EL NIÑO/SOUTHERN OSCILLATION (ENSO) DIAGNOSTIC DISCUSSION

issued by

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ENSO Alert System Status: La Niña Advisory

<u>Synopsis:</u> La Niña conditions are present and favored to persist through December 2025 - February 2026, with a transition to ENSO-neutral likely in January-March 2026 (55% chance).

La Niña conditions emerged in September 2025, as indicated by the expansion of below-average sea surface temperatures (SSTs) across the central and eastern equatorial Pacific Ocean (Fig. 1). The latest weekly Niño-3.4 index value was -0.5°C, with other regions remaining at or between -0.1°C and -0.4°C (Fig. 2). Negative subsurface temperature anomalies persisted (averaged from 180°-100°W; Fig. 3), with below-average temperatures prevailing from the surface to 200m depth in the eastern half of the equatorial Pacific (Fig. 4). Over the western and east-central equatorial Pacific, low-level wind anomalies were easterly and upper-level wind anomalies were westerly. Convection continued to be enhanced over Indonesia and was suppressed near the Date Line (Fig. 5). The equatorial Southern Oscillation index was positive. Collectively, the coupled ocean-atmosphere system reflected La Niña conditions.

The IRI multi-model predictions favor La Niña through the Northern Hemisphere winter 2025-26 (Fig. 6). The North American Multi-Model Ensemble is also in agreement, and based on recently observed anomalies, the team favors La Niña to continue through winter. At this time, La Niña is expected to remain weak (3-month average Niño-3.4 index value at or between -0.5°C and -0.9°C). A weak La Niña would be less likely to result in conventional winter impacts, though predictable signals could still influence the forecast guidance (e.g., CPC's seasonal outlooks). In summary, La Niña conditions are present and favored to persist through December 2025 - February 2026, with a transition to ENSO-neutral likely in January-March 2026 (55% chance; Fig. 7).

This discussion is a consolidated effort of the National Oceanic and Atmospheric Administration (NOAA), NOAA's National Weather Service, and their funded institutions. Oceanic and atmospheric conditions are updated weekly on the Climate Prediction Center website (El Niño/La Niña Current Conditions and Expert Discussions). A probabilistic strength forecast is available here. The next ENSO Diagnostics Discussion is scheduled for 13 November 2025. To receive an e-mail notification when the monthly ENSO Diagnostic Discussions are released, please send an e-mail message to: ncep.list.enso-update@noaa.gov.

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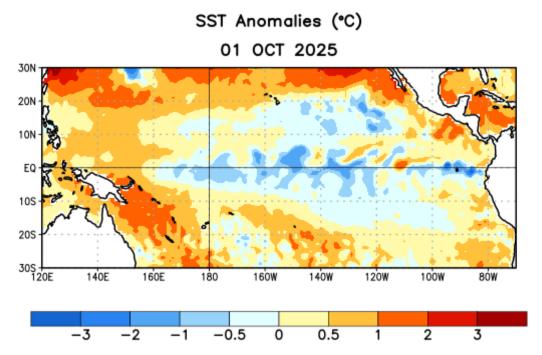


Figure 1. Average sea surface temperature (SST) anomalies (°C) for the week centered on 1 October 2025. Anomalies are computed with respect to the 1991-2020 base period weekly means.

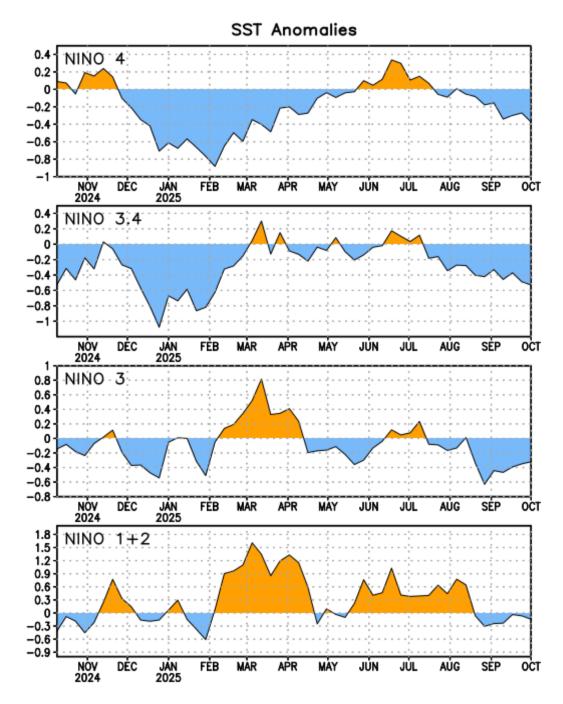


Figure 2. Time series of area-averaged sea surface temperature (SST) anomalies (°C) in the Niño regions [Niño-4 (5°N-5°S, 150°W-160°E), Niño-3.4 (5°N-5°S, 170°W-120°W), Niño-3 (5°N-5°S, 150°W-90°W), Niño-1+2 (0°-10°S, 90°W-80°W)]. SST anomalies are departures from the 1991-2020 base period weekly means.

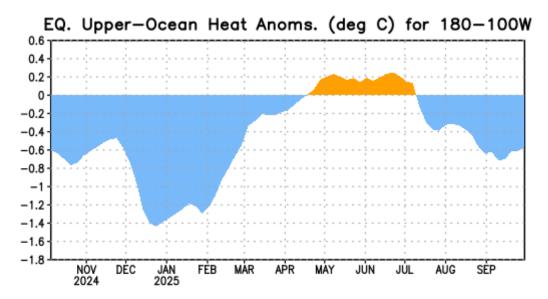


Figure 3. Area-averaged upper-ocean heat content anomaly (°C) in the equatorial Pacific (5°N-5°S, 180°-100°W). The heat content anomaly is computed as the departure from the 1991-2020 base period pentad means.

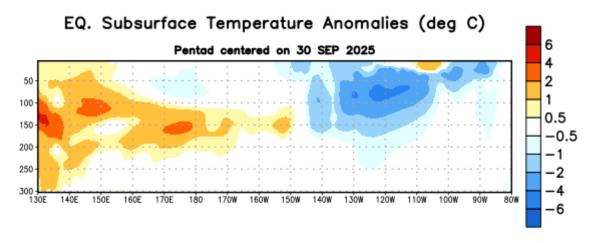


Figure 4. Depth-longitude section of equatorial Pacific upper-ocean (0-300m) temperature anomalies (°C) centered on the pentad of 30 September 2025. Anomalies are departures from the 1991-2020 base period pentad means.

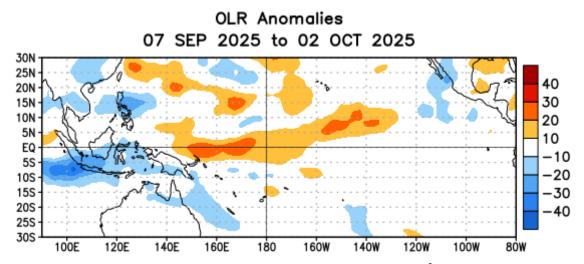


Figure 5. Average outgoing longwave radiation (OLR) anomalies (W/m^2) for the period 7 September – 2 October 2025. OLR anomalies are computed as departures from the 1991-2020 base period pentad means.

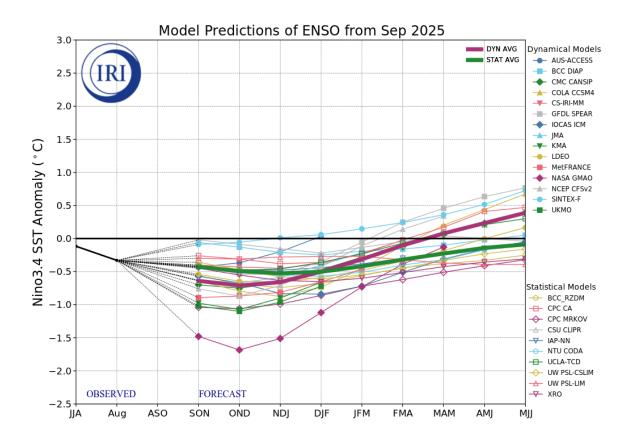


Figure 6. Forecasts of sea surface temperature (SST) anomalies for the Niño 3.4 region (5°N-5°S, 120°W-170°W). Figure updated 19 September 2025 by the International Research Institute (IRI) for Climate and Society.

Official NOAA CPC ENSO Probabilities (issued October 2025)

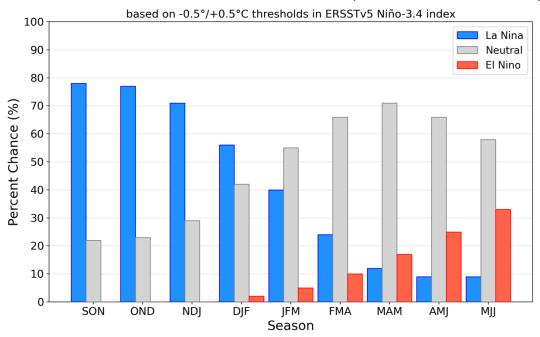


Figure 7. Official ENSO probabilities for the Niño 3.4 sea surface temperature index (5°N-5°S, 120°W-170°W). Figure updated 9 October 2025.