Bi-monthly Educational Topic #3 for CCGCD
by Texas Hill Country Weather Services, LLC
February 17, 2025

It would be a good idea to quickly review the Bi-monthly Educational Topic #2 before moving through this new Topic #3 discussion.

Where are we at in terms of our current La Niña conditions within the ENSO zone? Check out the average SST anomalies image below.

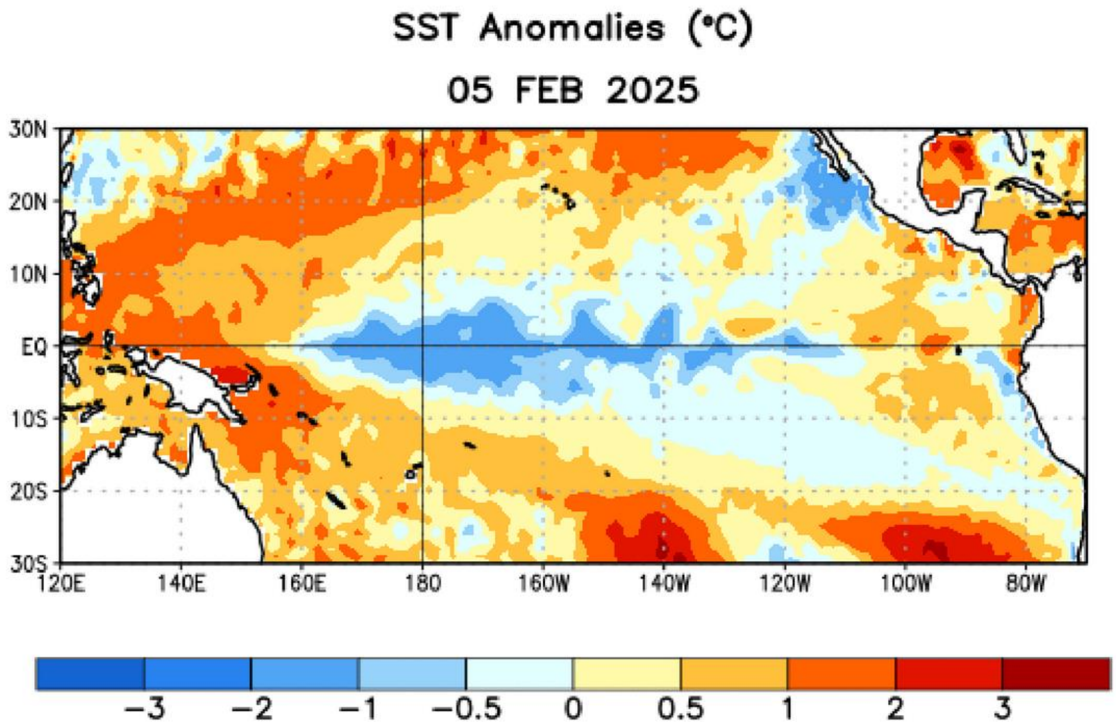
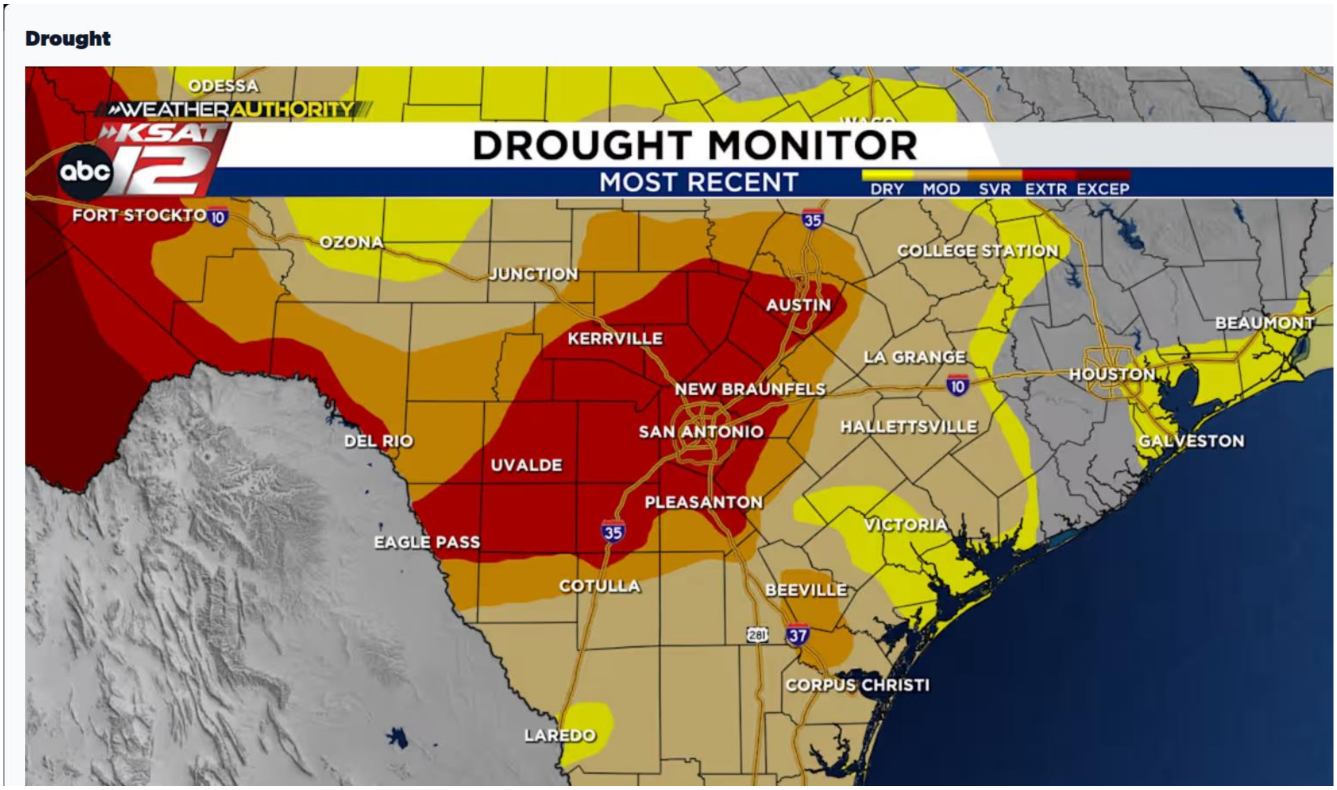


Figure 1. Average sea surface temperature (SST) anomalies (°C) for the week centered on 5 February 2025. Anomalies are computed with respect to the 1991-2020 base period weekly means.

When looking at Figure 1, notice how the blue color (lower than average SSTs – cold conditions) region has shifted to the west since the previous image I provided in Topic #2. Also, notice how a large more pronounced area within ENSO Zone Niño 3 region is showing orange colors (higher than average SSTs – warm conditions). This is a good sign that this on-going very weak (-0.6 ºC indices within the Nino-3.4 region) La Niña is weakening.

Also, what is occurring locally relative to our current drought conditions? As expected, the on-going drought conditions have persisted despite our decent early February rainfall event last week, that gave us more than I had expected. What is a little surprising to observe is that the spacial extent of our on-going extreme drought has expanded in size towards the east. Please refer to the attached graphic below.



As for our air temperatures measured in Boerne, so far, in middle February 2025, we have experienced above average by 7 ºF (this will lower soon), and we remain drier than the Boerne February rainfall to date (no change expected through the end of this month).

The latest update from NOAA's Climate Prediction Center has a decent likelihood (66% chance) that this very weak short-duration La Niña event could switch to ENSO neutral conditions within the three-month period of March-April-May 2025. This expectation is indicated by their official model prediction depicted in Figure 6 below from their January 2025 runs. Notice how the thick green (statistical average predictions) and the maroon (dynamical model's average predictions) colored curves showing the Niño 3.4 region SST anomaly predictions changing from slightly below -0.5 ºC at the January-February-March (JFM) three-month window to nearing or increasing above -0.5 ºC ENSO neutral conditions by the March-April-May (MAM) three-month window.

A useful federal government website link to regularly visit to get the latest available medium-range (week two 6-14 days) and long-range (monthly 30-day and seasonal 90-day) weather outlooks and ENSO updates is: https://www.weather.gov/wrh/climate?wfo=ewx

This website: https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_update/sstanim.shtml provides excellent animations of measured SSTs and SST anomalies over the previous 3-month window within the ENSO regions. These animations show the decreasing intensity of the on-going weak La Niña.

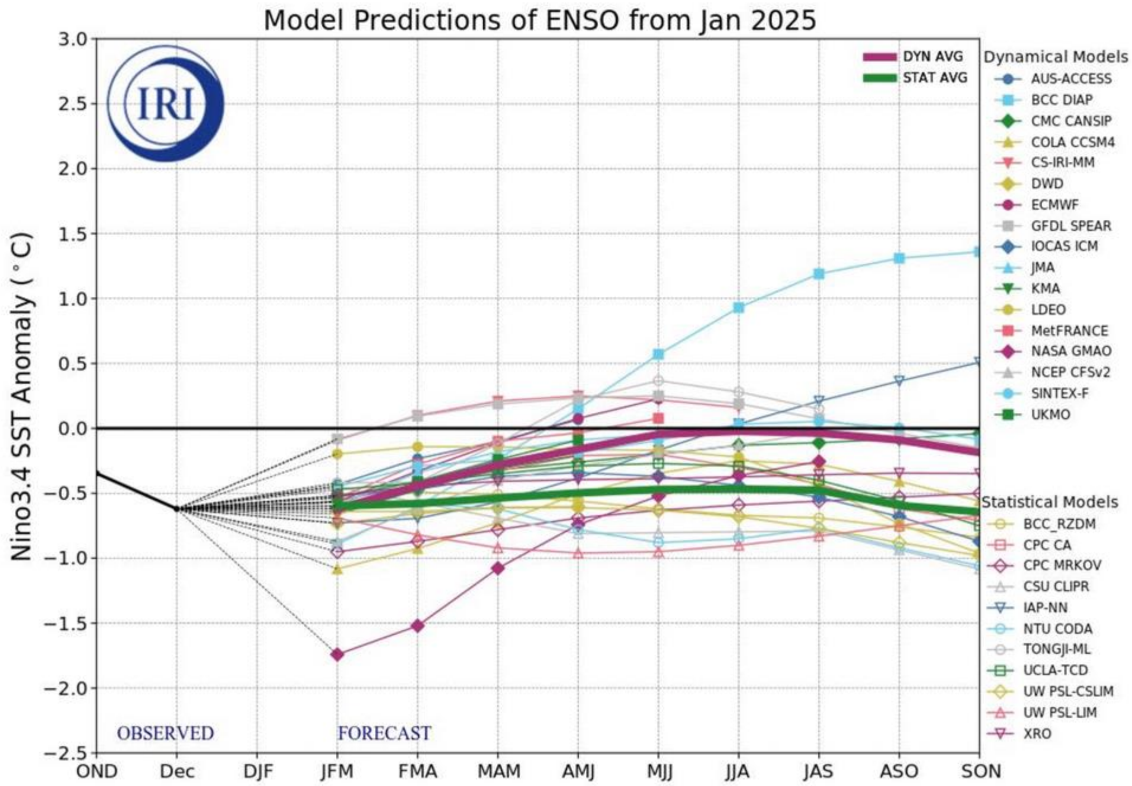


Figure 6. Forecasts of sea surface temperature (SST) anomalies for the Niño 3.4 region (5°N-5°S, 120°W-170°W). Figure updated 21 January 2025 by the International Research Institute (IRI) for Climate and Society.

Stay tuned into CCGCD's website, as more La Niña education will be provided. However, there may be a need to begin transitioning away from La Niña education and turning to education of ENSO neutral conditions to help us prepare for what is to come this spring and summer.