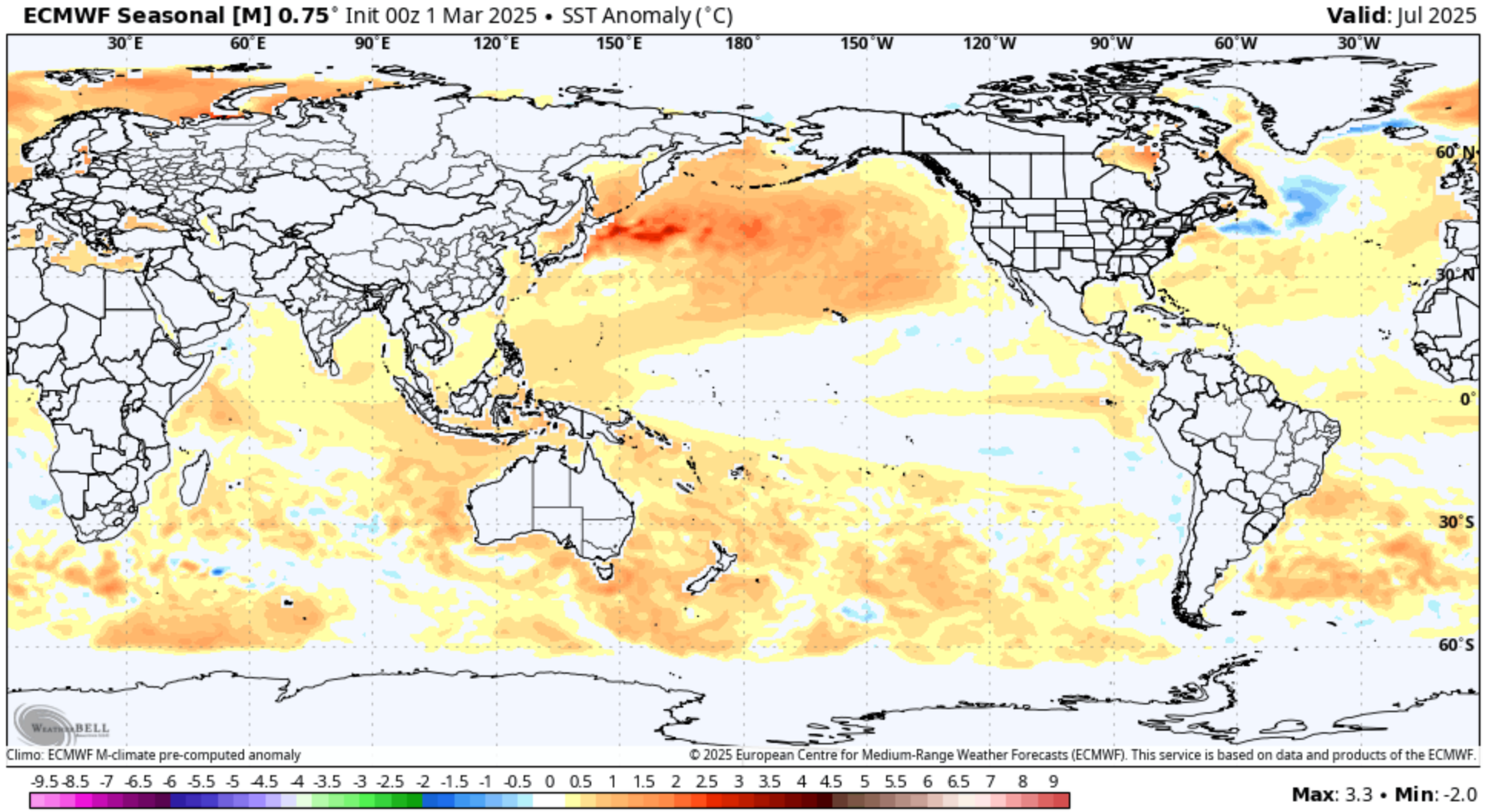
- 5 Class Degradation
- 4 Class Degradation
- 3 Class Degradation
- 2 Class Degradation
- 1 Class Degradation
- No Change
- 1 Class Improvement
- 2 Class Improvement
- 3 Class Improvement
- 4 Class Improvement
- 5 Class Improvement


CDAS Niño 1+2 Index
SST Anomaly (°C) (1981-2010 climatology)
+2.0
+1.5
+1.0
+0.5
0.0
-0.5
-1.0
-1.5
-2.0
Dec 12
Dec 26
Jan 09
Jan 23
Feb 06
Feb 20
Mar 06
Latest Value: +1.491
06z Mar 06
Levi Cowan - tropicaltidbits.com

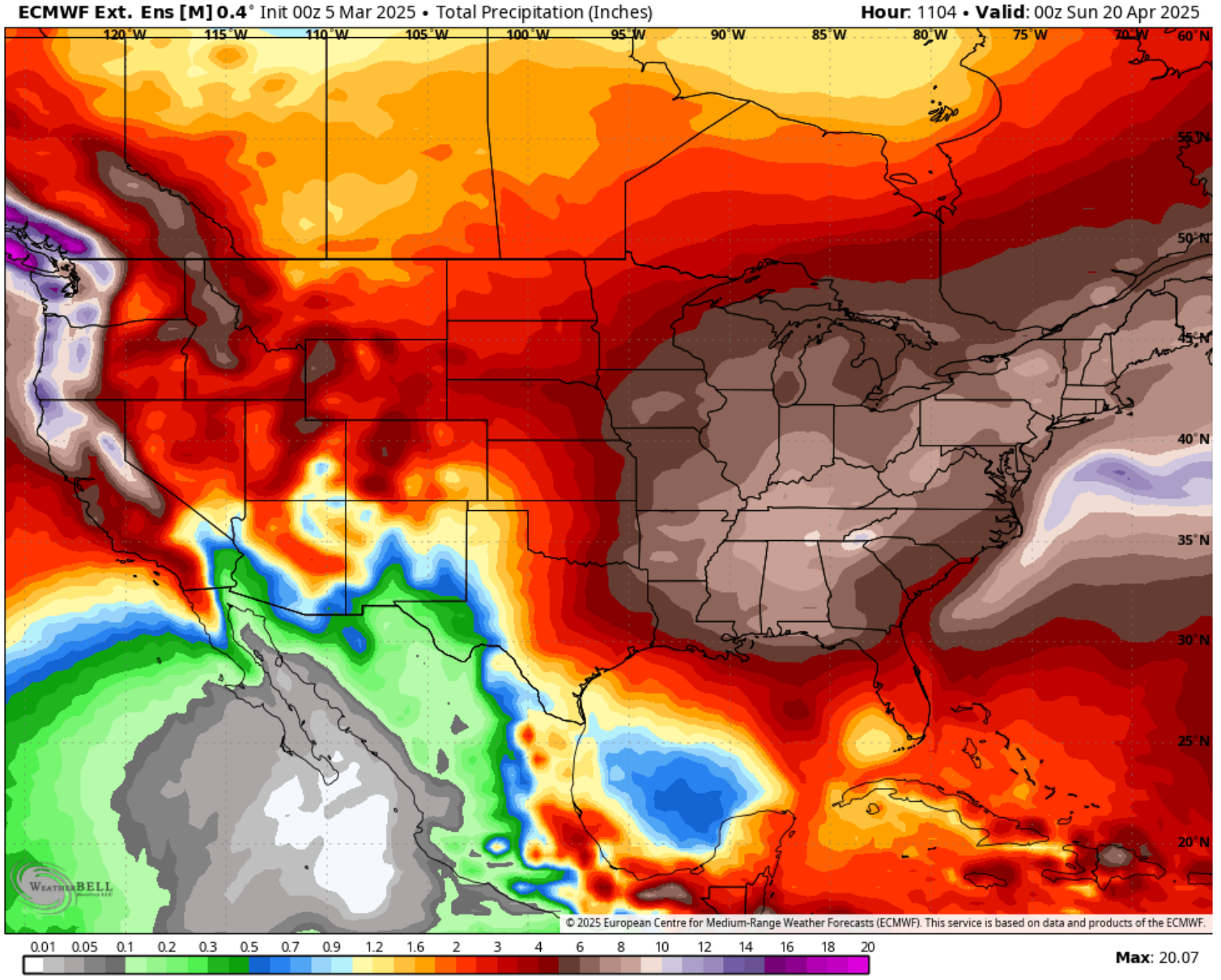
April 2025 SST – La Nina Gone – ENSO Neutral



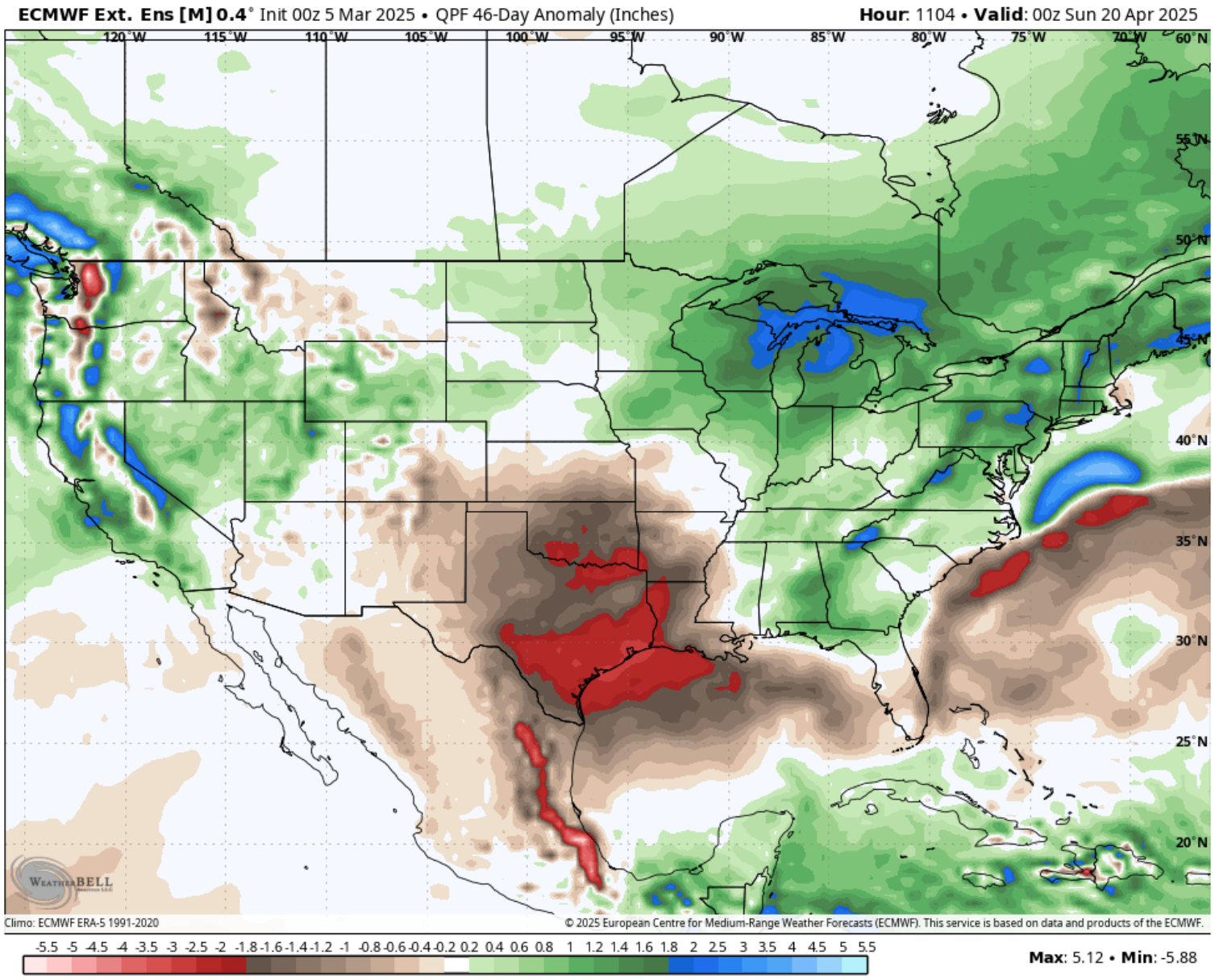
July 2025 SST – ENSO Neutral



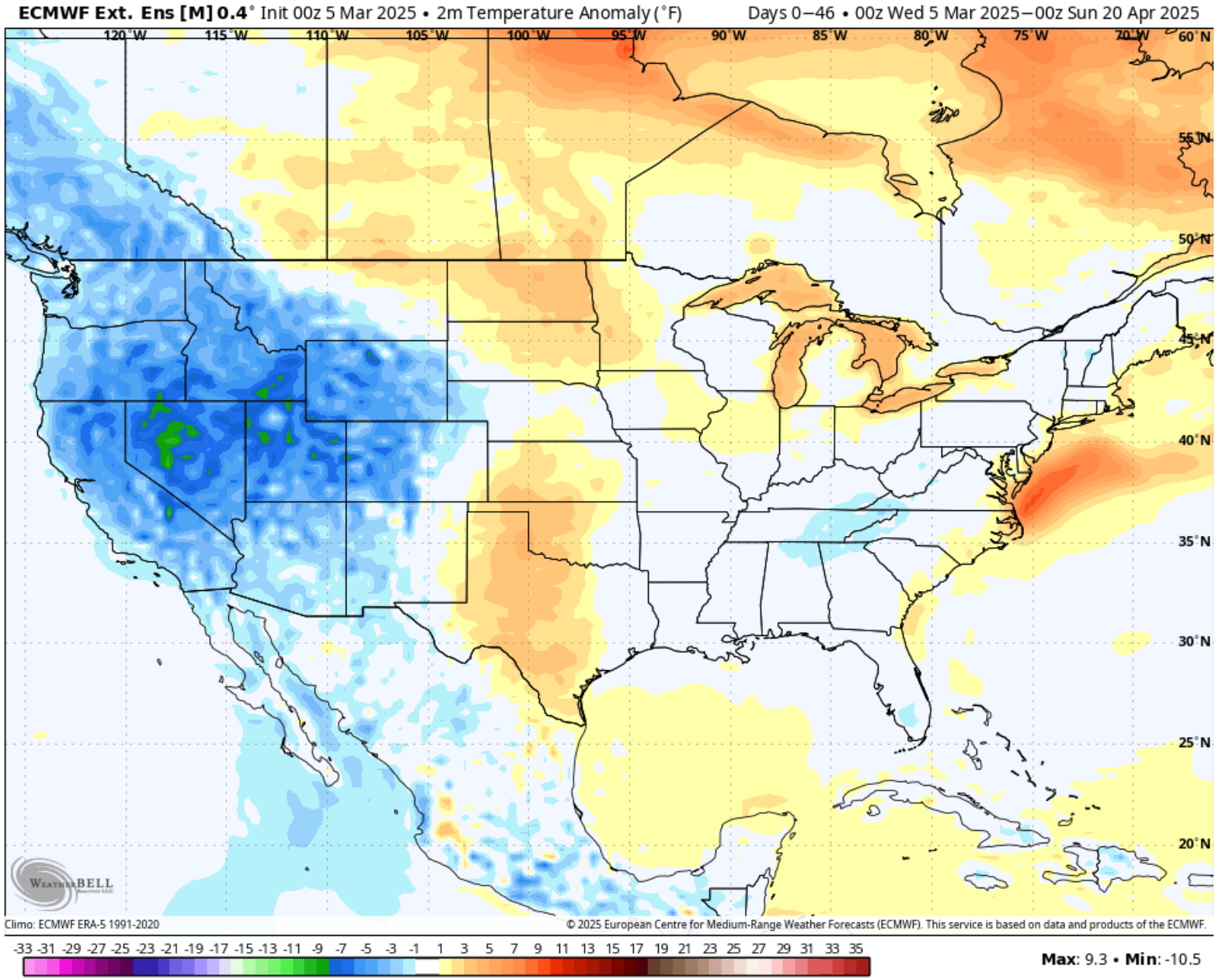
45 Day Precipitation Outlook thru 4/20/25

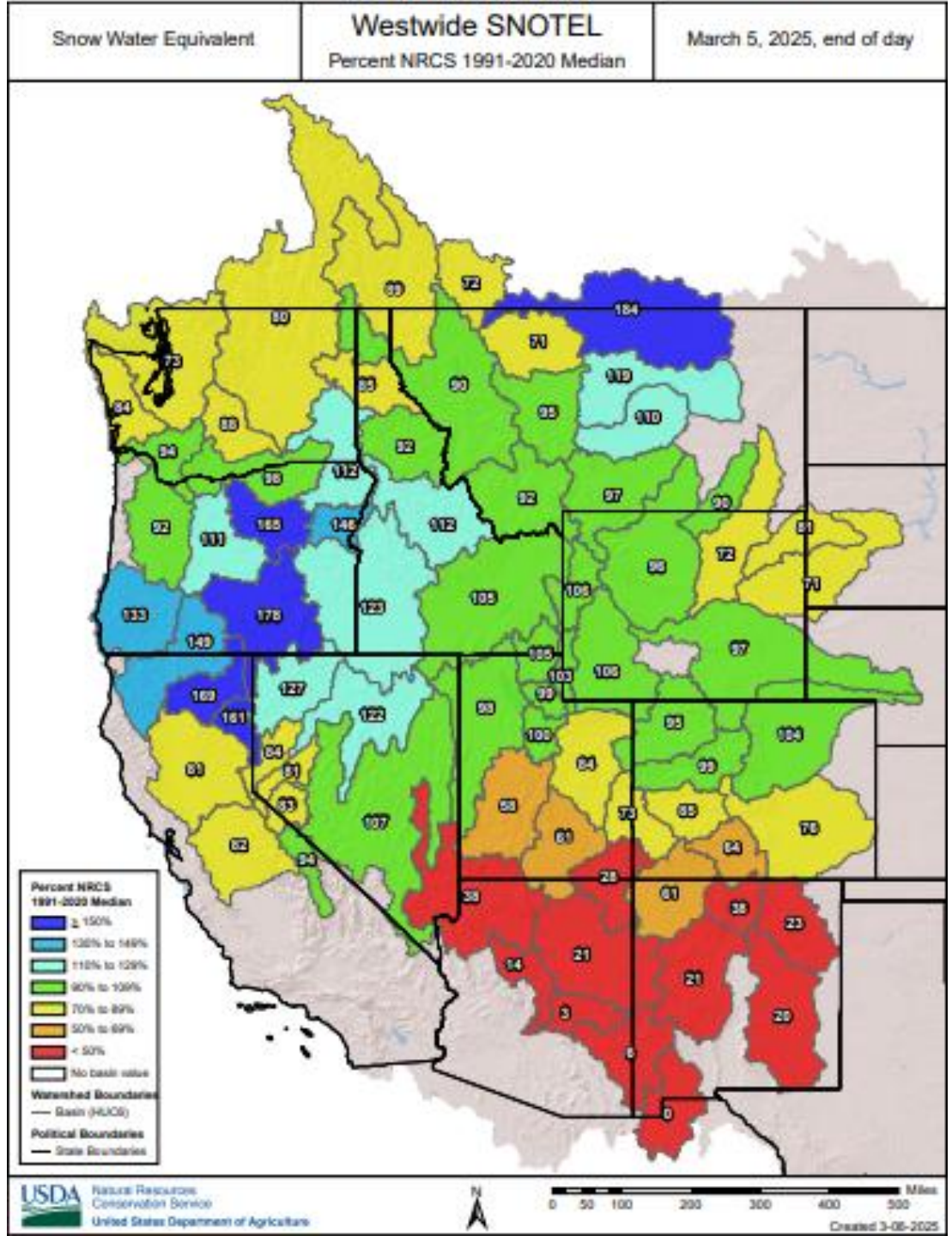


45 Day Precipitation Anomaly thru 4/20/25



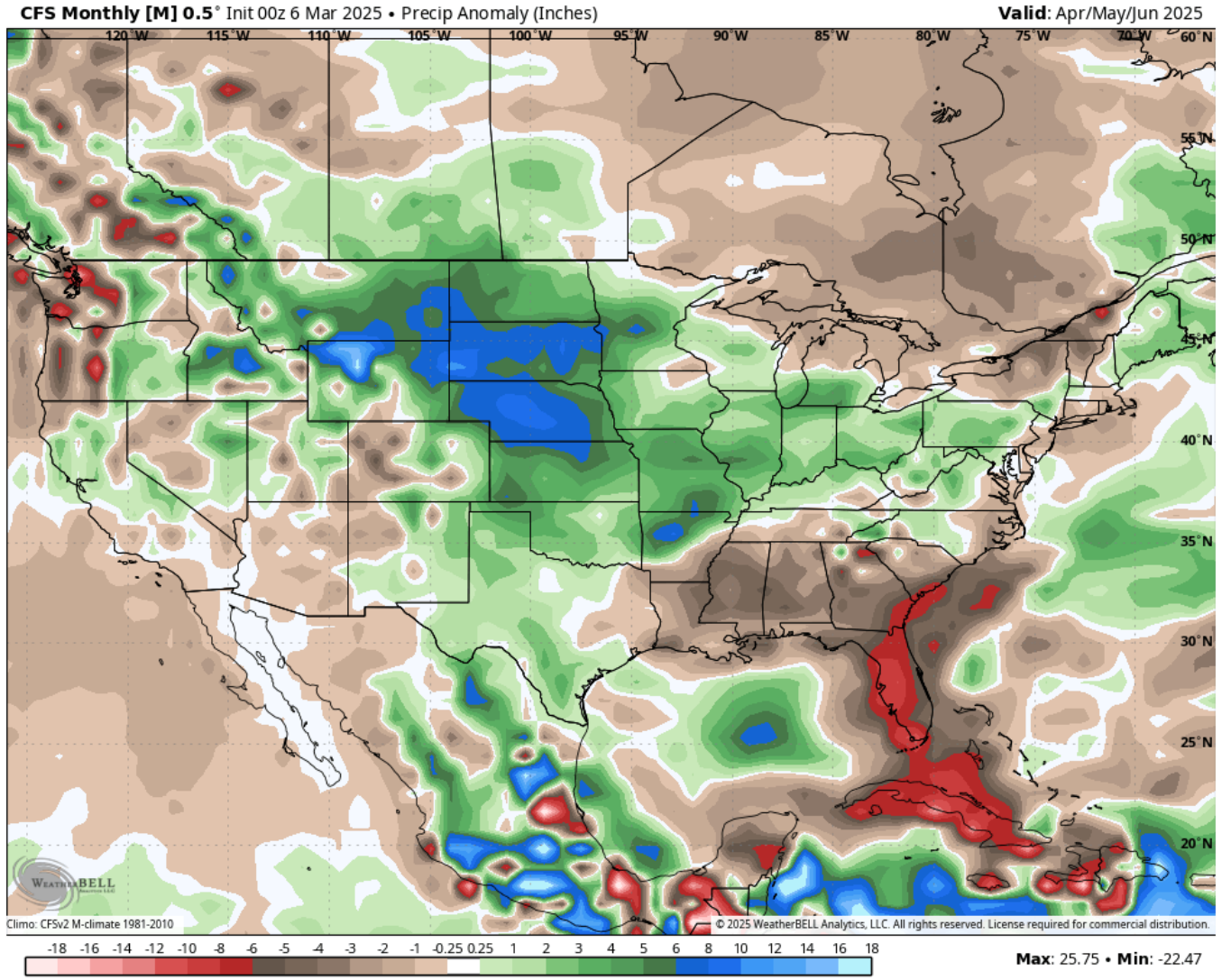
45 Day Temperature Outlook thru 4/20/25




Snow Water Equivalent
Westwide SNOTEL
Percent NRCS 1991-2020 Median
March 5, 2025, end of day
Percent NRCS 1991-2020 Median
≥ 150%
130% to 149%
110% to 129%
90% to 109%
70% to 89%
50% to 69%
< 50%
No basin value
Watershed Boundaries
Basin (HUC6)
Political Boundaries
State Boundaries
USDA
Natural Resources Conservation Service
United States Department of Agriculture
N
0 50 100 200 300 400 500 Miles
Created 3-06-2025

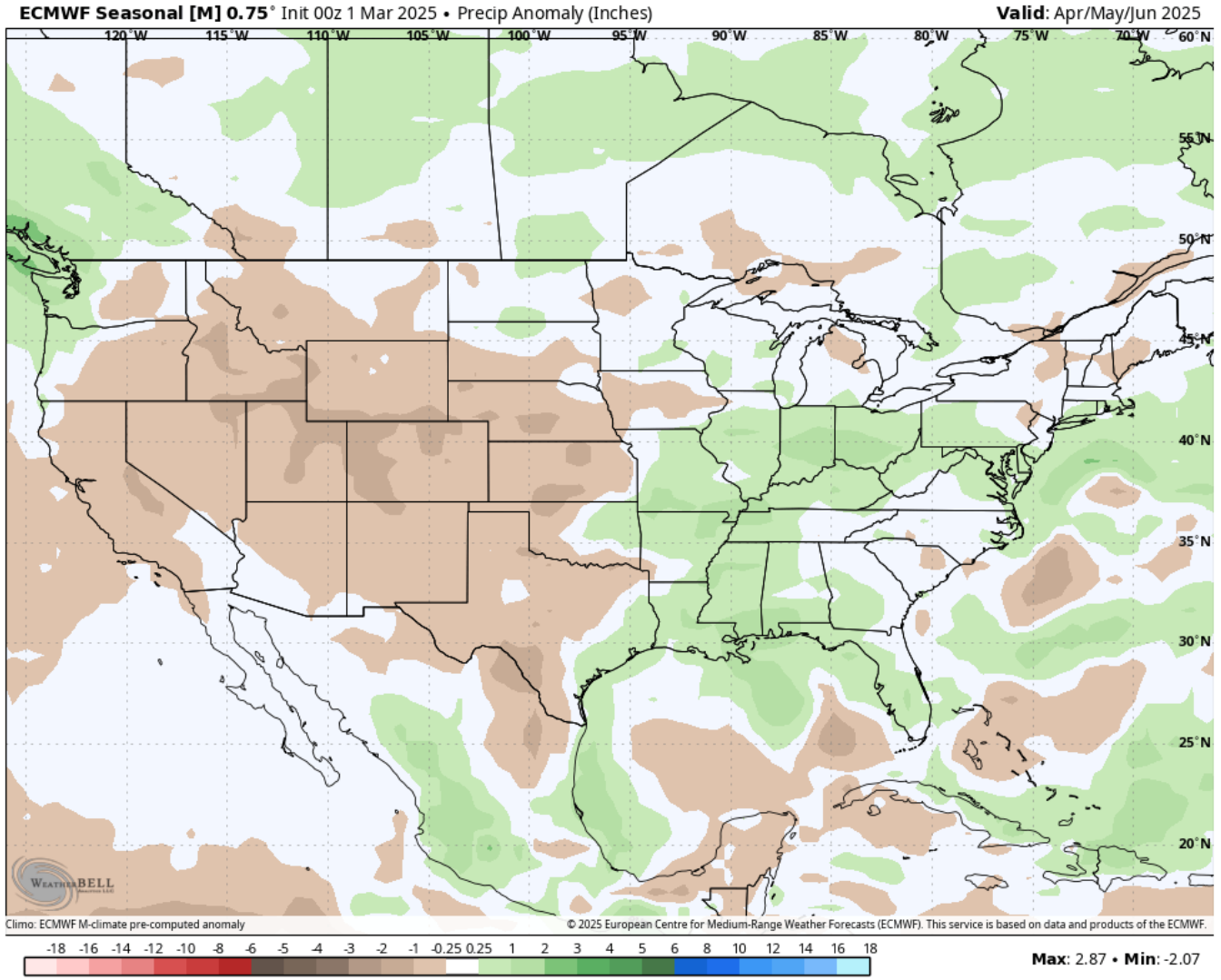
April 1 to June 30 Precipitation CFS Model

White areas = normal Green areas = above average Brown areas = below average



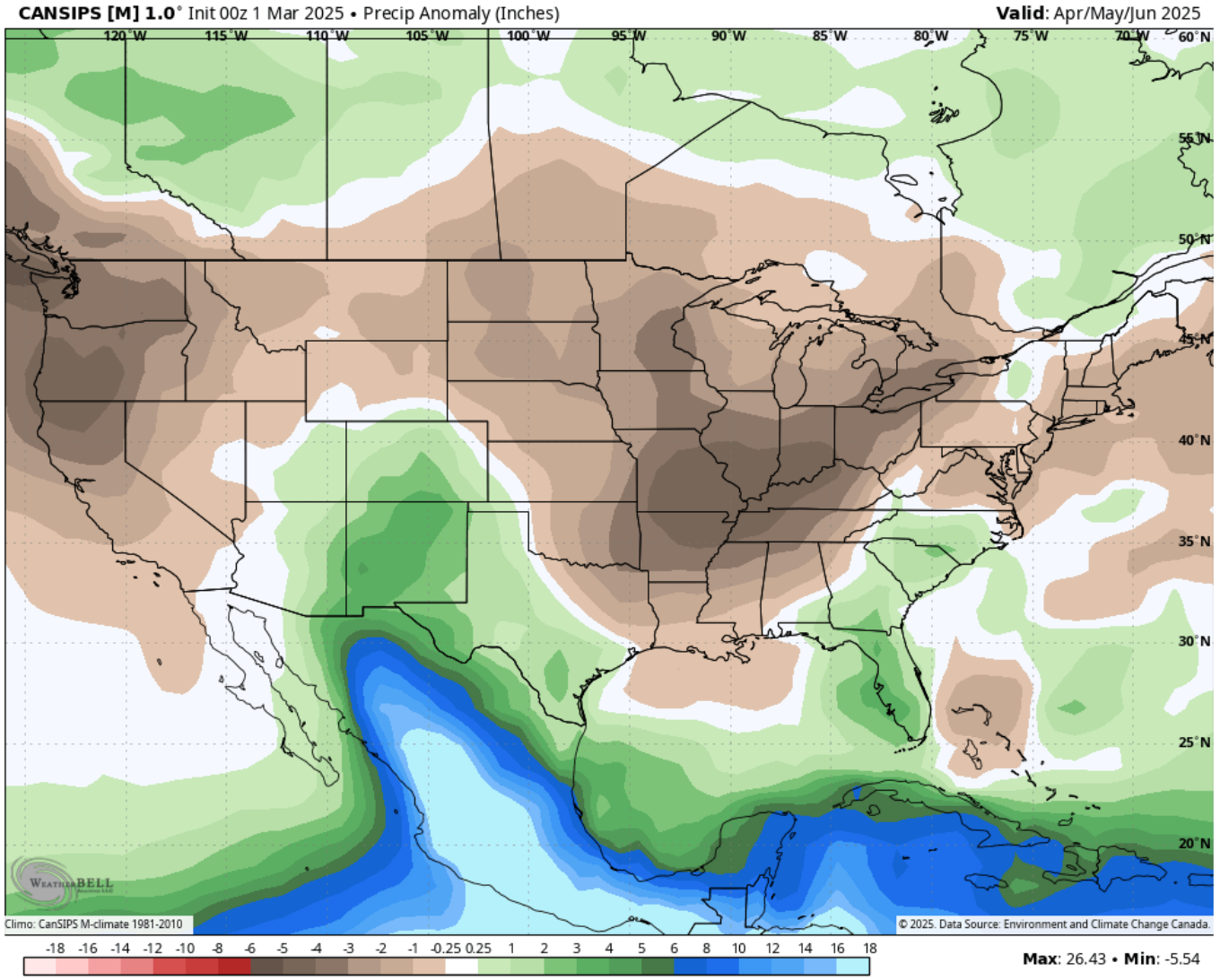
April 1 to June 30 Precipitation European Model

White areas = normal Green areas = above average Brown areas = below average



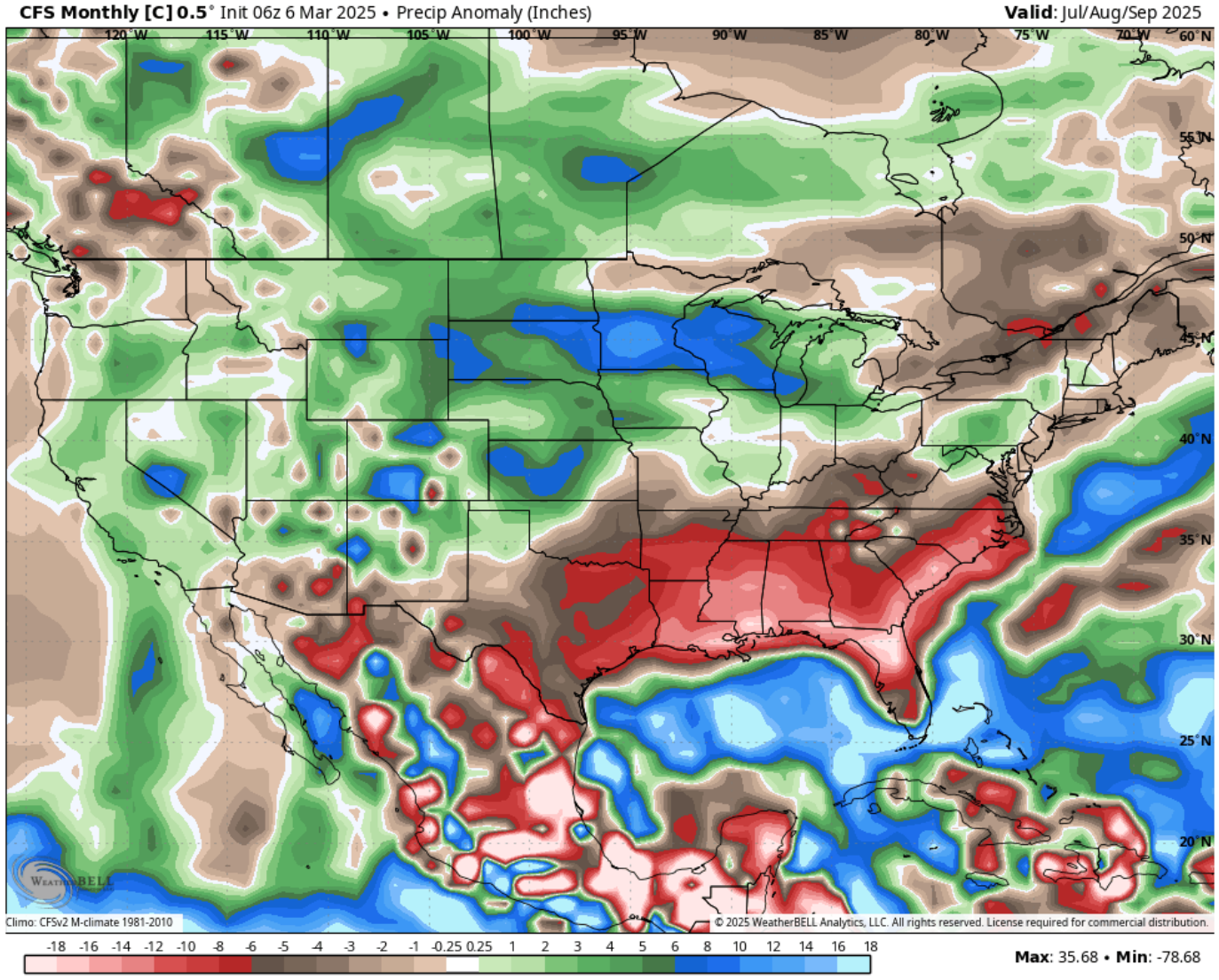
April 1 to June 30 Precipitation Canadian Model

White areas = normal Green areas = above average Brown areas = below average



July 1 to September 30 Precipitation CFS Model

White areas = normal Green areas = above average Brown areas = below average



July 1 to September 30 Precipitation European Model

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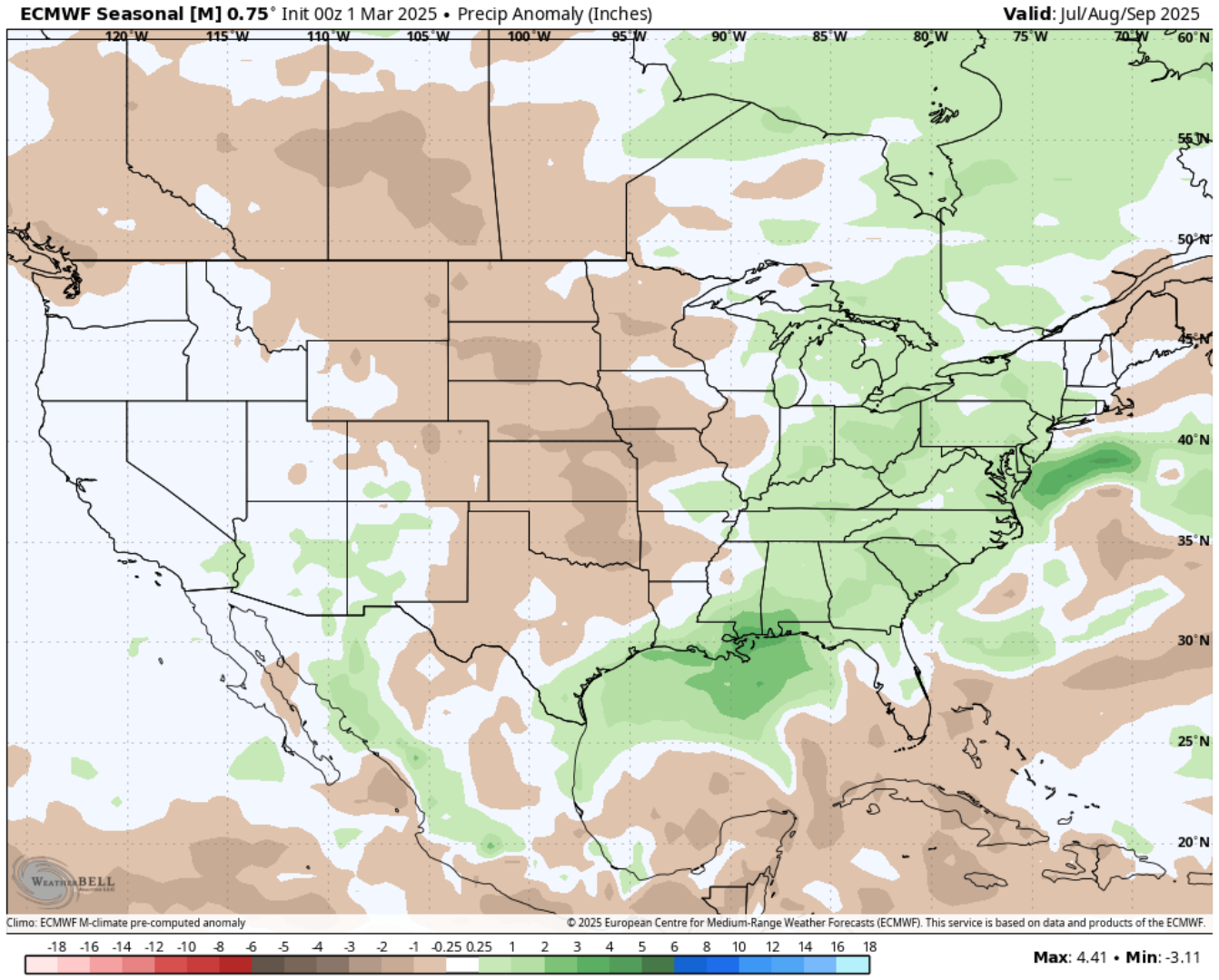
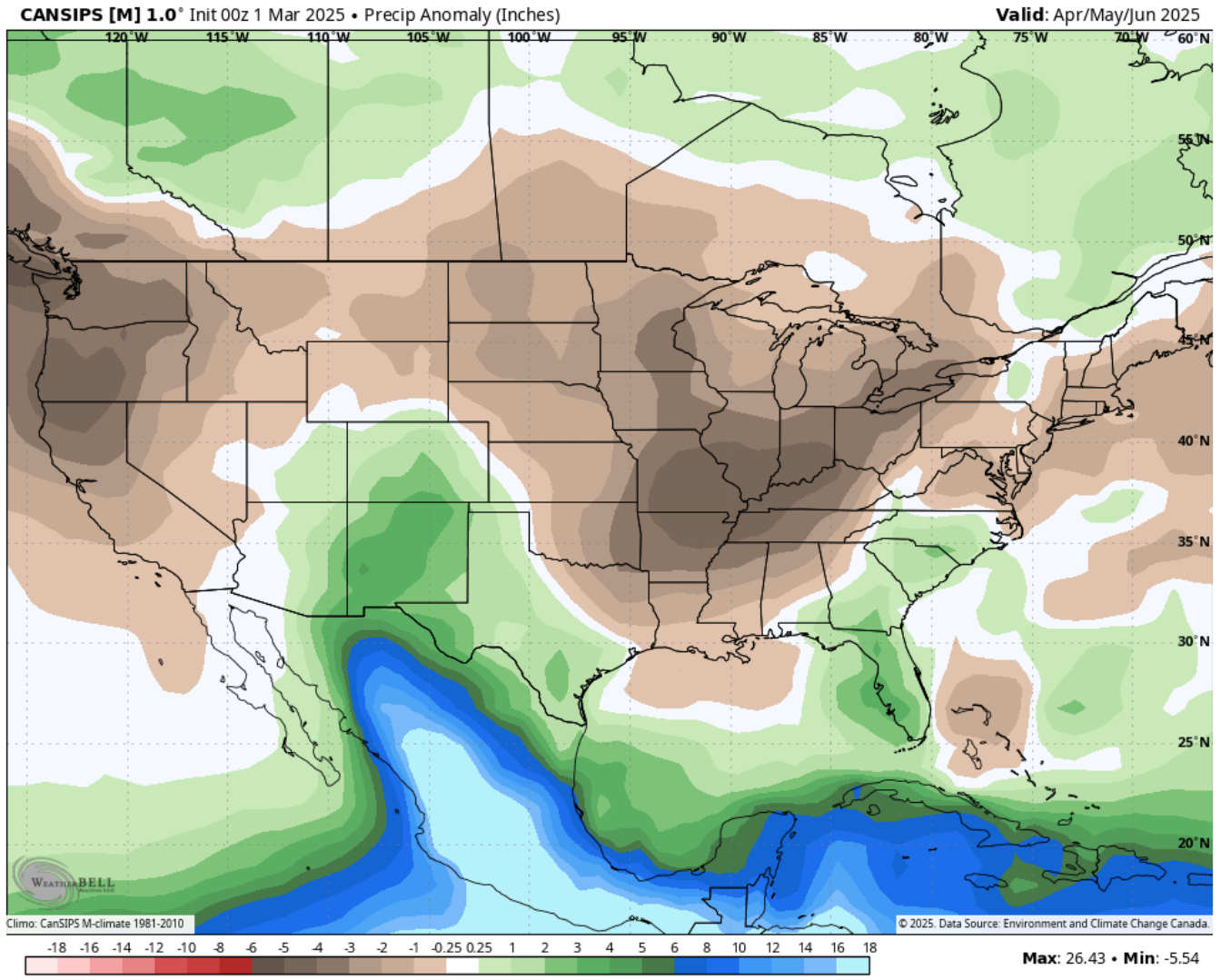
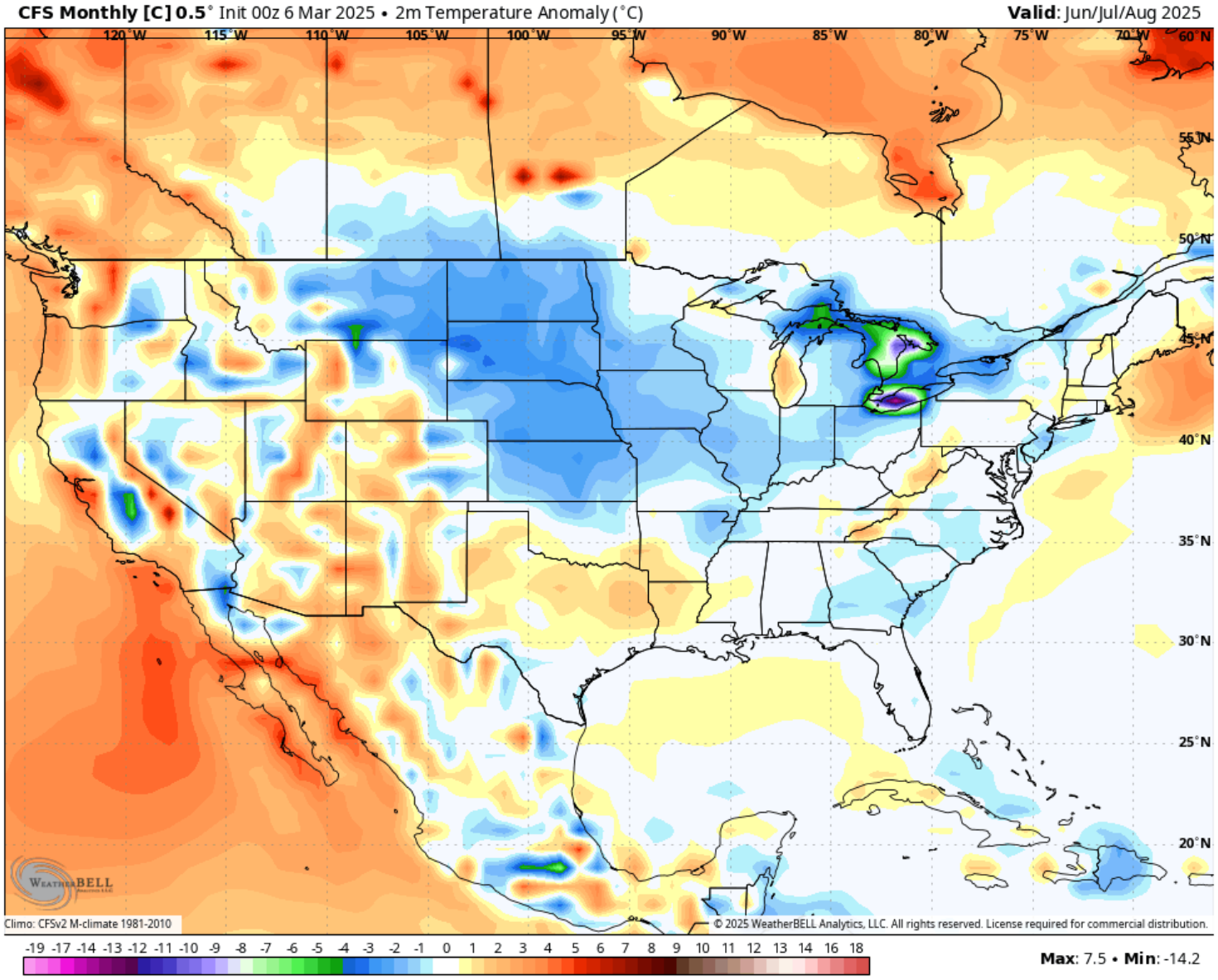


July 1 to September 30 Precipitation Canadian Model

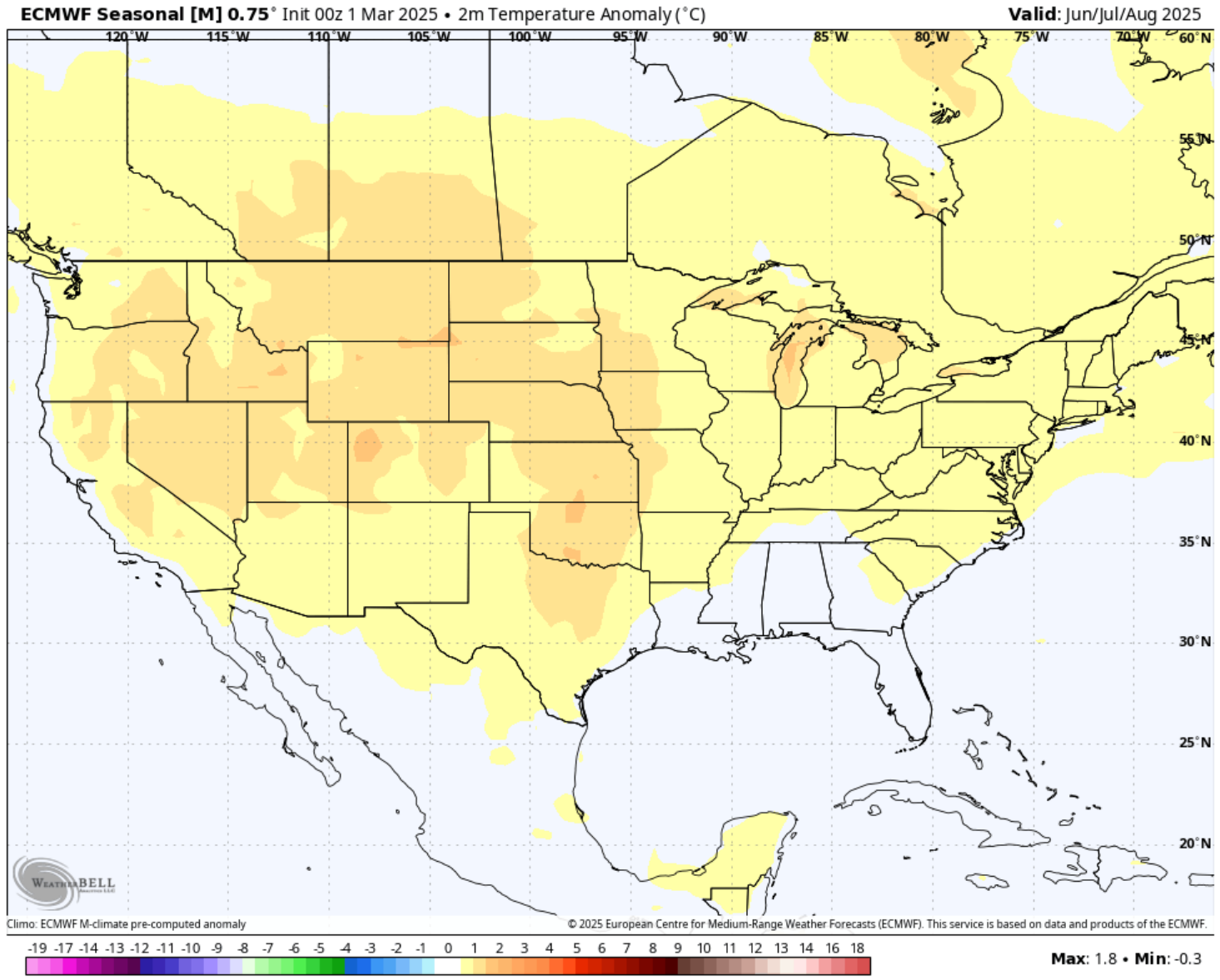
White areas = normal Green areas = above average Brown areas = below average



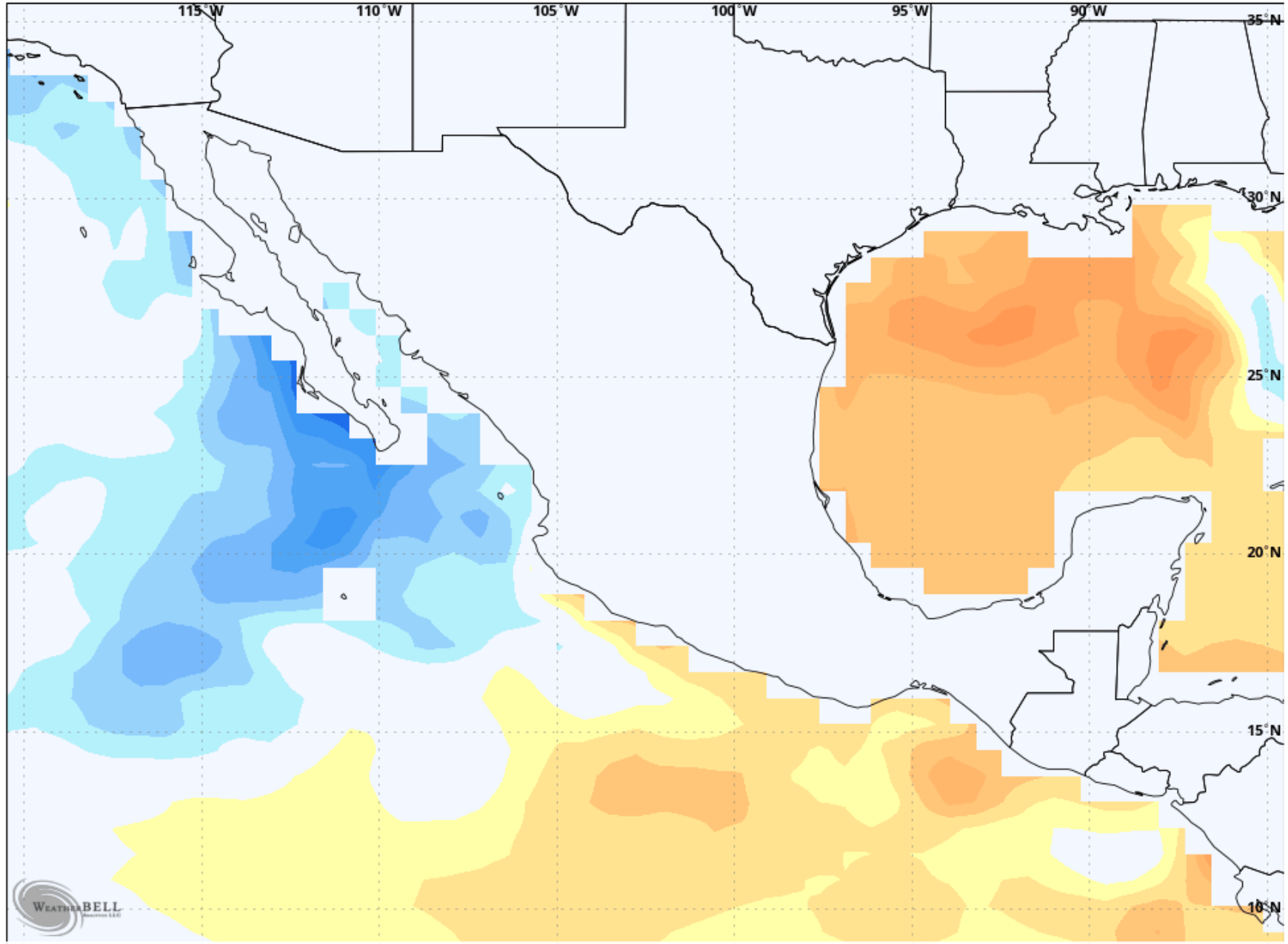
June 1 to August 31 Temperature CFS Model



June 1 to August 31 Temperature European Model



ECMWF Seasonal [M] 0.75° Init 00z 1 Mar 2025 • SST Anomaly (°C) **Valid**: Mar/Apr/May 2025

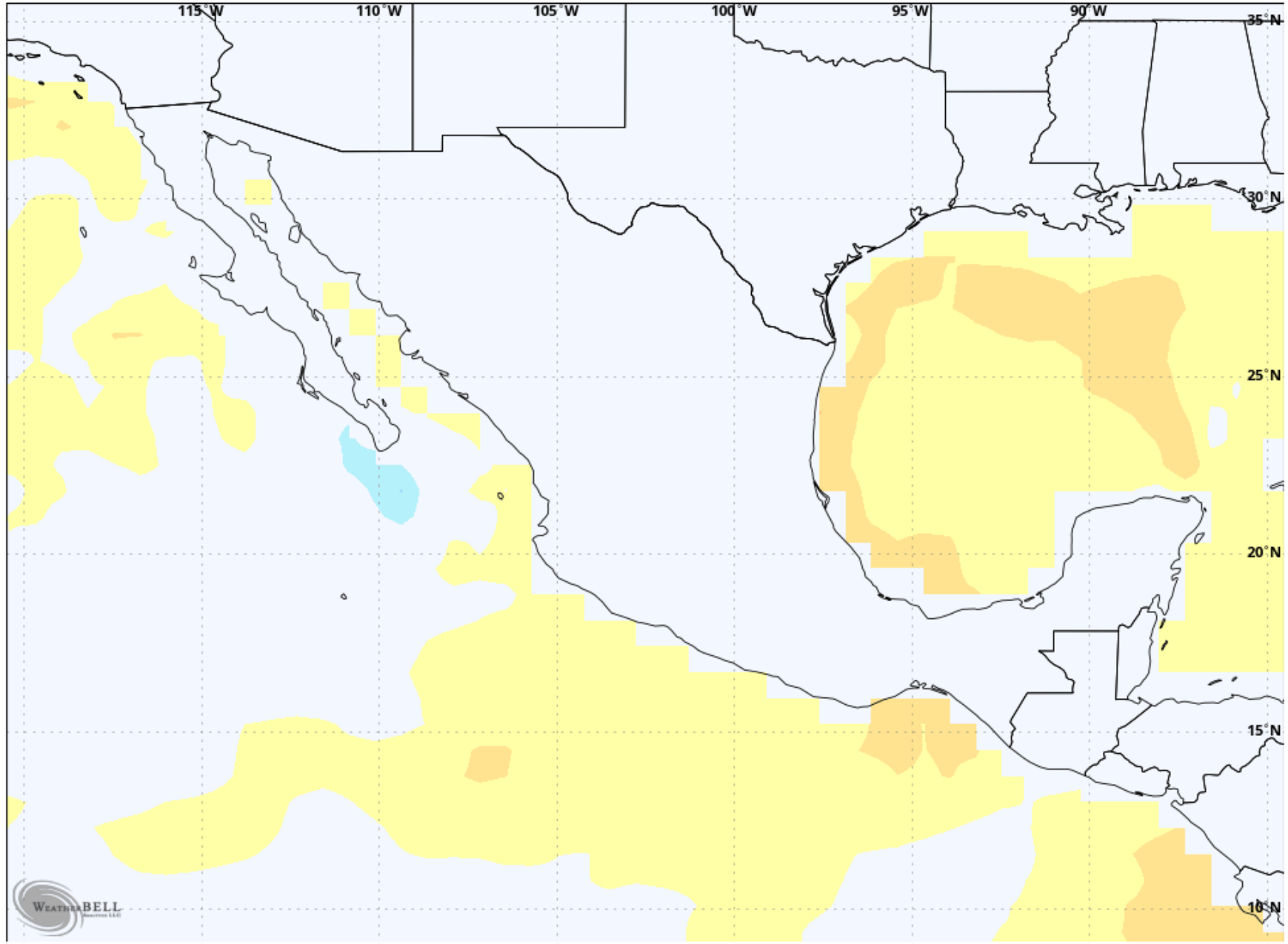


Climo: ECMWF M-climate pre-computed anomaly

-9.5 -8.5 -7 -6.5 -6 -5.5 -5 -4.5 -4 -3.5 -3 -2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 5.5 6 6.5 7 8 9

Max: 1.6 • **Min**: -1.6

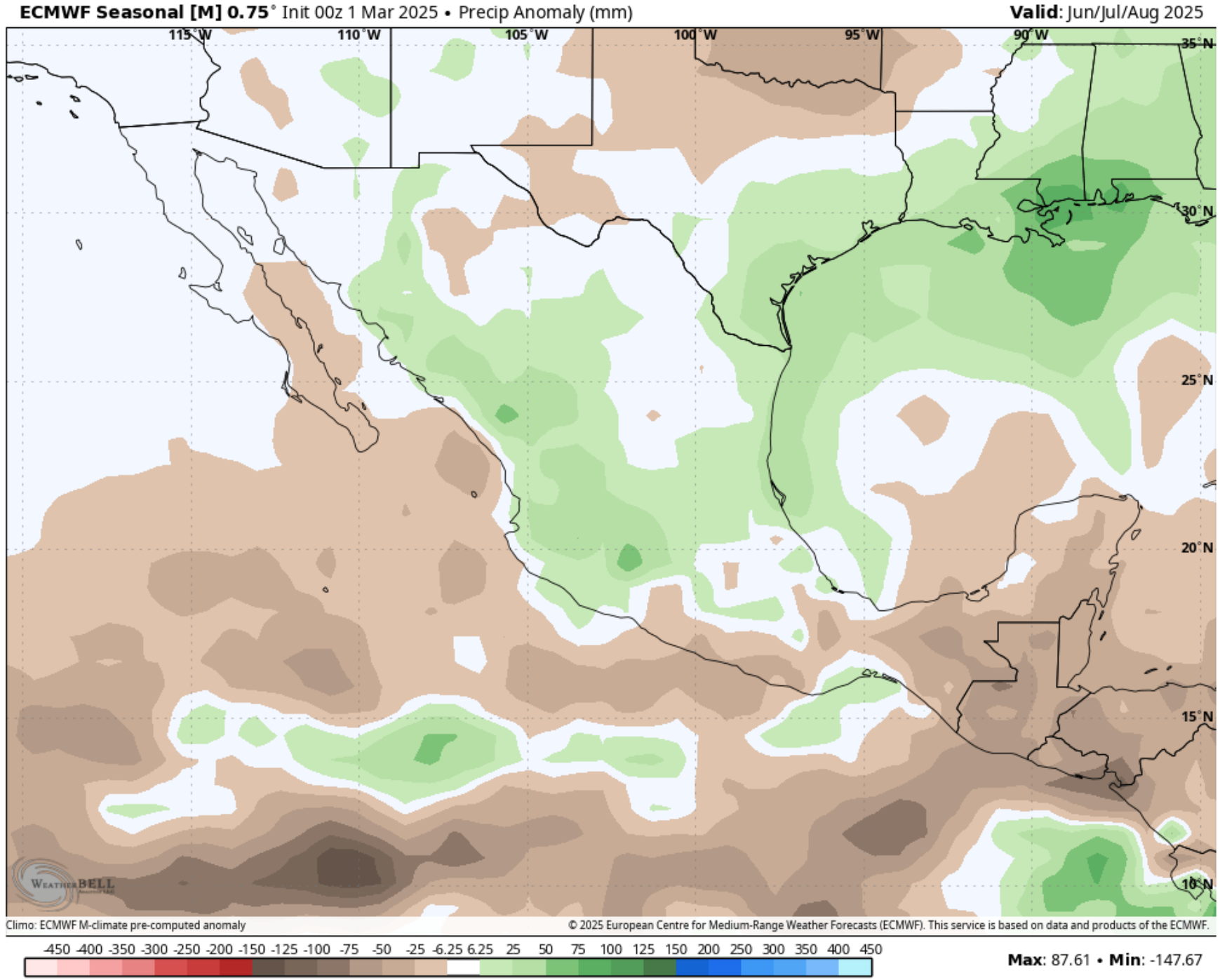
ECMWF Seasonal [M] 0.75° Init 00z 1 Mar 2025 • SST Anomaly (°C) **Valid**: Jun/Jul/Aug 2025

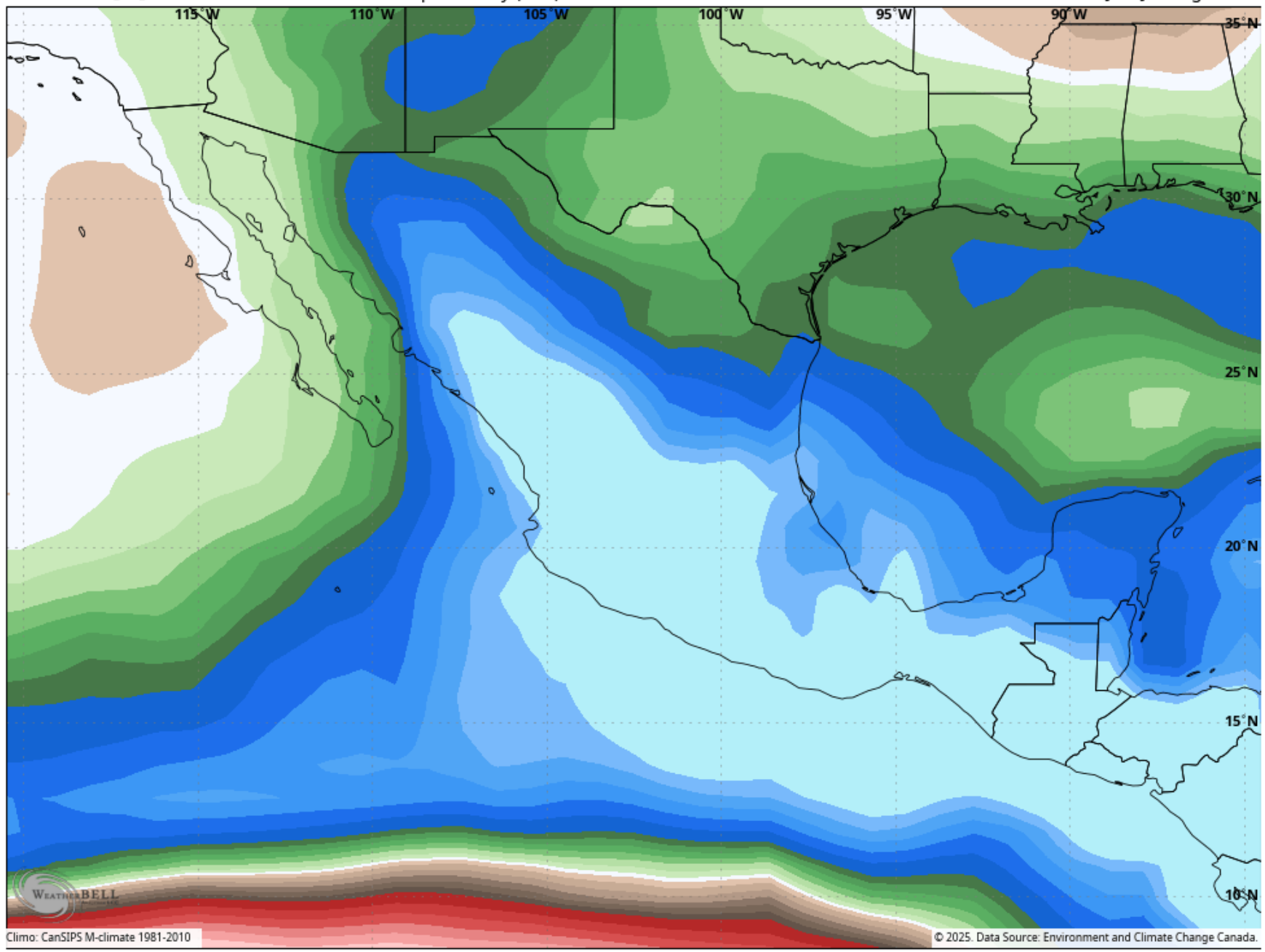


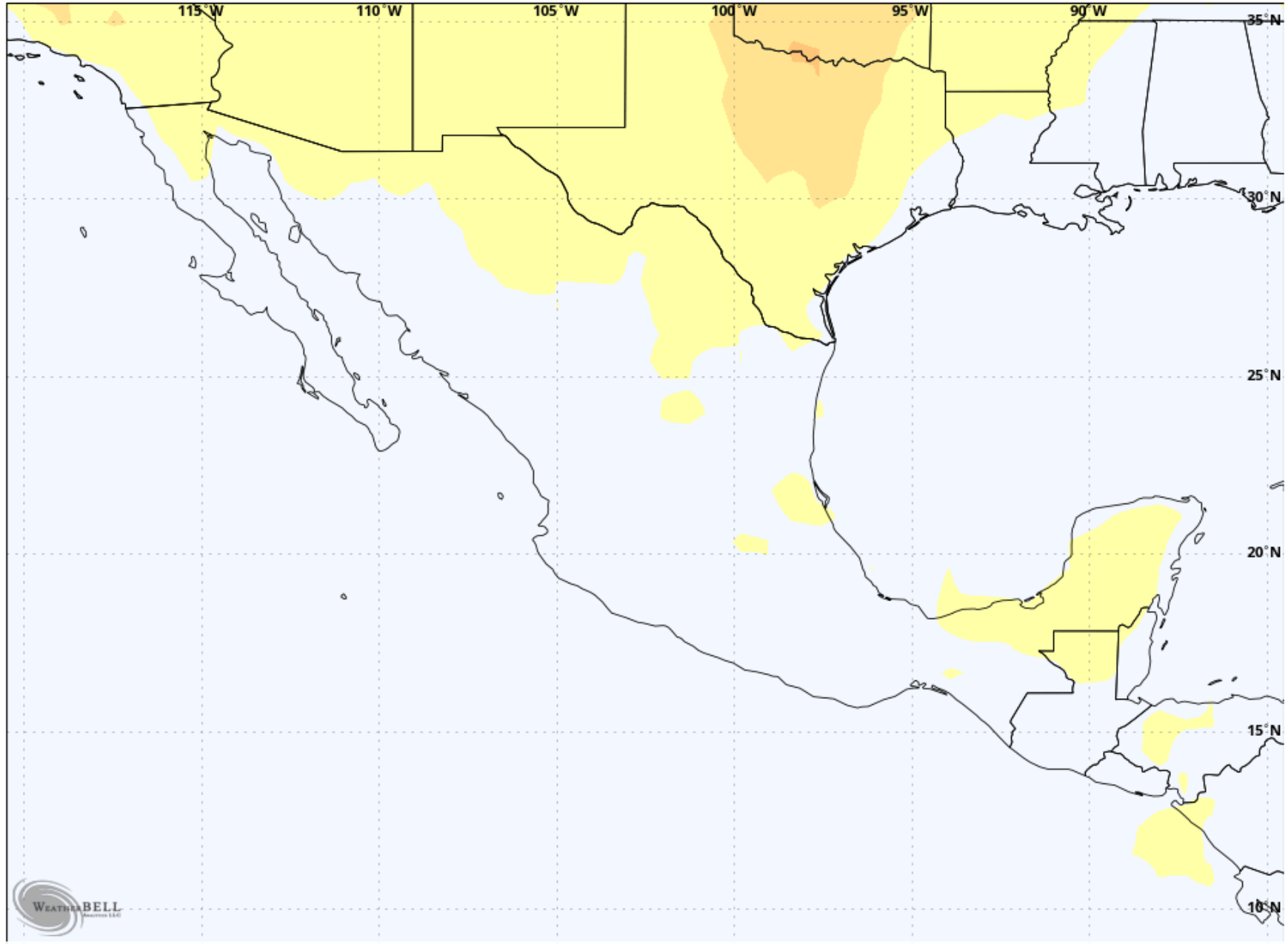
Climo: ECMWF M-climate pre-computed anomaly

-9.5 -8.5 -7 -6.5 -6 -5.5 -5 -4.5 -4 -3.5 -3 -2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 5.5 6 6.5 7 8 9

Max: 0.8 • **Min**: -0.5


ECMWF Seasonal [M] 0.75° Init 00z 1 Mar 2025 • Precip Anomaly (mm)
Valid: Jun/Jul/Aug 2025
115°W
110°W
105°W
100°W
95°W
90°W
35°N
30°N
25°N
20°N
15°N
10°N
WeatherBELL
Climo: ECMWF M-climate pre-computed anomaly
© 2025 European Centre for Medium-Range Weather Forecasts (ECMWF). This service is based on data and products of the ECMWF.
-450 -400 -350 -300 -250 -200 -150 -125 -100 -75 -50 -25 -6.25 6.25 25 50 75 100 125 150 200 250 300 350 400 450
Max: 87.61 • Min: -147.67


CANSIPS [M] 1.0° Init 00z 1 Mar 2025 • Precip Anomaly (mm)
Valid: Jun/Jul/Aug 2025
115°W
110°W
105°W
100°W
95°W
90°W
35°N
30°N
25°N
20°N
15°N
10°N
Climo: CanSIPS M-climate 1981-2010
© 2025. Data Source: Environment and Climate Change Canada.
-450 -400 -350 -300 -250 -200 -150 -125 -100 -75 -50 -25 -6.25 6.25 25 50 75 100 125 150 200 250 300 350 400 450
Max: 853.96 • Min: -370.08


ECMWF Seasonal [M] 0.75° Init 00z 1 Mar 2025 • 2m Temperature Anomaly (°C)
Valid: Jun/Jul/Aug 2025
115°W
110°W
105°W
100°W
95°W
90°W
35°N
30°N
25°N
20°N
15°N
10°N
WeatherBELL
Climo: ECMWF M-climate pre-computed anomaly
© 2025 European Centre for Medium-Range Weather Forecasts (ECMWF). This service is based on data and products of the ECMWF.
-19 -17 -14 -13 -12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 16 18
Max: 1.5 • Min: -0.3

Recap

- La Nina not a factor this growing season
- Late season snowpack surge
- Very poor long-range model agreement, low confidence
- Fair chances for near normal precipitation returning to CO, NE, WY and Mexico spring-summer
- Some concerns for the Northern Plains-ND-MN for dryness
- Not expecting a La Nina to return in 2025/2026 but will monitor, odds highest for ENSO neutral or weak El Nino