Very Strong El Niño Likely 2026–2027

Outlook for San Diego County

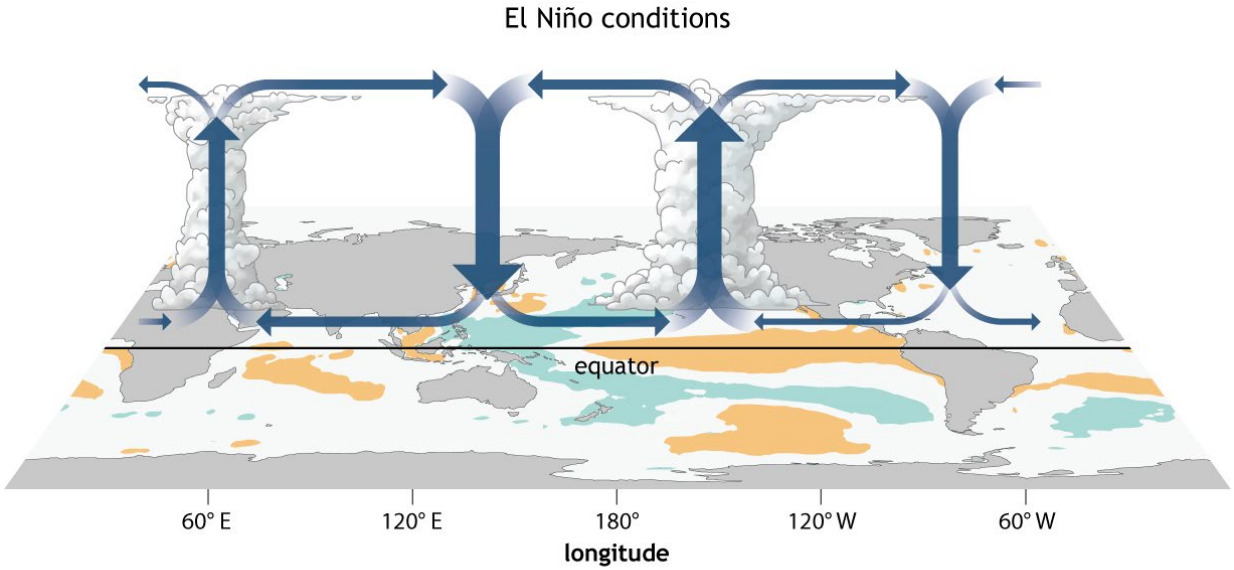
Presented By:
Tyler Rodenbaugh

What We'll Cover Today

- Above-normal rainfall projected over the next several months
- El Niño formation and implications
- Discussion on forecast uncertainty

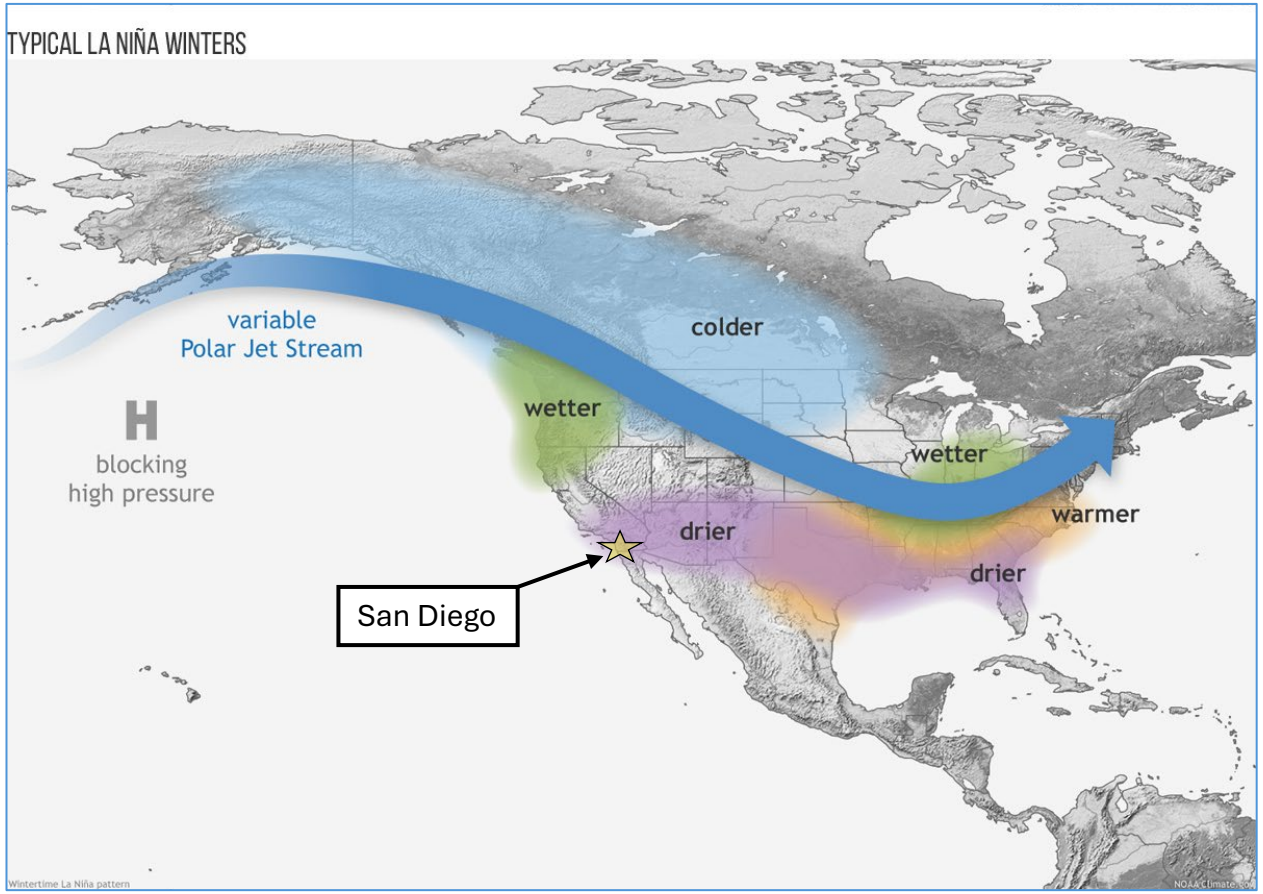
El Niño Southern Oscillation (ENSO)

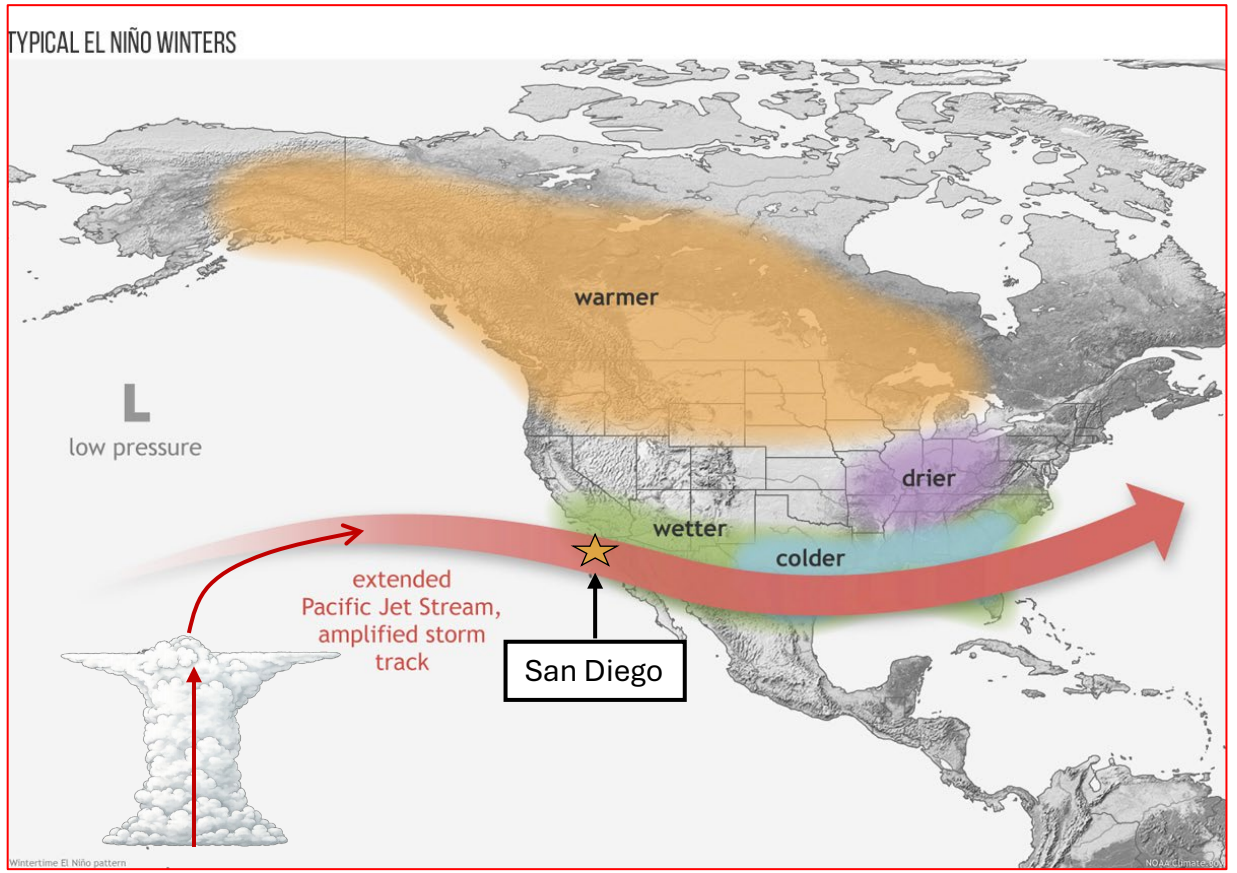
- Cyclical climate pattern in the equatorial Pacific
- Oscillates between warm & cool phases
  - Neutral – near-normal sea surface temperatures
  - Cool (La Niña) – below-normal sea surface temperatures
  - Warm (El Niño) – above-normal sea surface temperatures
- Each phase alters global climate circulation known as Walker Circulation



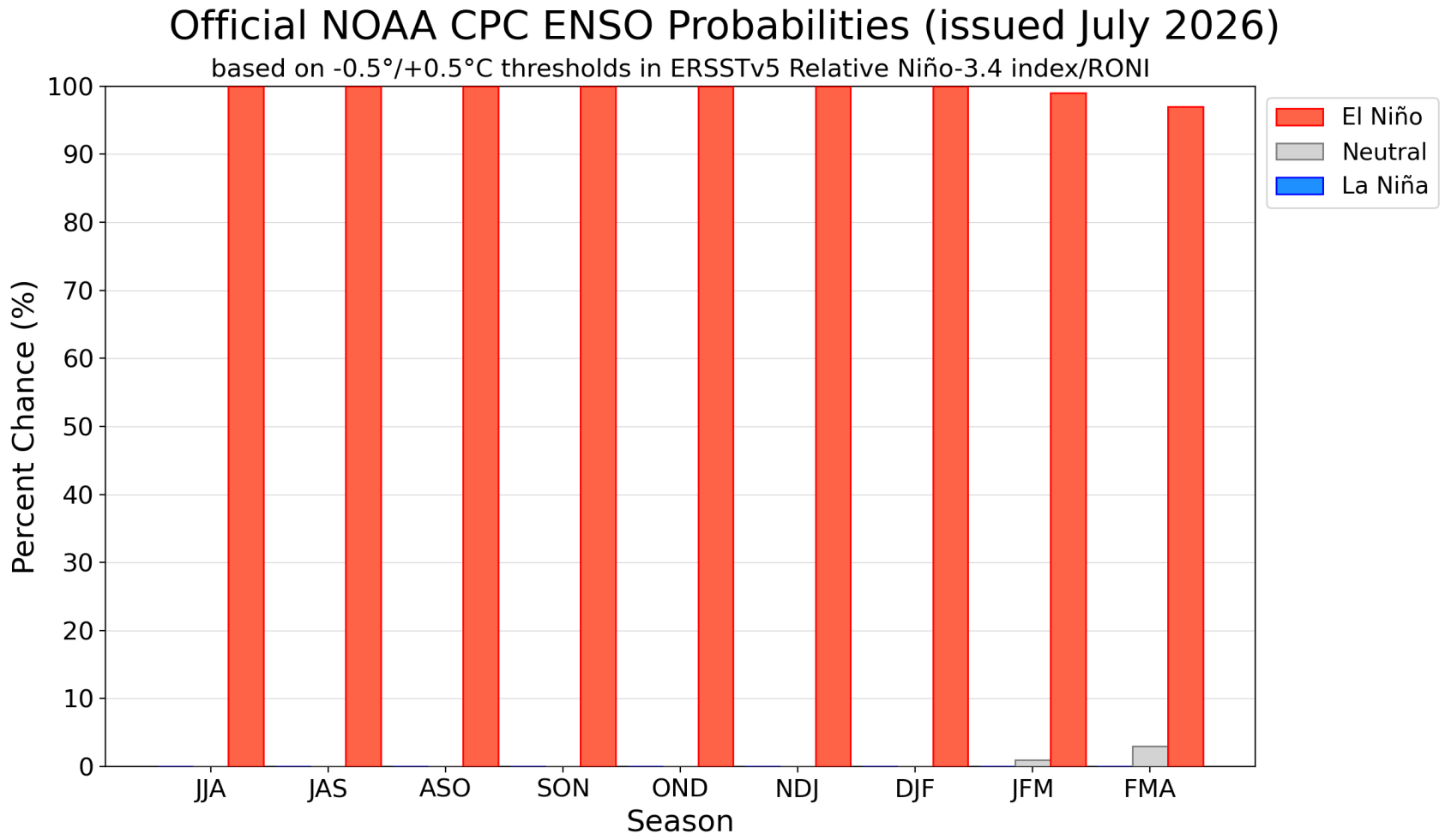
NOAA Climate.gov

Typical El Nino Southern Oscillation (ENSO) Impacts

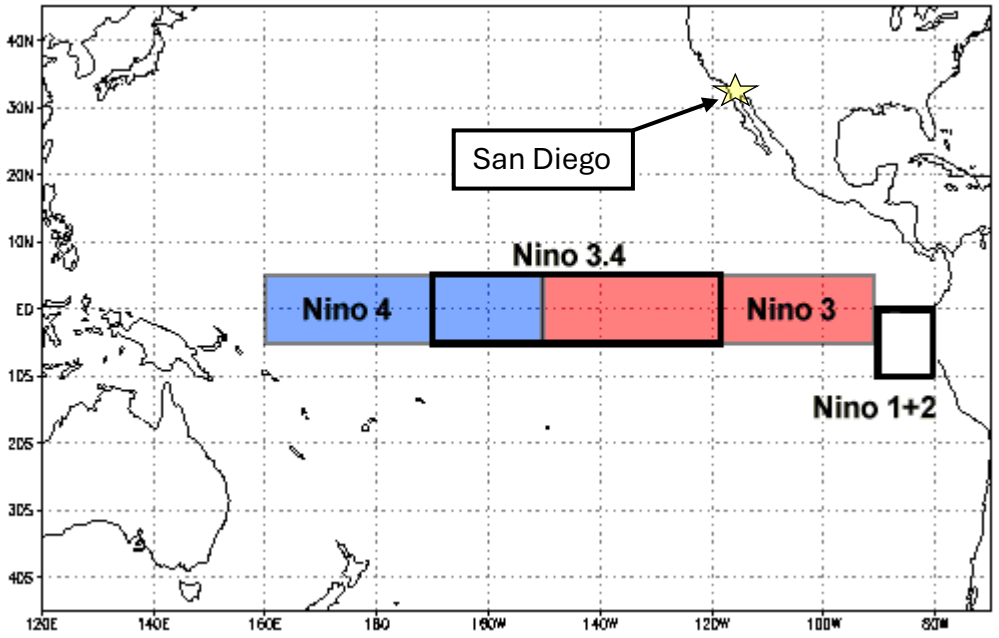




ENSO Status Projections Now into Winter 2026-2027



ENSO Status as of July 14th, 2026



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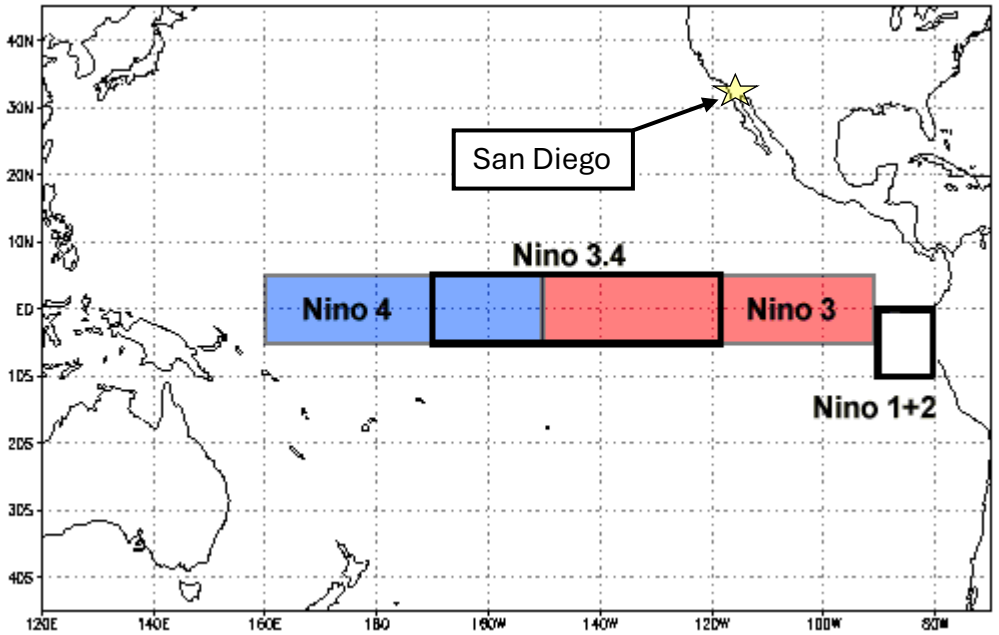

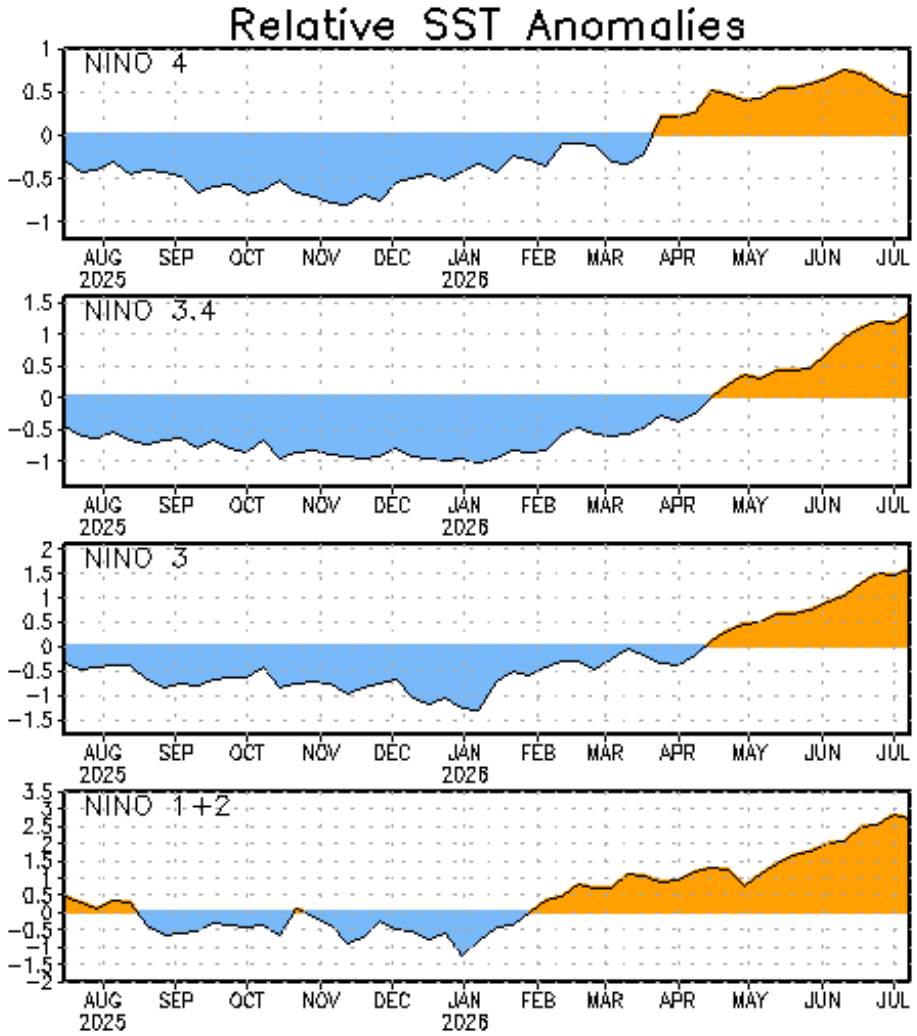

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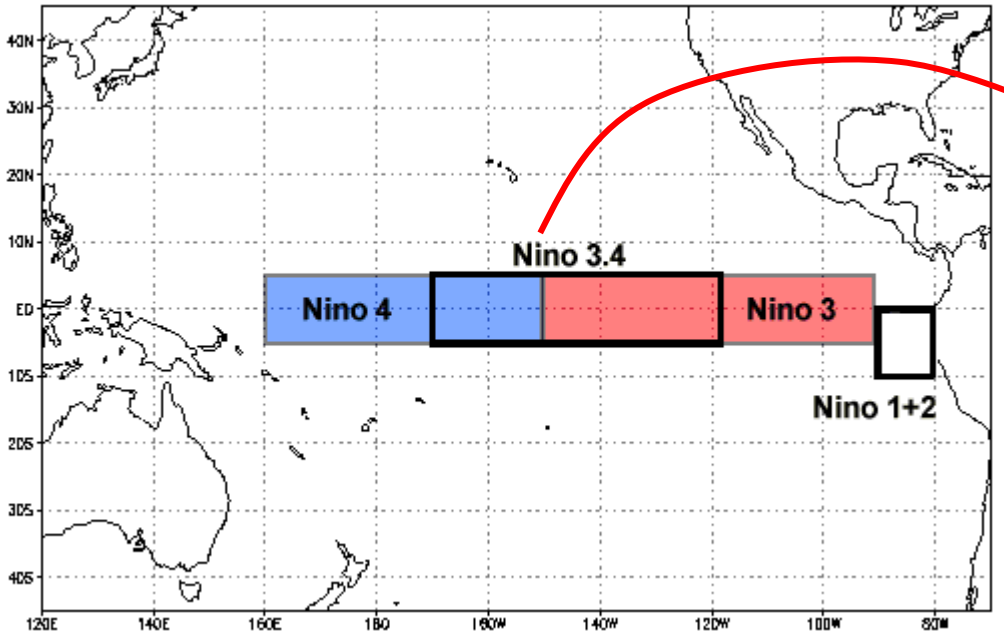

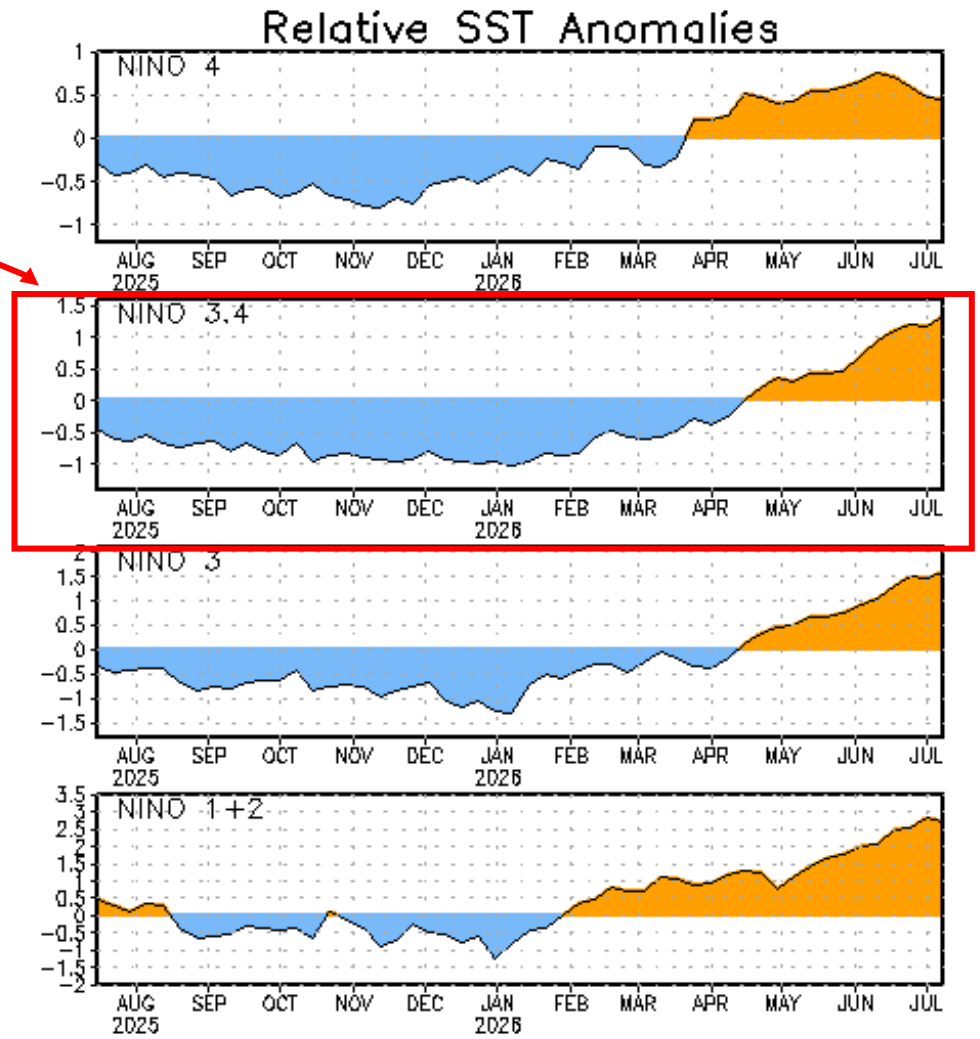

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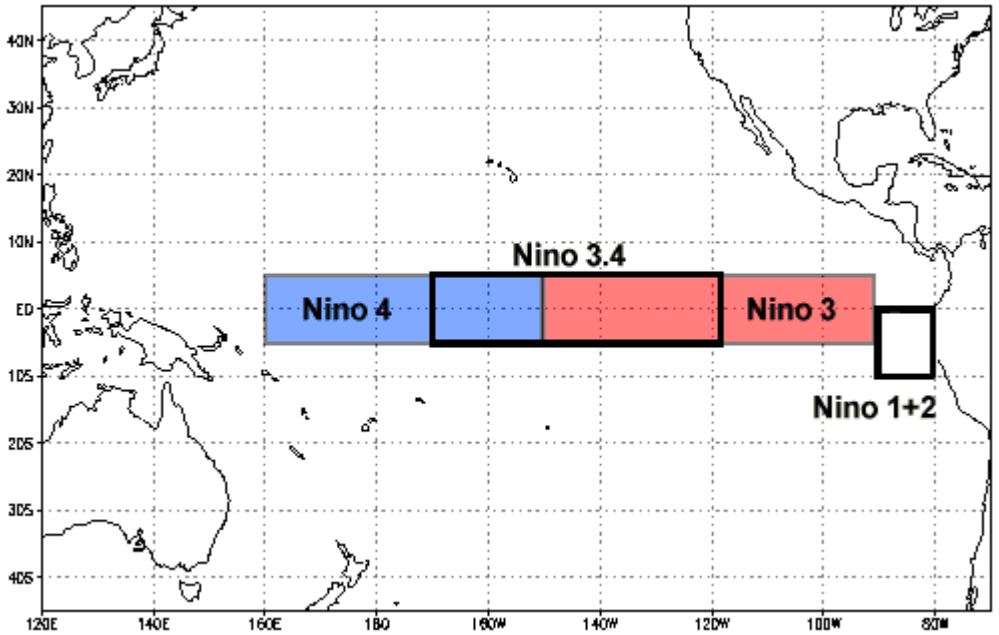

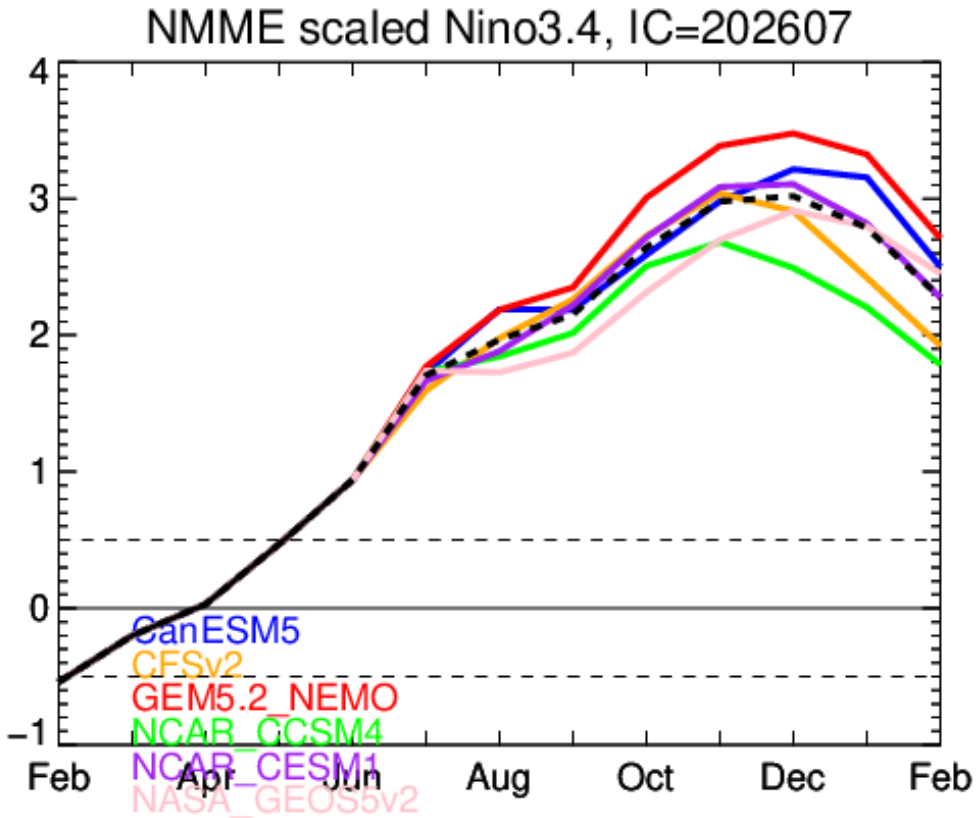

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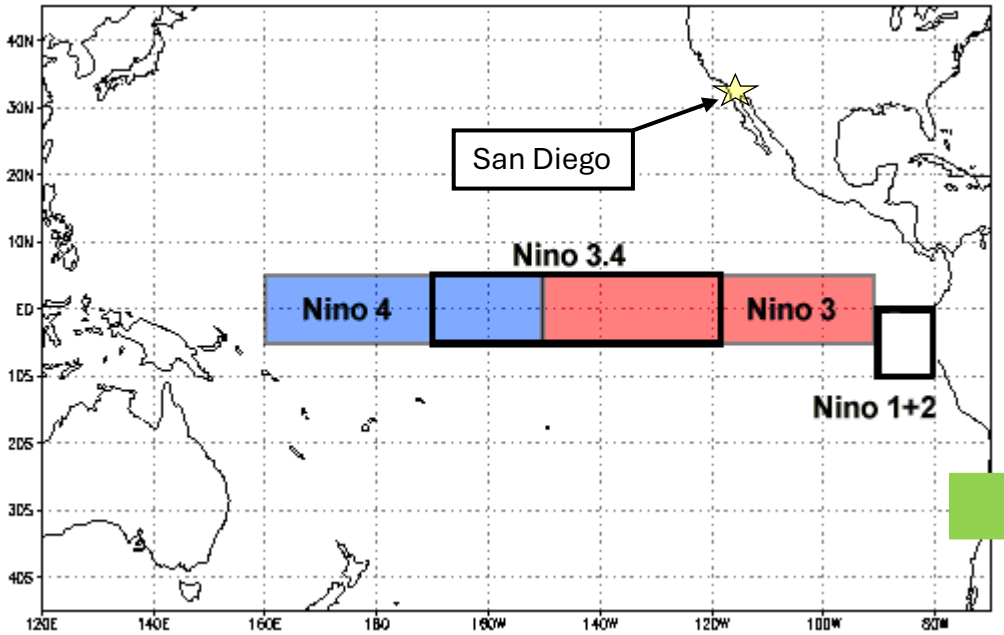
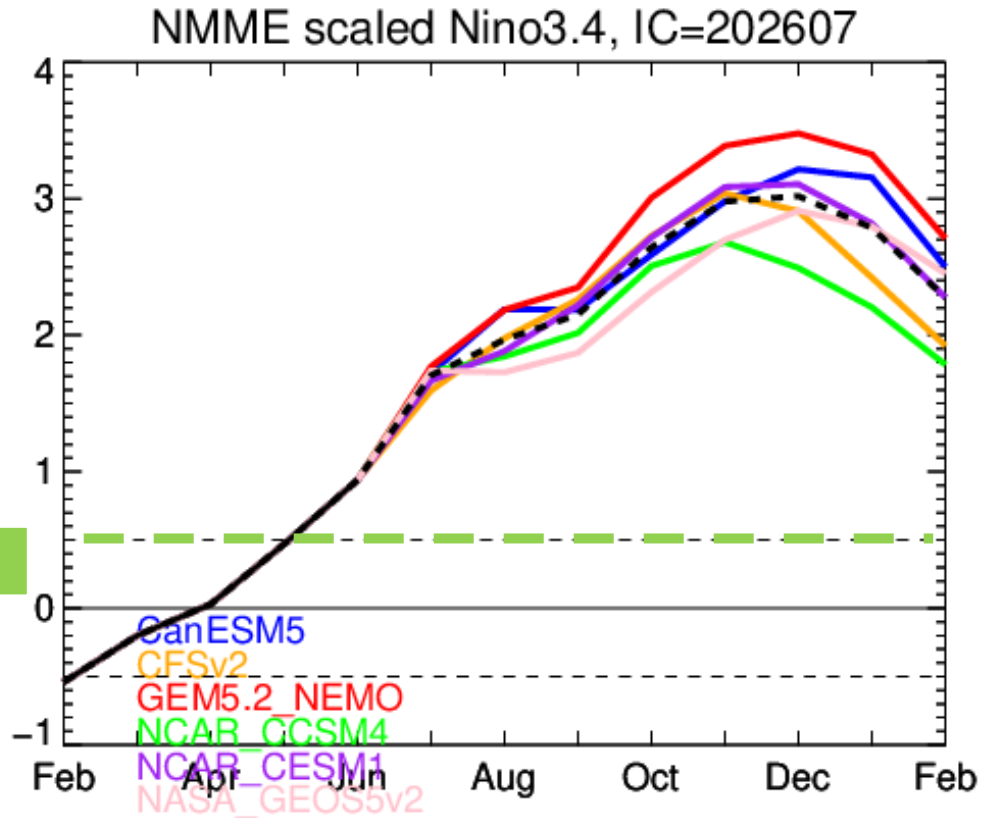


Weak (+0.5°C)



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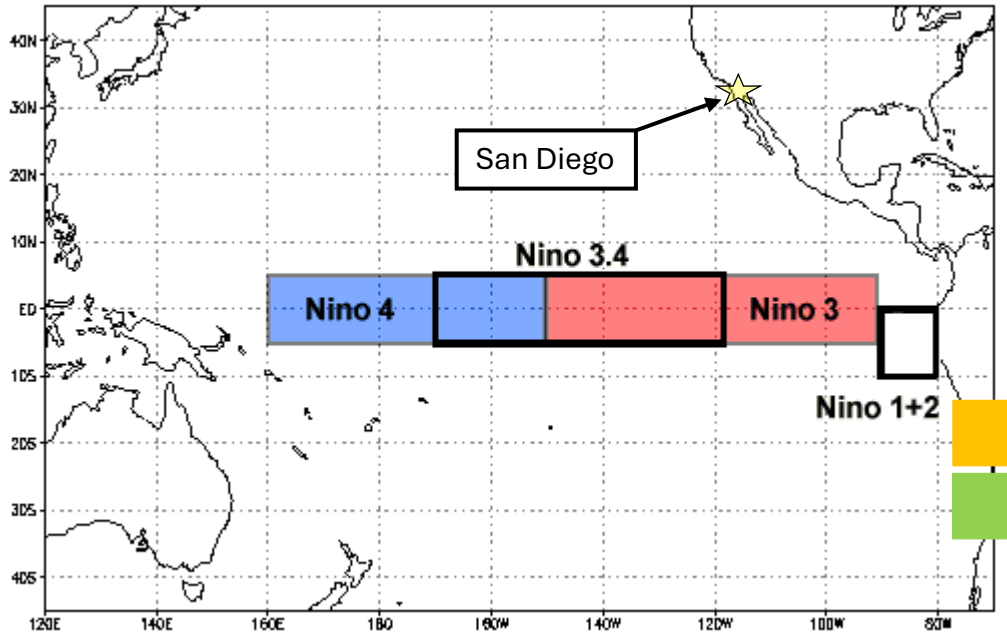
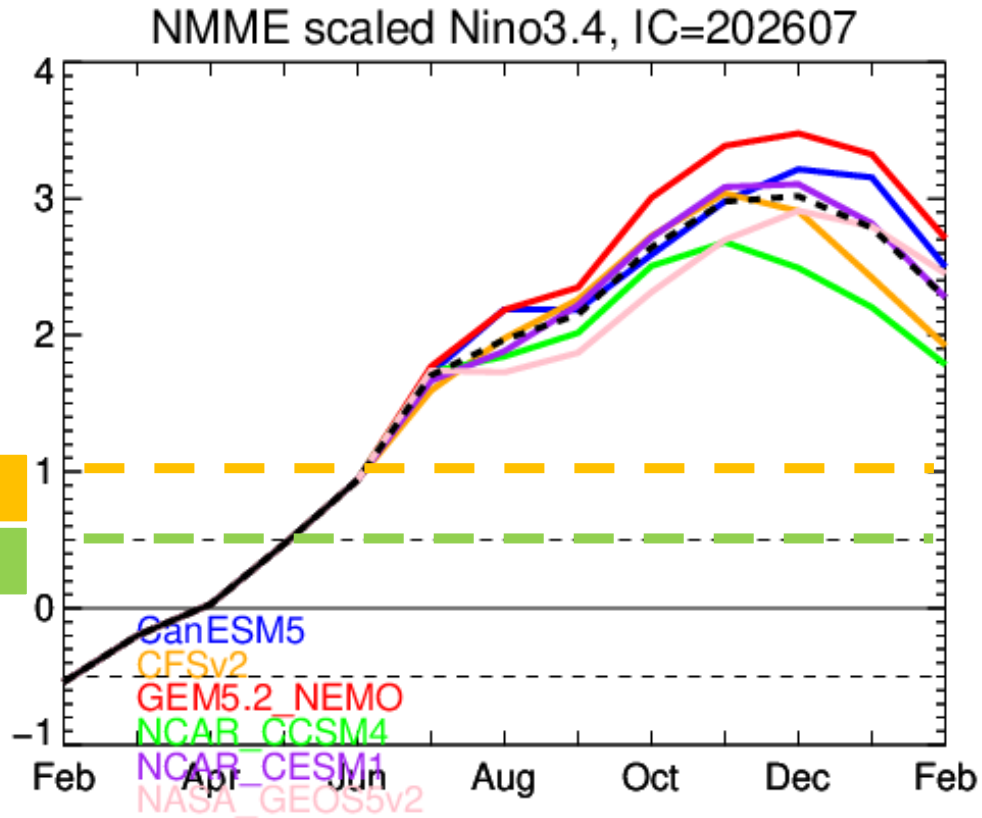


Moderate (+1.0°C)

Weak (+0.5°C)



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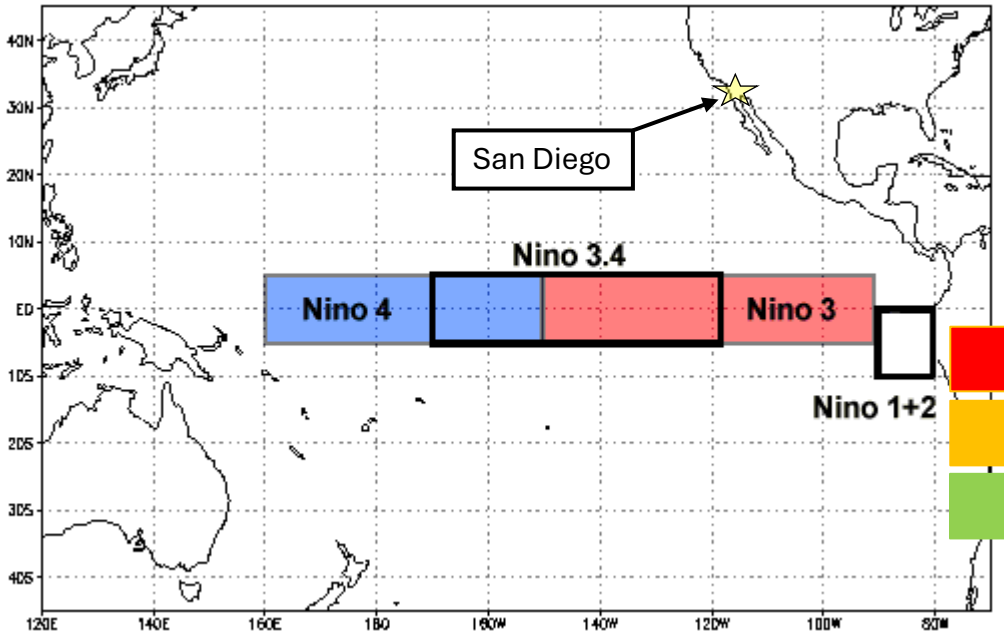

Strong (+1.5°C)

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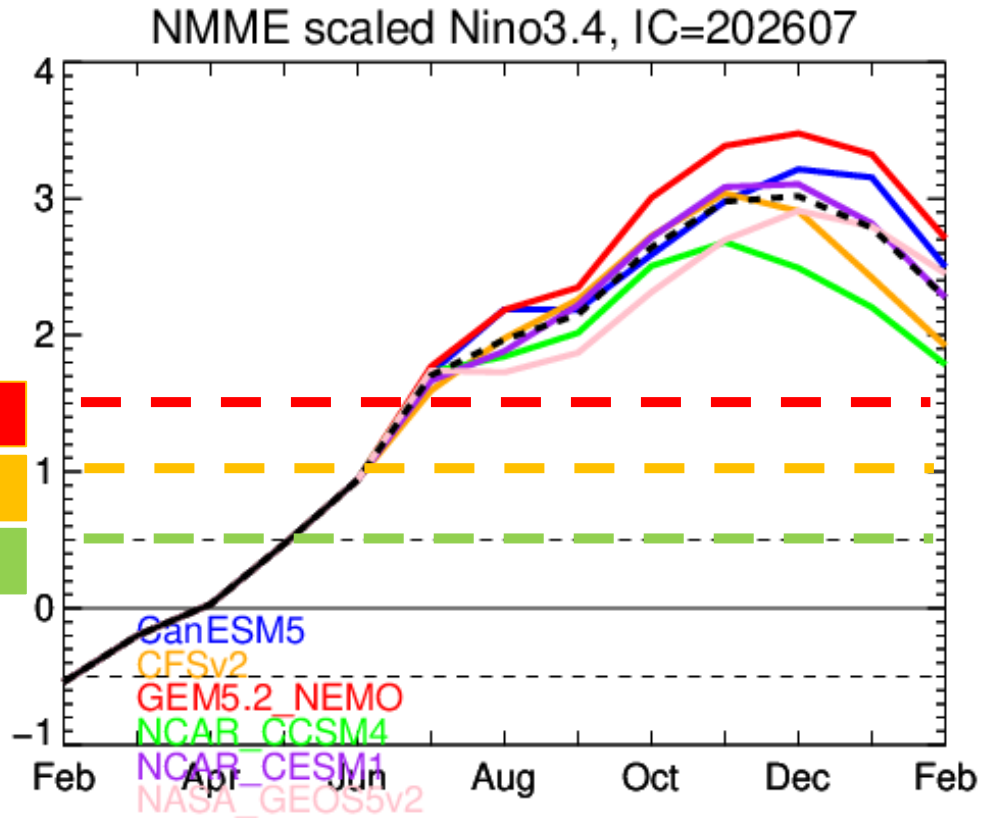

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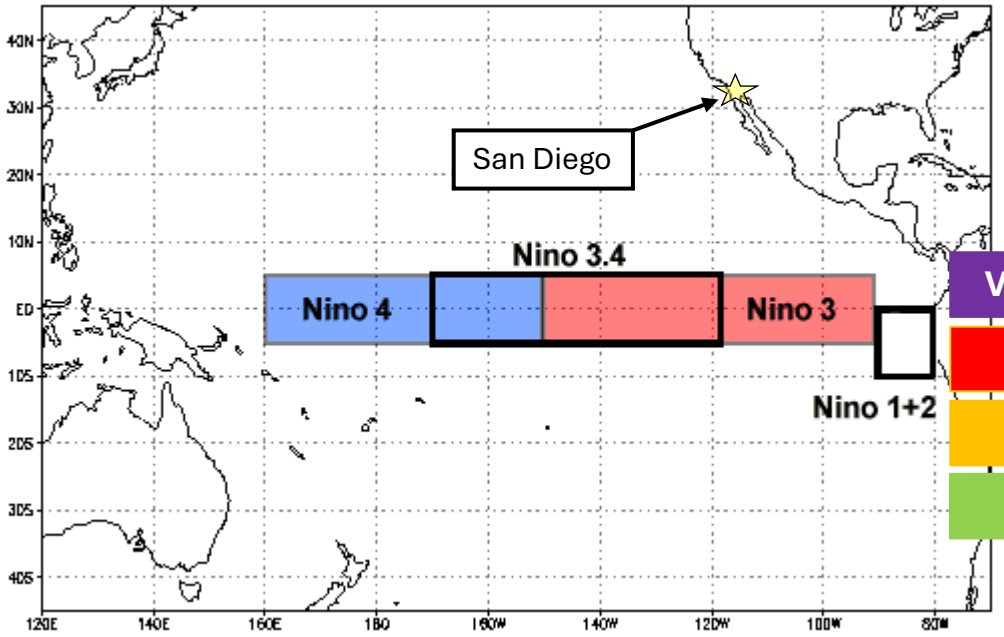

Very Strong (+2.0°C)

Strong (+1.5°C)

Moderate (+1.0°C)

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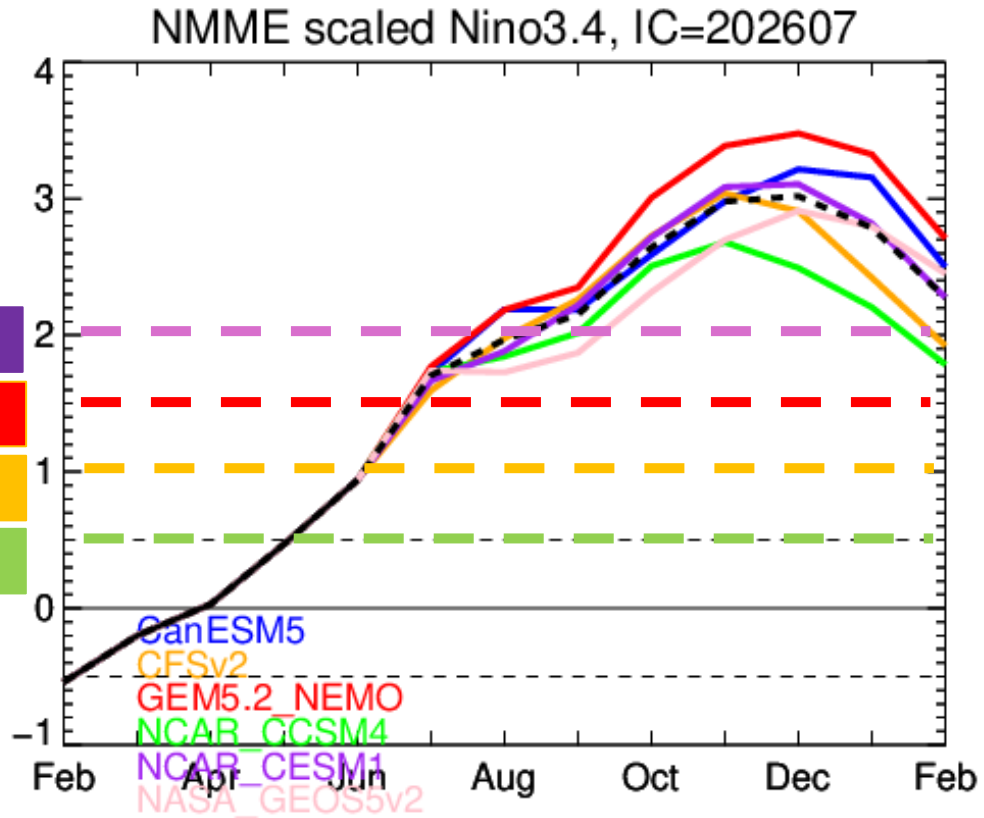
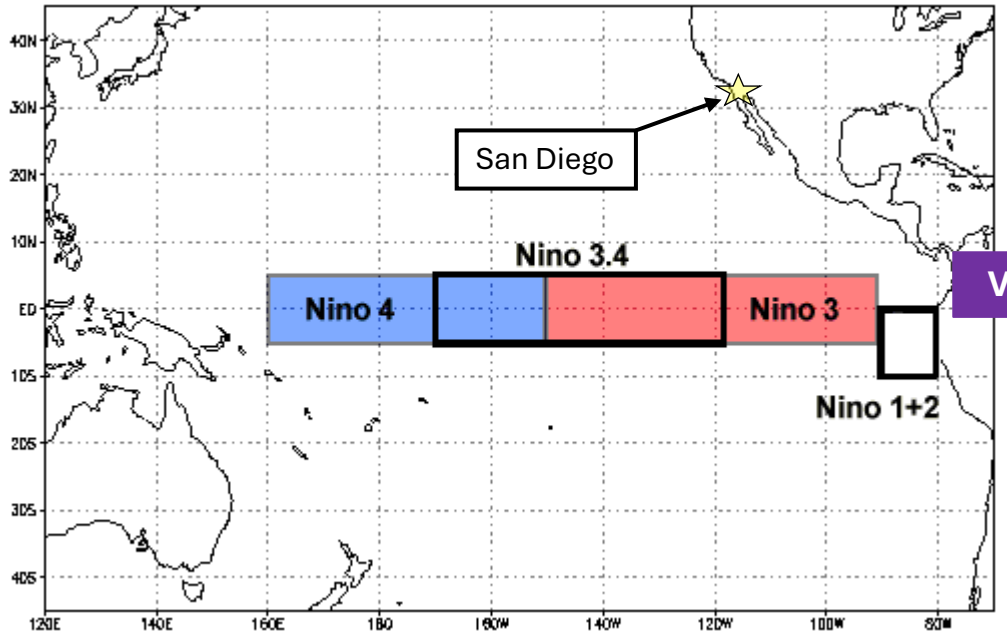


Very Strong El Niño Possible Fall 2026 into Early 2027



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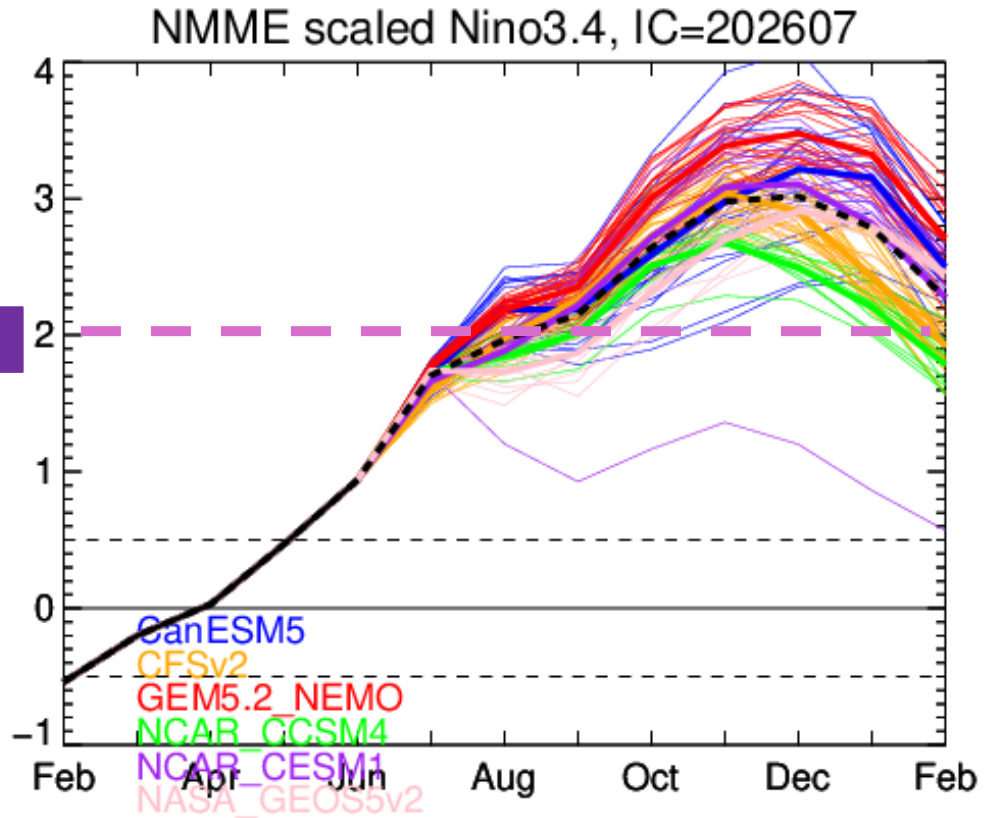

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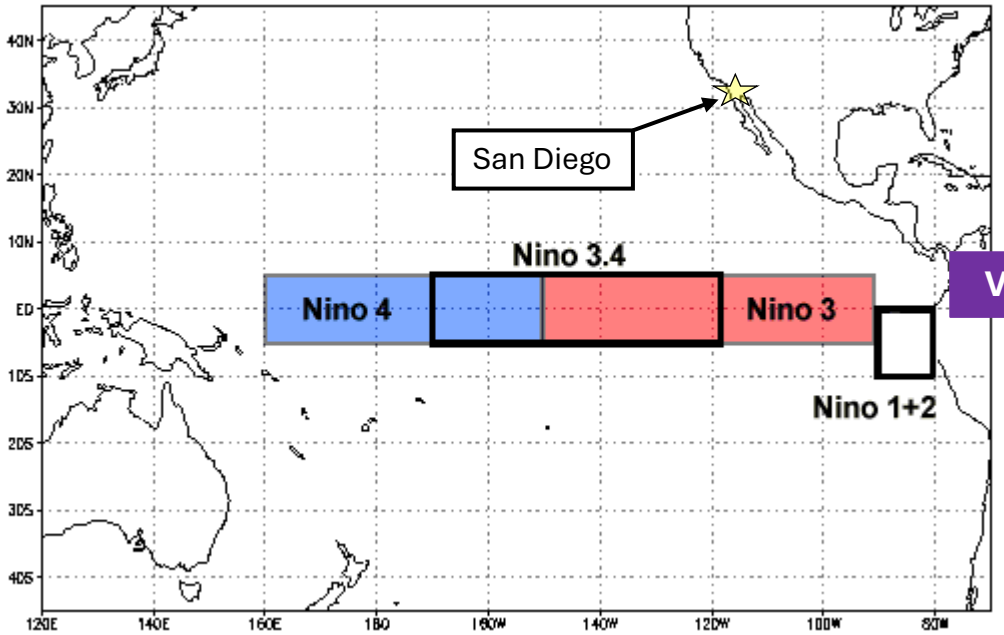

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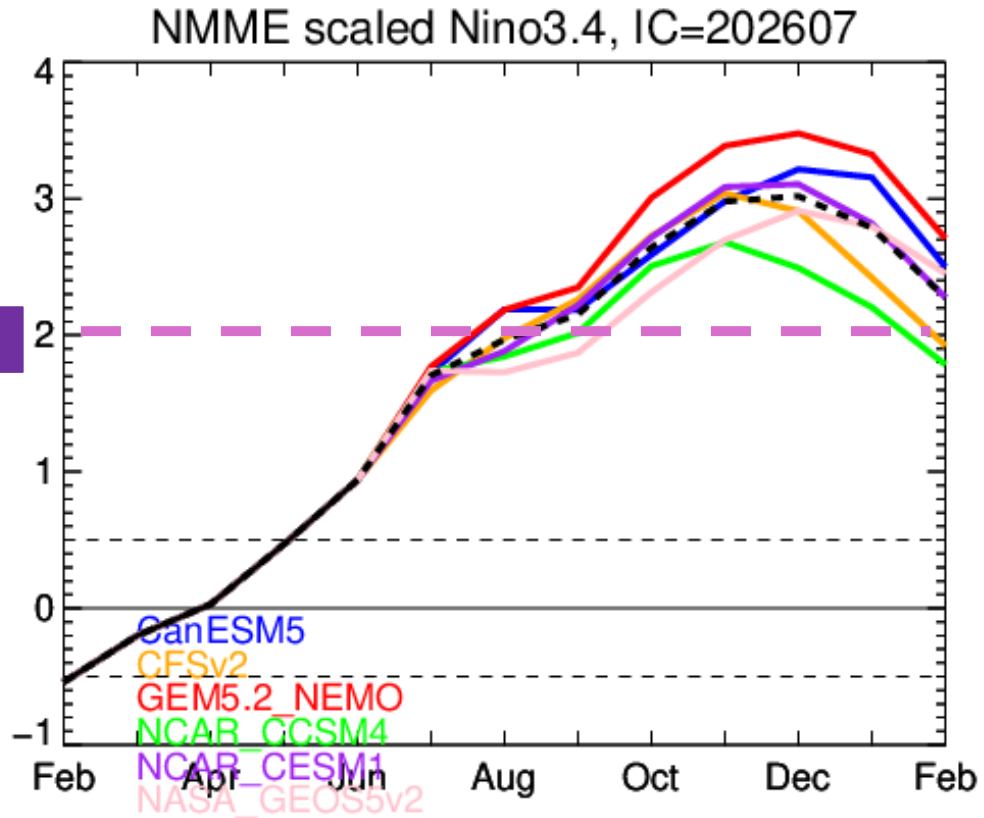
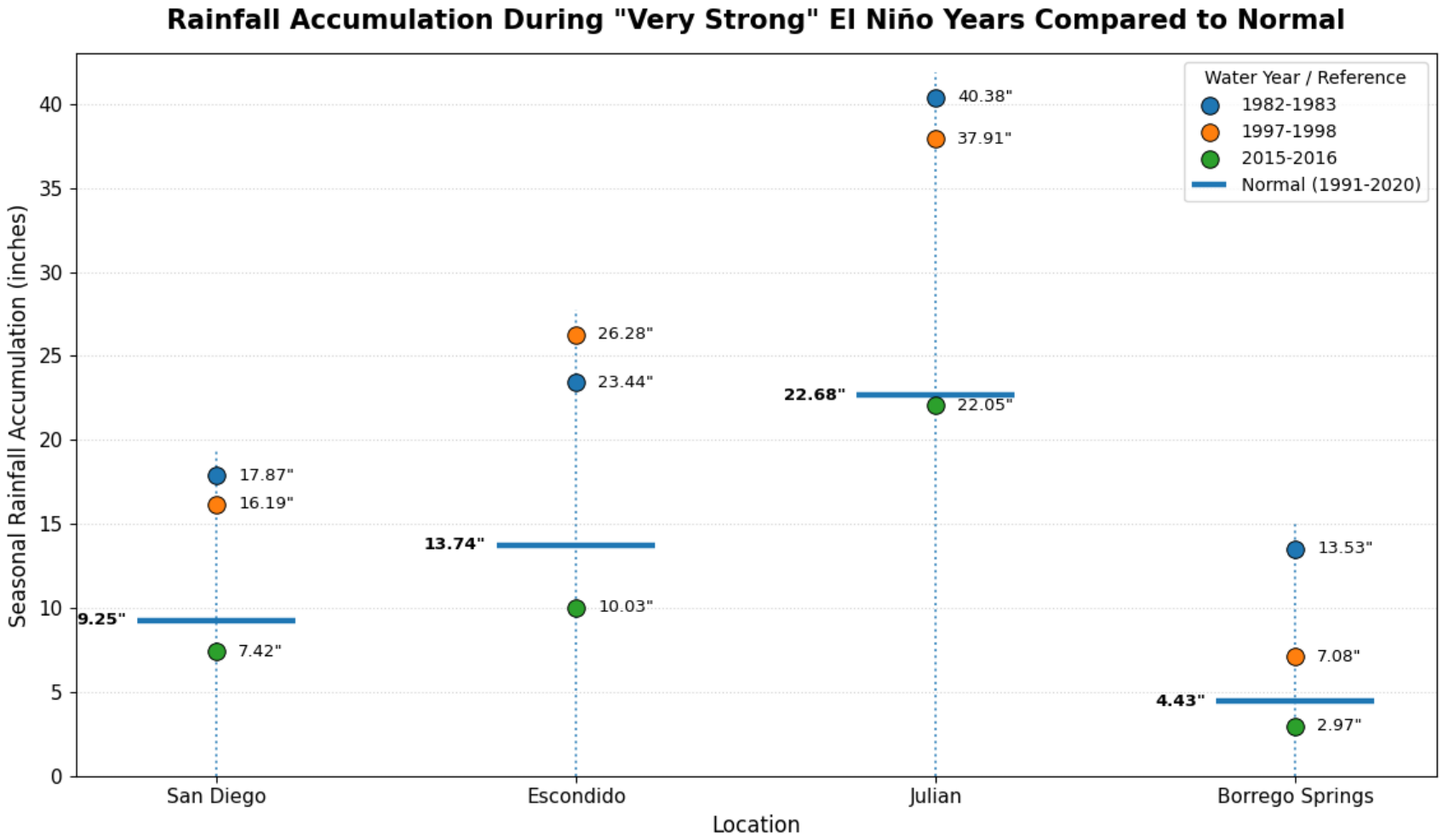


How Precipitation Fell in Other “Very Strong” El Niño Years?



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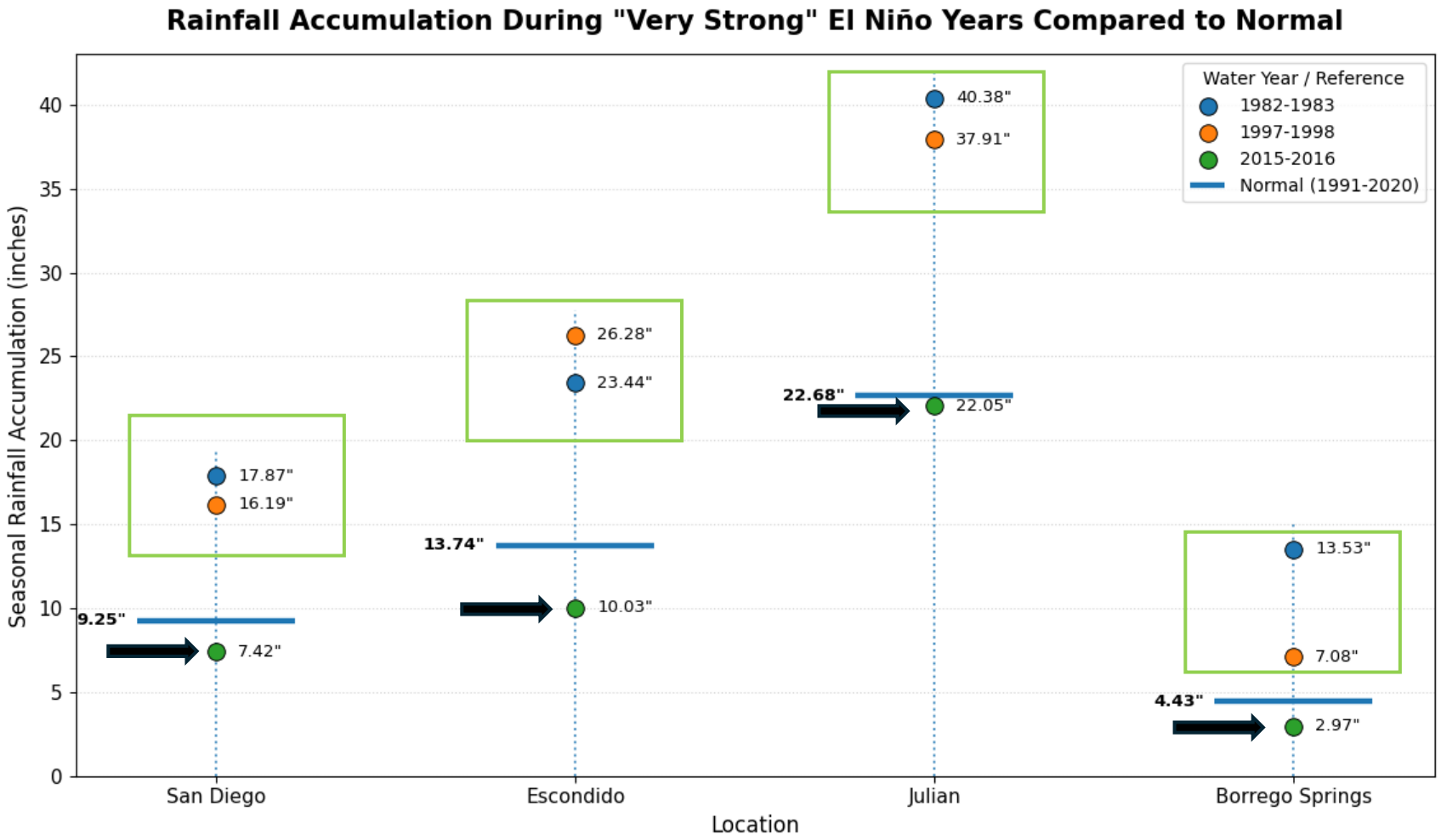

Flood-Related Impacts from 82-83 & 97-98 “Very Strong” El Niños

El Niño Season	Key Flood Impacts
1982-83	San Diego County was included in a federal disaster declaration for coastal storms, floods, mudslides, and tornadoes.
1997-98	Widespread flooding, road closures, mudslides, sinkholes, flooded low-lying roads and parking areas, mobile home park evacuations, agricultural losses, and washed-out or undermined bridges. **$17.2 million total**: $10.3M property damage, $6.9M crop damage

Sources

1. NOAA / NWS Storm Data, February 1998: https://www.weather.gov/media/pub/pdf/sdata/021998.pdf
2. NOAA / NCEI Storm Data, December 1982: https://www.ncei.noaa.gov/pub/data/swdi/stormevents/pub-pdf/storm_1982_12.pdf
3. FEMA Disaster Declarations Summaries, OpenFEMA dataset: https://www.fema.gov/openfema-data-page/disaster-declarations-summaries-v2
4. NOAA / NCEI report, “The El Niño Winter of ’97-’98”: https://www.ncei.noaa.gov/monitoring-content/billions/reports/19971201-19980228-severe-storm/tr9802.pdf
5. Western Regional Climate Center, California Top Weather Events: https://wrcc.dri.edu/Climate/extremes_ca.php

Why Uncertainty Remains, Even During a “Very Strong” El Niño

We can spot El Niño early. → El Niño ≠ automatic above-normal California rain. → The key is the North Pacific storm-steering pattern.

↓

2015–2016: big El Niño, but the storm track missed California. ← Weather “noise” adds uncertainty each winter. ← Models struggle to predict that steering months ahead.

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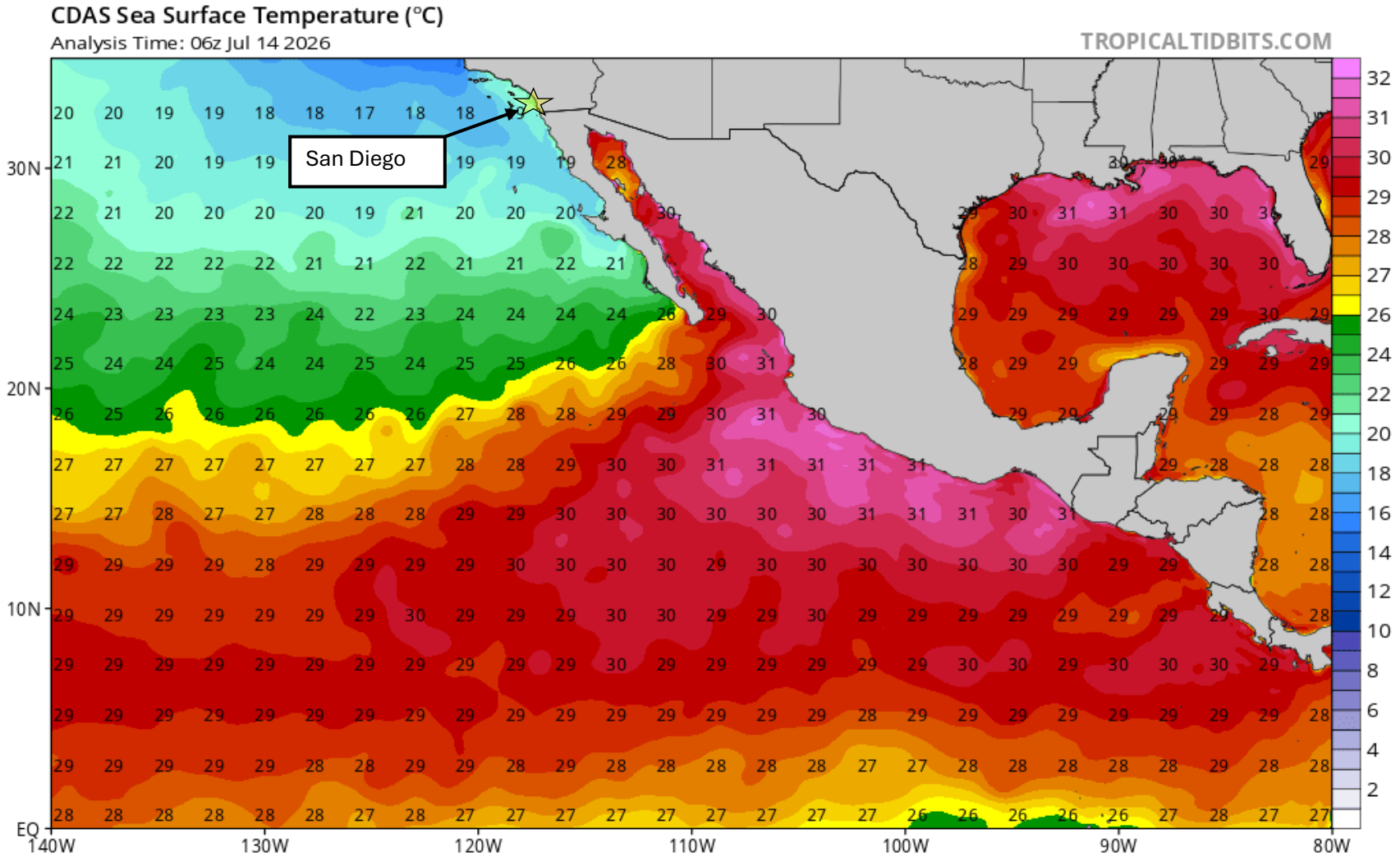
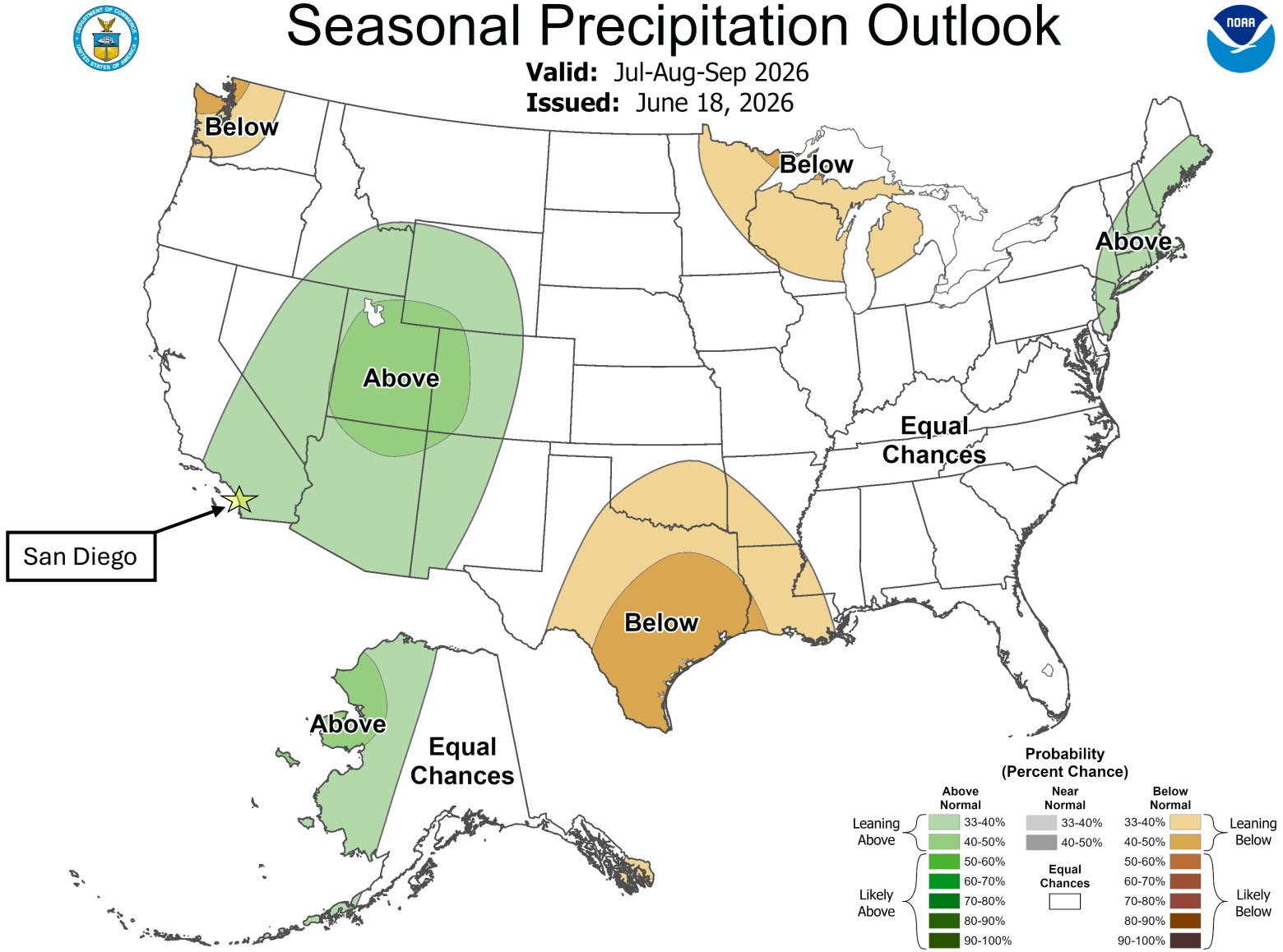
Models struggle to predict that steering months ahead. → Weather “noise” adds uncertainty each winter. → 2015–2016: big El Niño, but the storm track missed California.

<u>Bottom line for San Diego County</u>: a “Very Strong” El Niño means a wetter-than-normal outlook is favored, but forecast confidence is limited

Extremely Warm Tropical Eastern Pacific Temperatures to Fuel Robust Monsoon & Hurricane Season

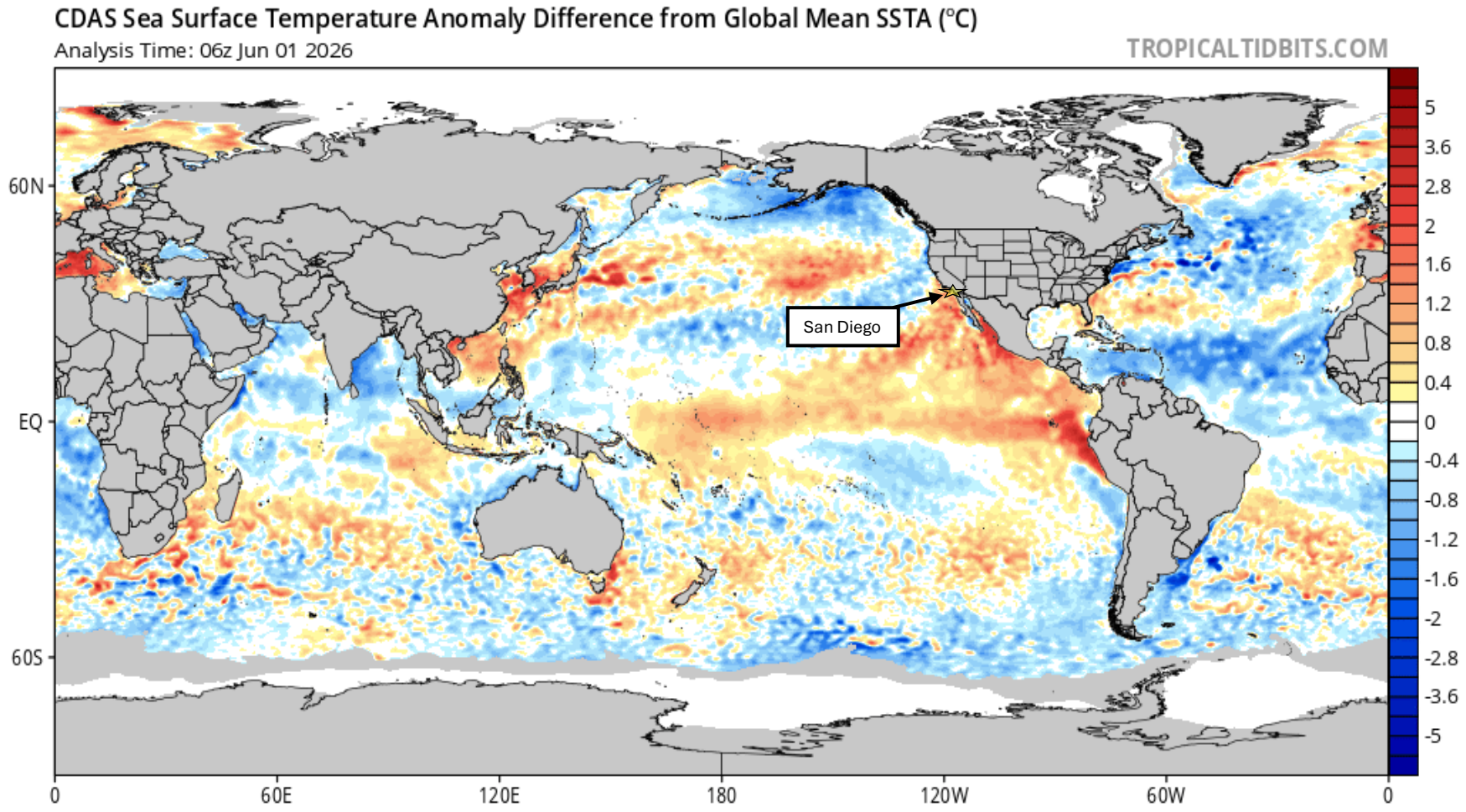


Late Summer Outlook Tilts Towards Higher Chance of Above-Normal Precipitation



Sea Surface Temperature Anomaly

June 2026



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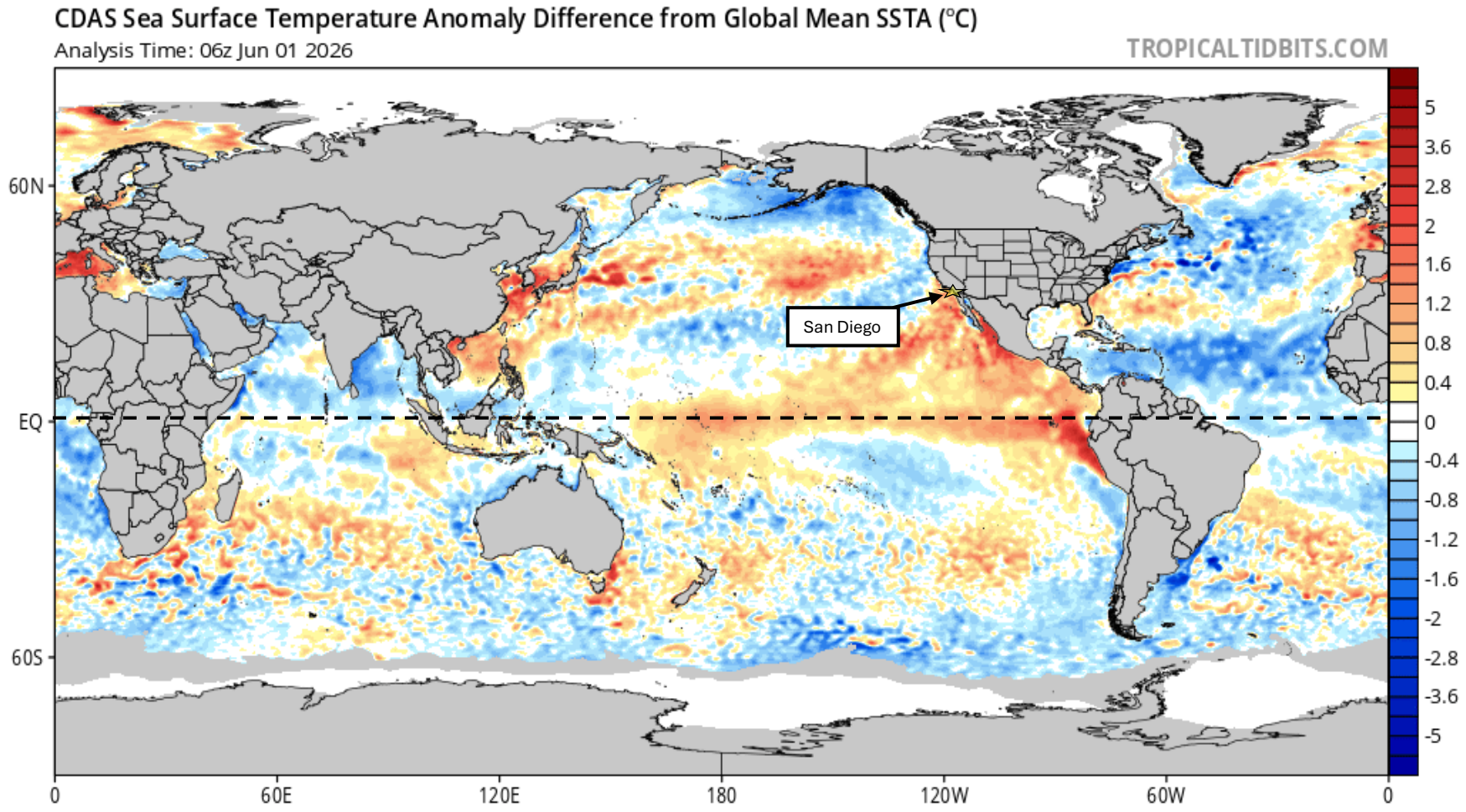

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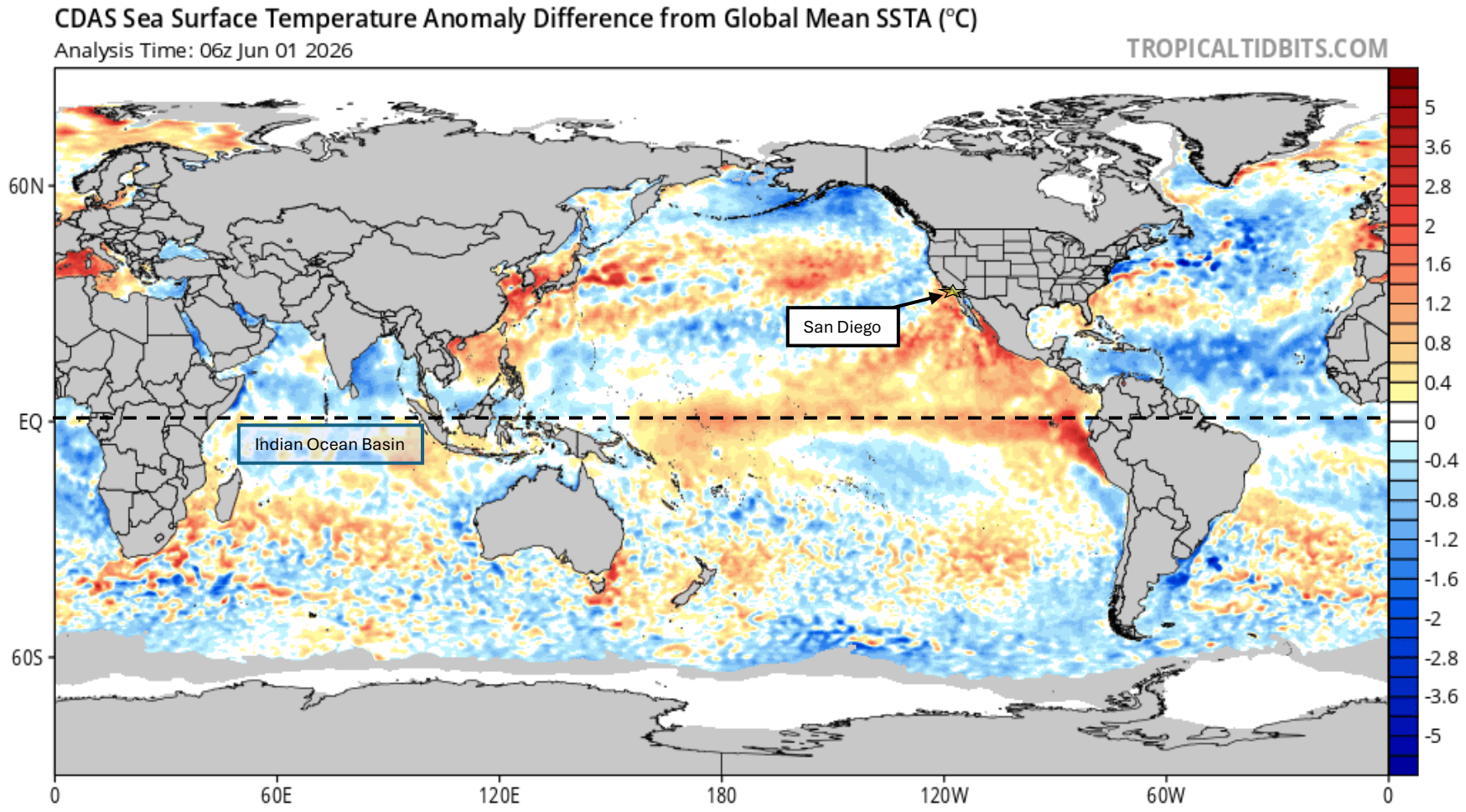

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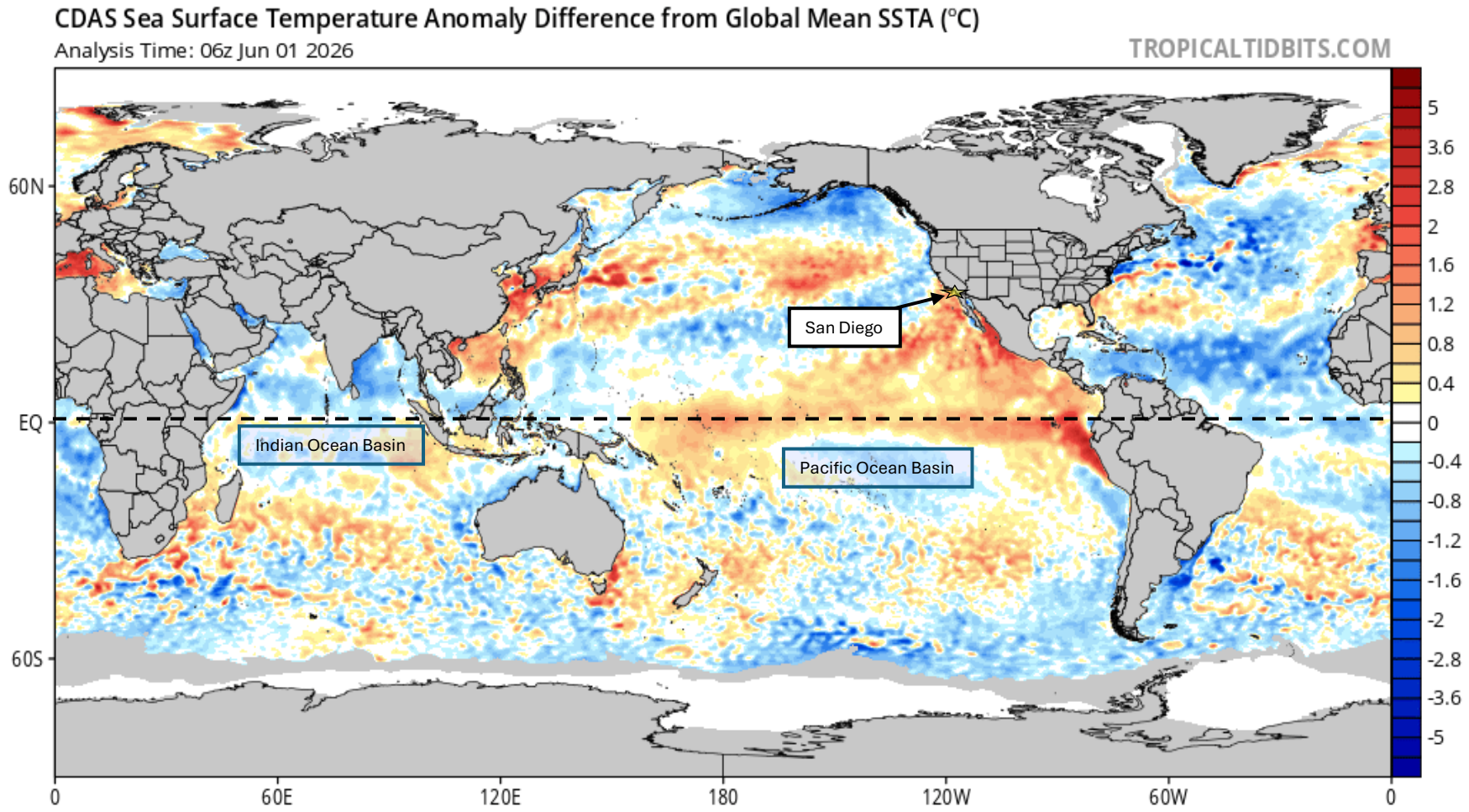

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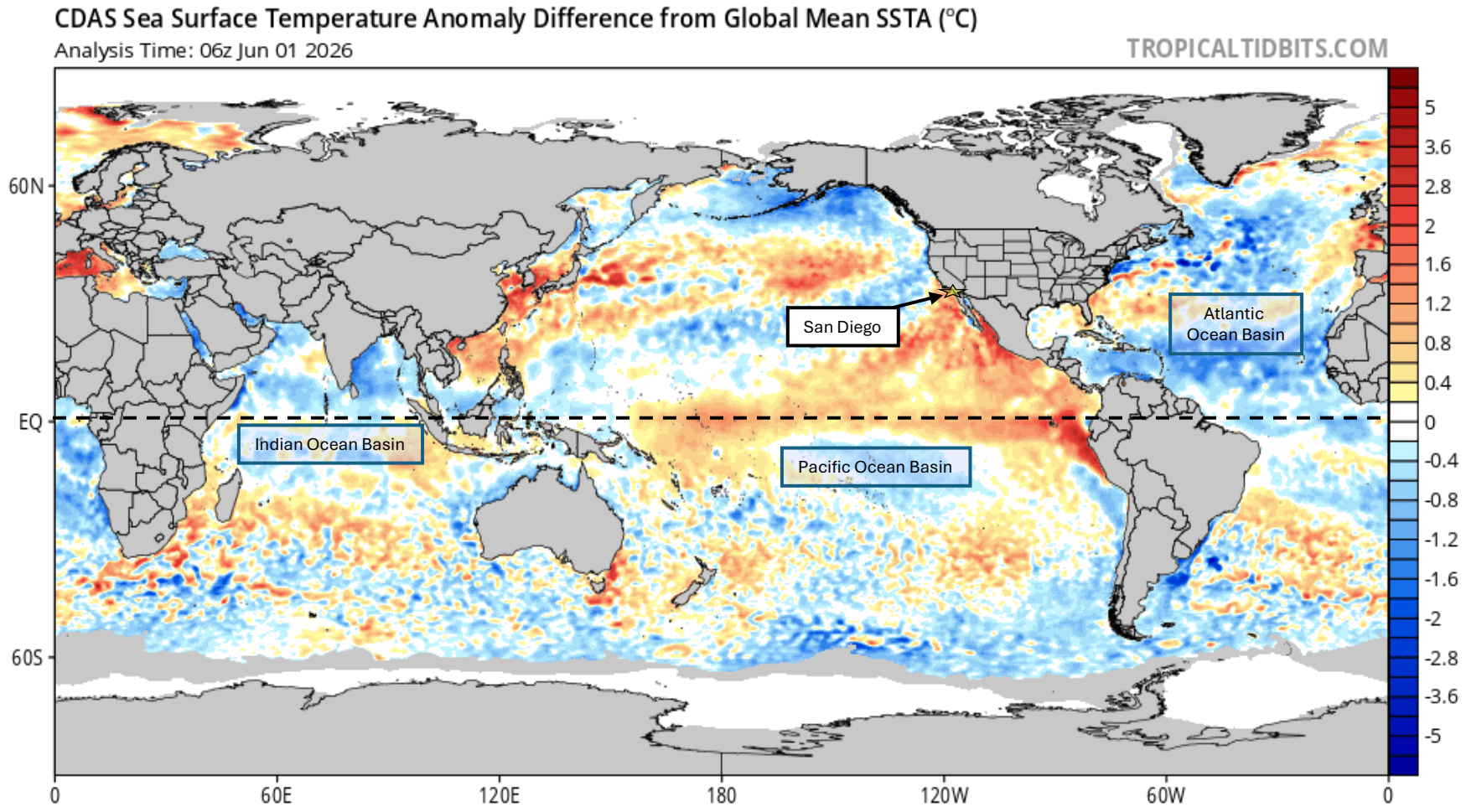
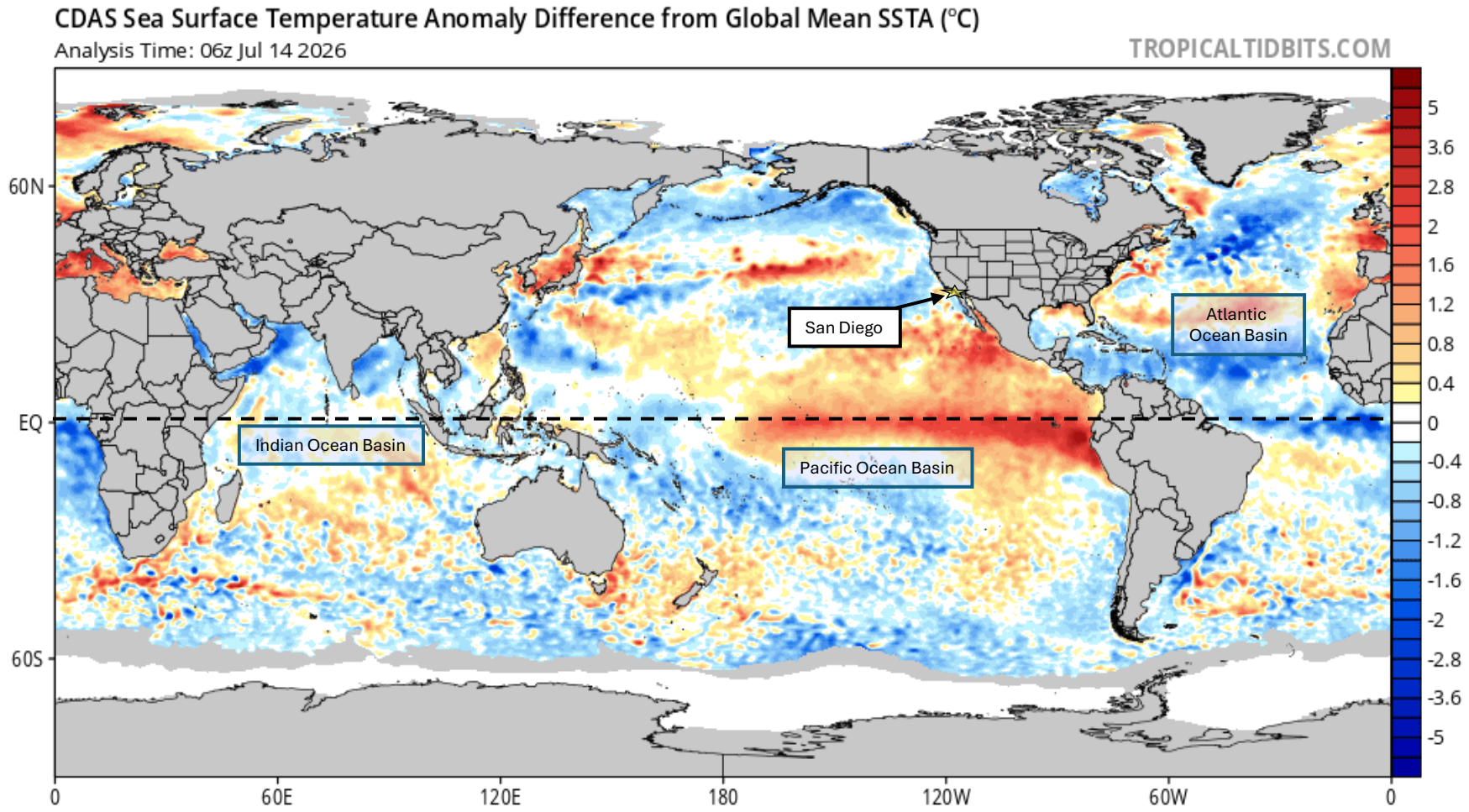


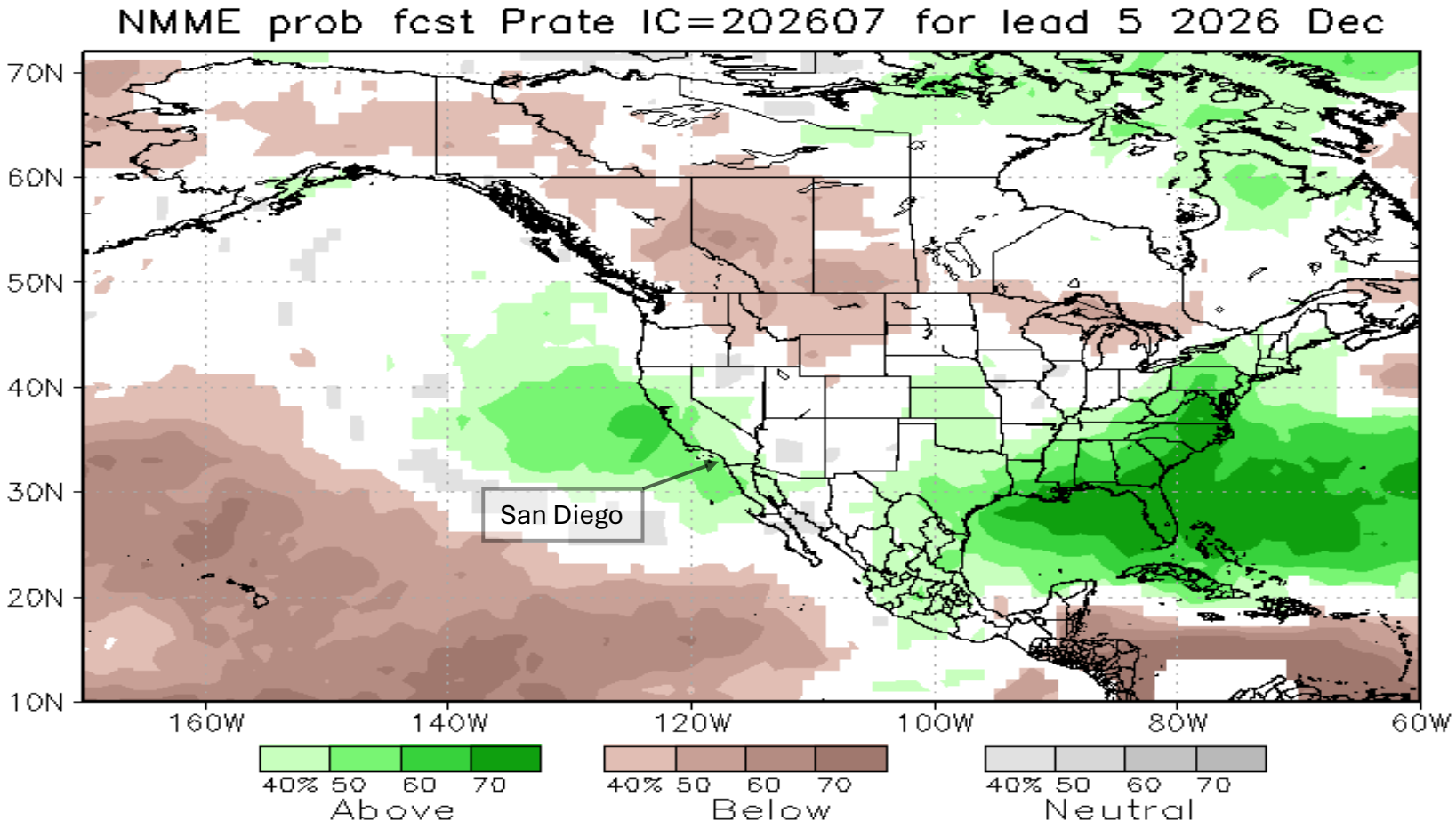
Sea Surface Temperature Anomaly

July 2026



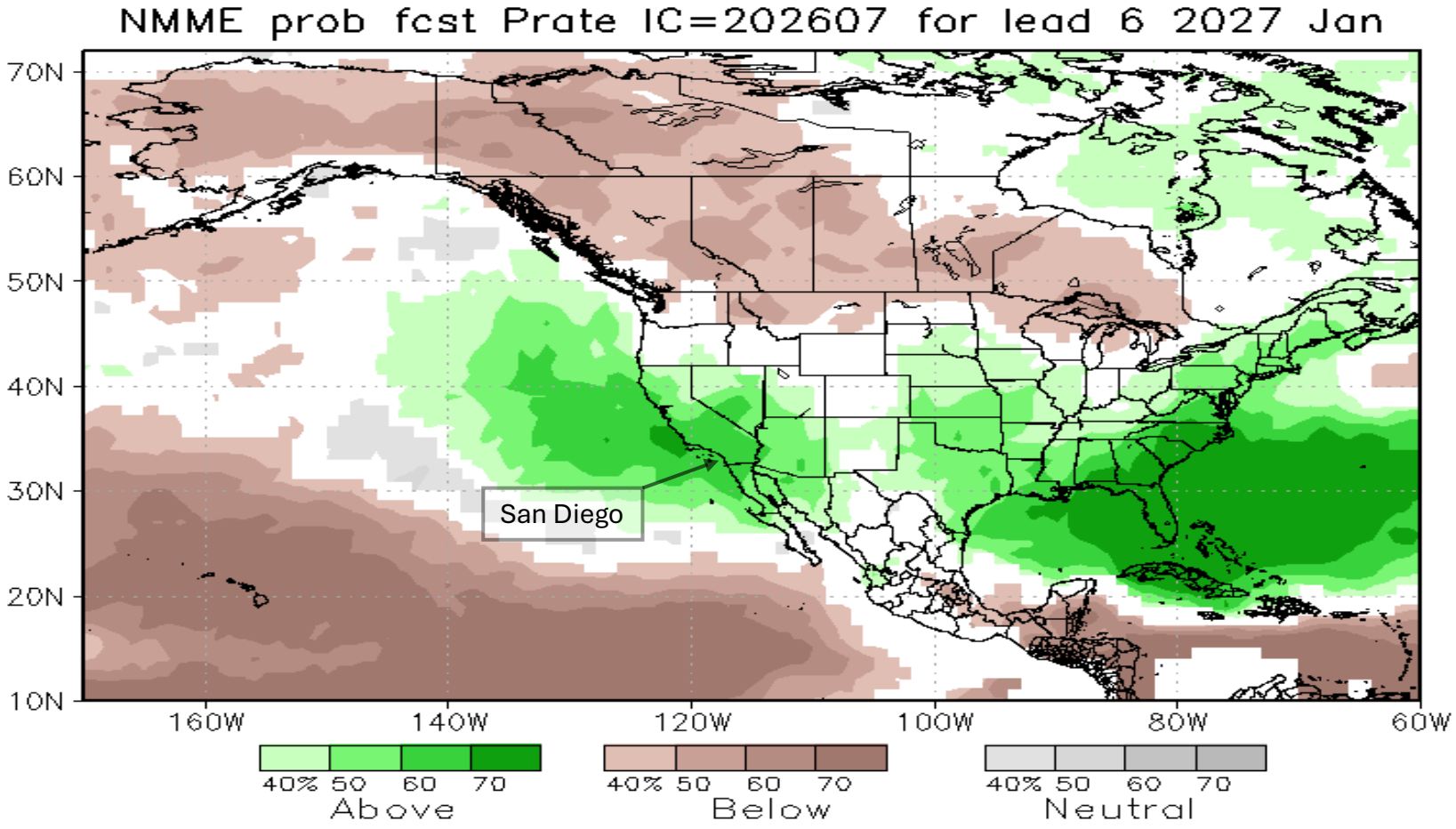
North American Multi-Model Ensemble (NMME) Precipitation Forecast

December 2026



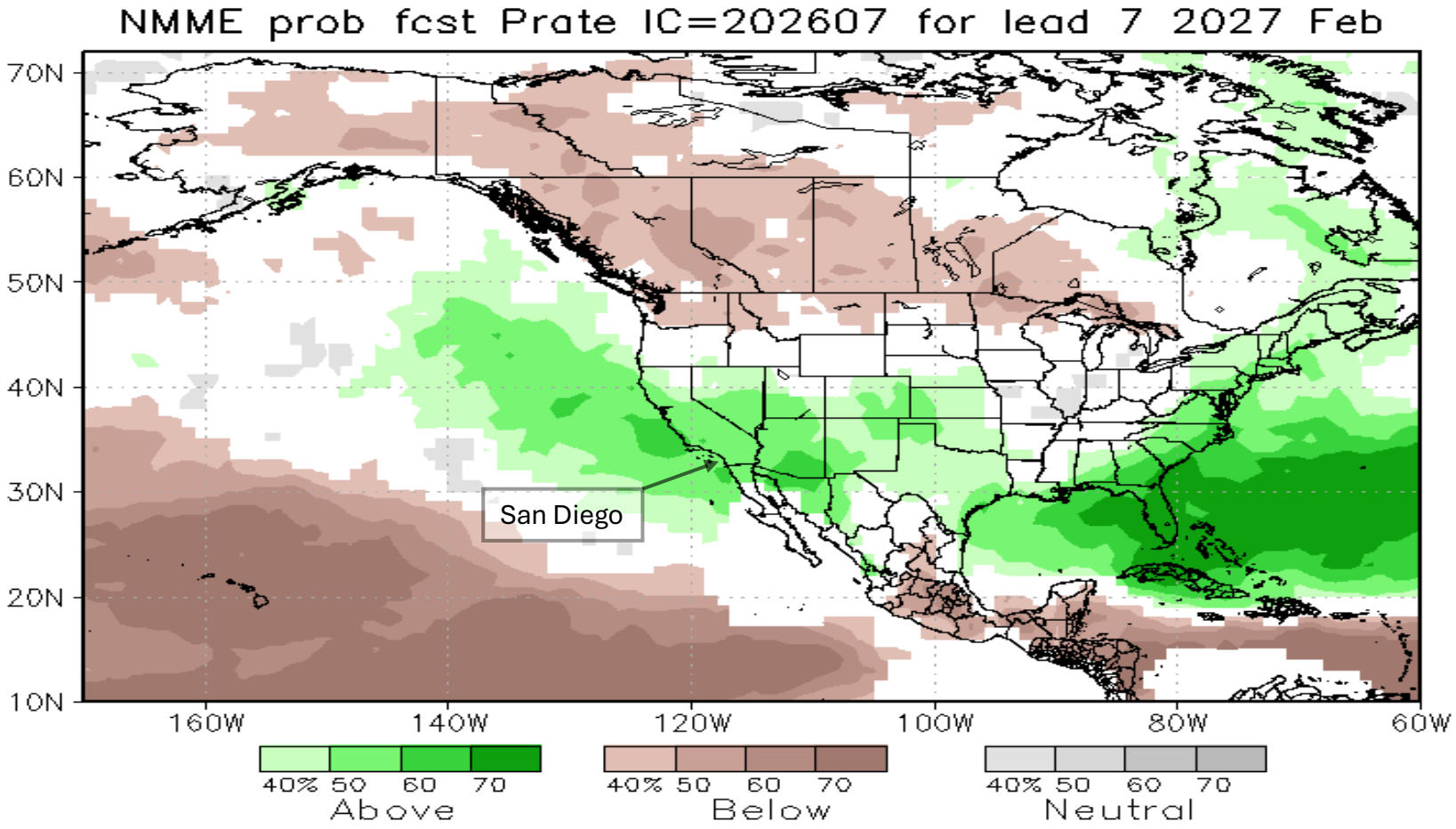
North American Multi-Model Ensemble (NMME) Precipitation Forecast

January 2027

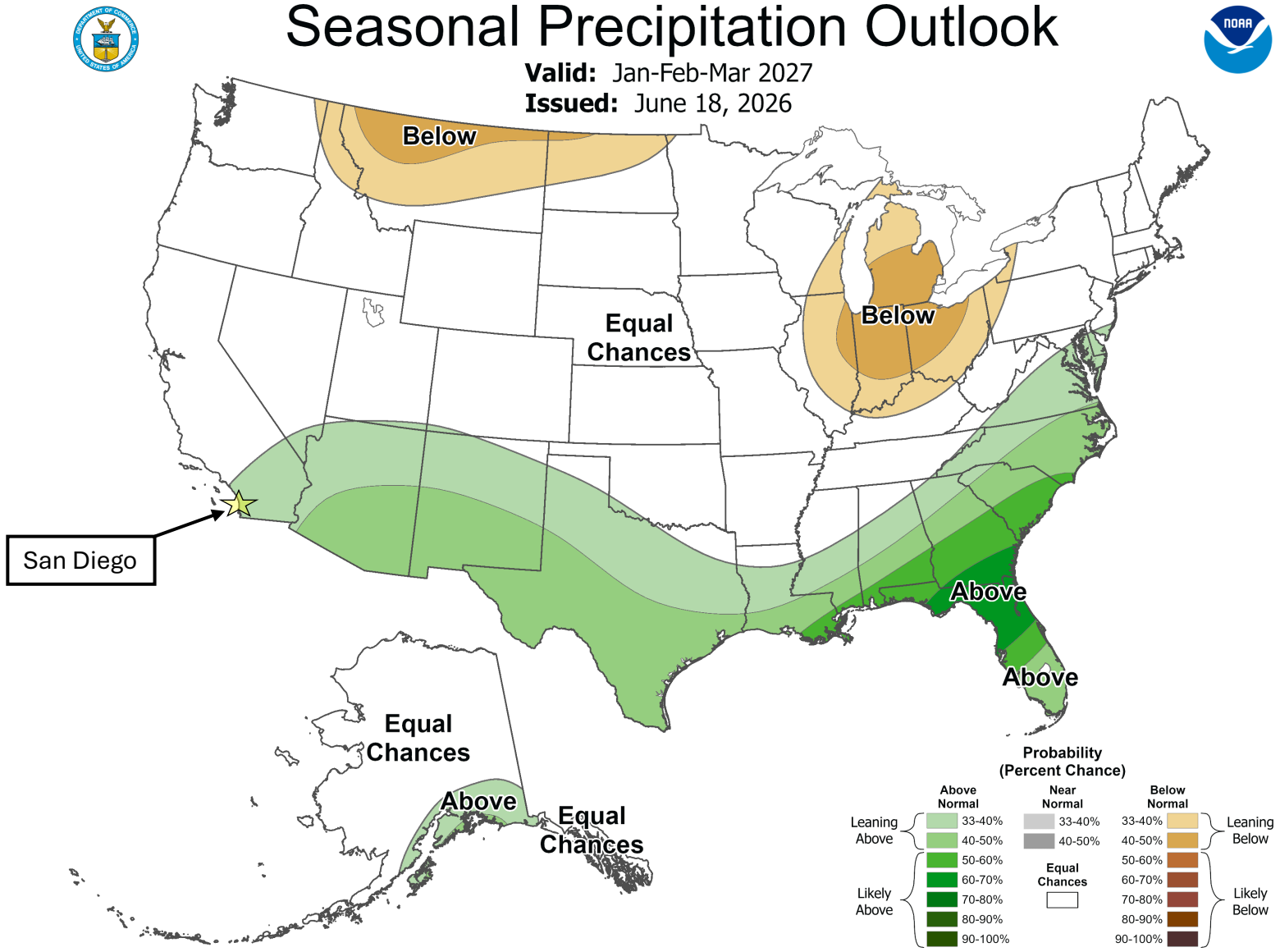


North American Multi-Model Ensemble (NMME) Precipitation Forecast

February 2027



Outlook for Core Months of Rainy Season Tilts Towards Higher Chance of Above-Normal Precipitation



Thank You!

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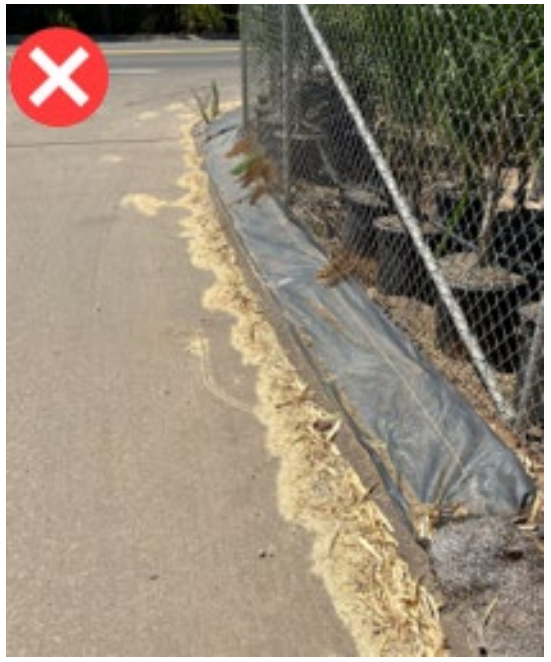
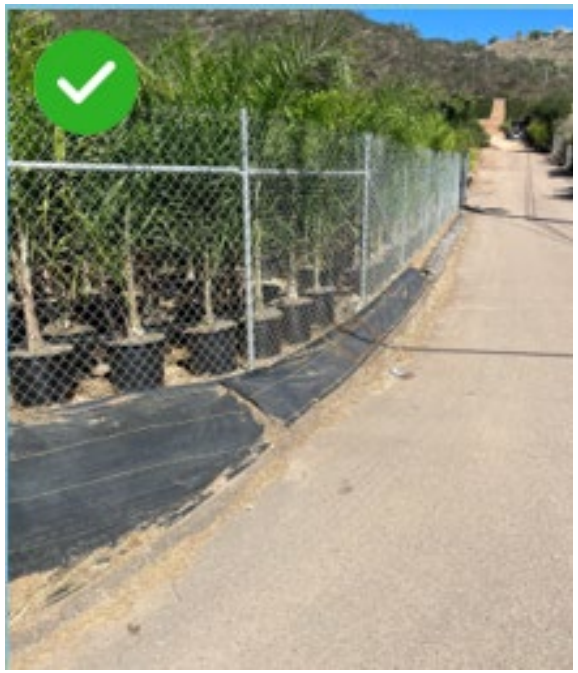
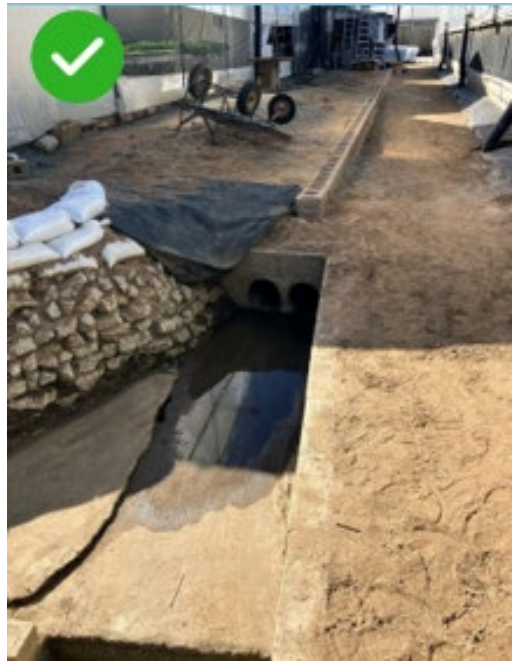
What does this mean for my agriculture operation?

Claire Orion
Supervising Agricultural Standards Inspector
Agricultural Water Quality
Dept. of Agriculture, Weights and Measures

What do we do?





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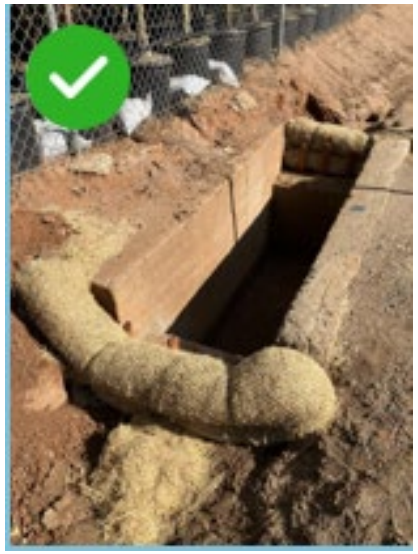
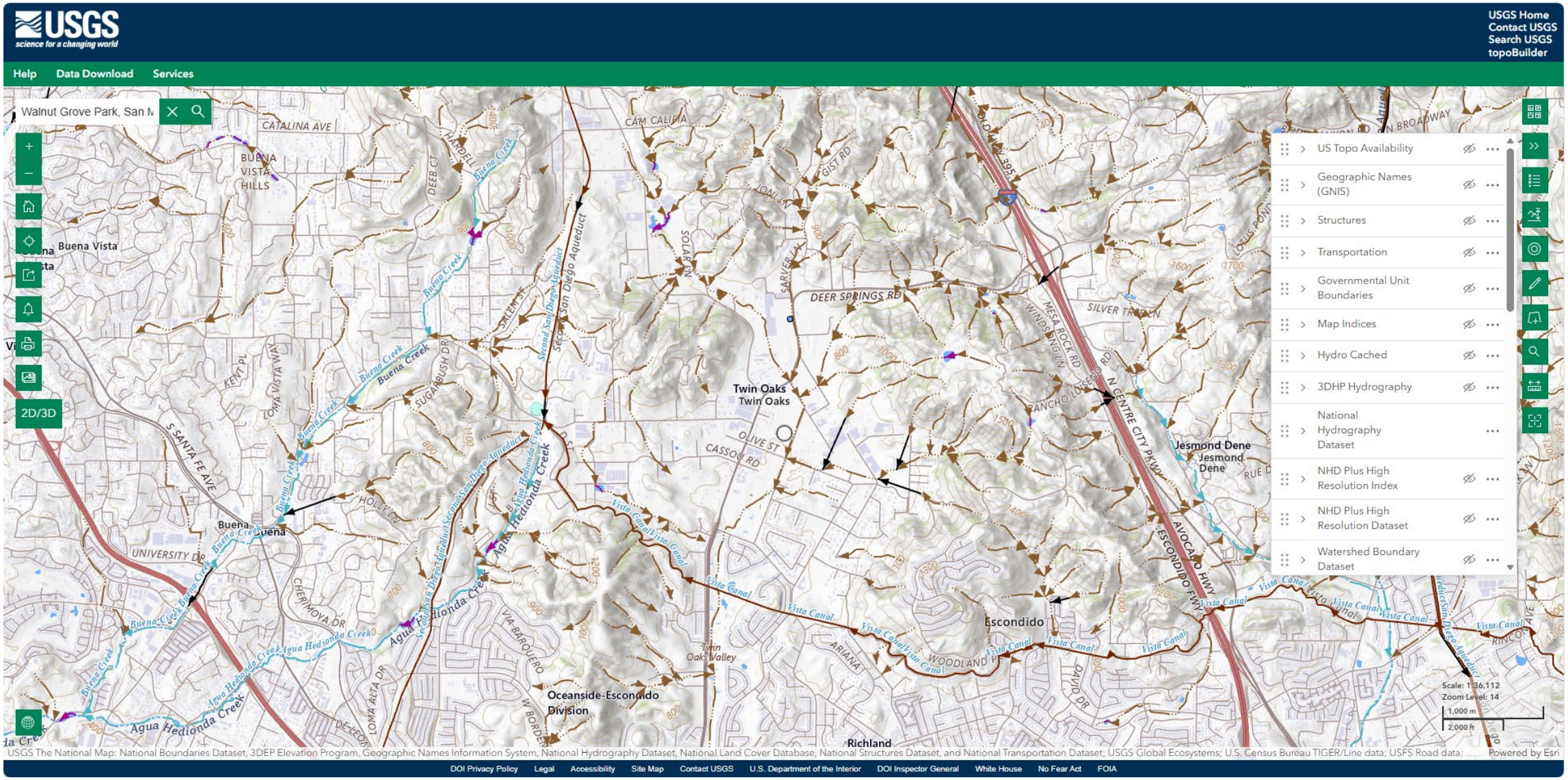


What can you do?

1) **Be aware**
   - Know how stormwater flows through your site
   - Entry points
   - Exit points
   - Streams? Creeks? Floodplains?
2) **Prepare**
   - Clear stormwater channels/drains/retention ponds
   - Cover crops, less tillage, add organic matter
   - Hazardous materials
   - Straw wattles, silt fences, riprap, sandbags = slowing the flow
   - Secure things that might blow away
3) **Get out there**
   - Walk property in the rain
   - Look for pooling
   - Check for erosion
   - Adjust (and repair) as needed
4) **Talk to Claire! (and team)**
   - Mapping
   - Site specific potential threats and Best Management Practices
   - Early inspection before rainy season begins

Mapping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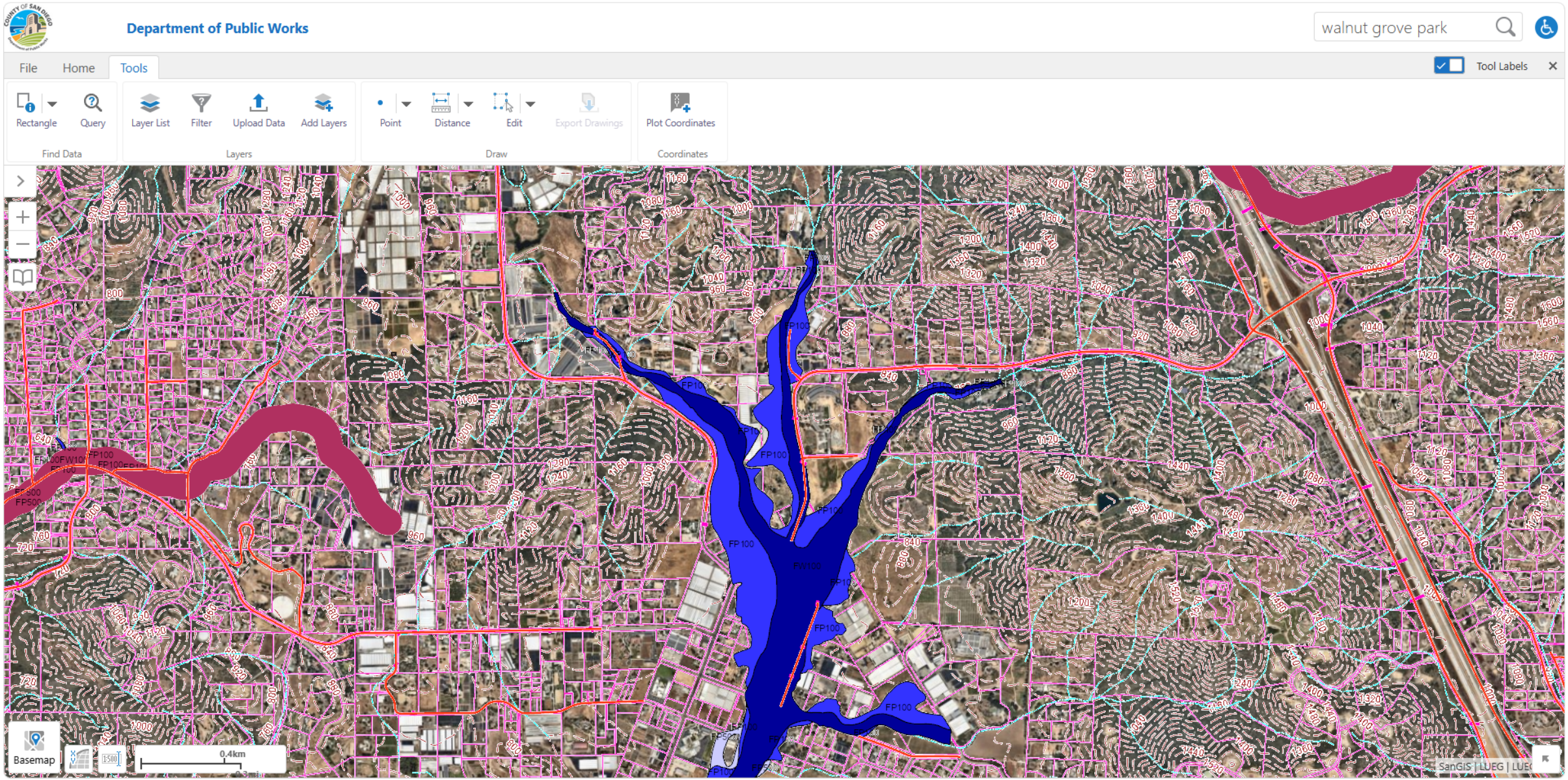
FOIA

Mapping


Department of Public Works
walnut grove park
File
Home
Tools
Tool Labels
Rectangle
Query
Layer List
Filter
Upload Data
Add Layers
Point
Distance
Edit
Export Drawings
Plot Coordinates
Find Data
Layers
Draw
Coordinates
Basemap
0.4km
SanGIS | LUEG | LUEG

Resources

- Email alerts for Ag Operations – weather/flooding concerns
- Best Management Practices and Stormwater Trainings
- Complaints
- Sandbags https://www.alertsandiego.org/en-us/recovery/sandbags.html
- Contact Us
  - AWM.AWQ@sdcounty.ca.gov
  - 858-614-7786

AWQ Website

Free Sandbags

Thank you!

Questions?