WEATHER CLIMATE WATER

WORLD METEOROLOGICAL ORGANIZATION

El Niño/La Niña Update

AUGUST

Current Situation and Outlook

As of mid-August 2025, oceanic and atmospheric indicators continue to reflect ENSO-neutral conditions, which have persisted since March 2025, with sea surface temperature anomalies remaining near average across the equatorial Pacific. However, these conditions are likely to gradually make way for La Niña conditions to emerge in the coming months, potentially starting in September 2025. According to the latest forecasts from the WMO Global Producing Centres for Seasonal Prediction, there is a 55% chance for sea surface temperatures in the equatorial Pacific to cool to La Niña levels, and a 45% chance for them to remain at ENSO-neutral levels during the upcoming September–November 2025 period. For October–December 2025, the probability of La Niña establishment slightly increases to about 60%, while the chances for ENSO-neutral conditions to persist decrease to around 40%. The chances of El Niño developing during the September–December period are negligible. National Meteorological and Hydrological Services (NMHSs) will closely monitor changes in the state of ENSO over the coming months and provide updated outlooks as needed.

As of mid‑August 2025, ENSO‑neutral conditions continue to prevail over the entire equatorial Pacific. Sea surface temperatures have remained within the typical ENSO‑neutral range, with slightly below‑average values across the central and eastern equatorial Pacific, and slightly above-average values observed in the far eastern equatorial Pacific. Since early August 2025, cooler subsurface ocean temperatures have gradually expanded across the central–eastern equatorial Pacific (150°W to 100°W), while weak warm anomalies have persisted at depth in the western Pacific and far eastern Pacific. Recent outgoing longwave radiation (OLR) data indicate reduced cloudiness across the International Date Line. However, the Southern Oscillation Index (SOI)—calculated as the standardized sea‑level pressure difference between Tahiti and Darwin—has remained within the ENSO‑neutral range. Collectively, these oceanic and atmospheric indicators confirm that the coupled ocean–atmosphere system in the equatorial Pacific currently remains consistent with ENSO‑neutral conditions.

WMO Global Producing Centres for Seasonal Prediction routinely issue global-scale climate forecasts for the coming months, using dynamical models initialized with recent observations. The latest forecasts and expert assessments indicate approximately 55% chance for La Niña conditions to develop in the central to eastern equatorial Pacific from September to November 2025, while the chances that ENSO-neutral conditions will continue are estimated at around 45% for the same period. Looking further ahead, the chance of La Niña conditions to develop increases to approximately 60% in October-December 2025, while the probability for ENSO-neutral conditions to continue decreases to around 40%. There is practically no chance of El Niño developing during the next four months. Uncertainty in the long-lead ENSO forecasts is now decreasing, as the boreal spring predictability barrier is now nearly over, marking the transition into a period of higher forecast skill and predictability.

It is important to note that El Niño and La Niña are not the only factors that drive global and regional climate patterns, and further that the magnitudes of ENSO indicators do not directly correspond to the magnitudes of their effects. At the regional level, seasonal outlooks need to assess the relative effects of both the ENSO state and other locally relevant climate drivers. Regionally and locally applicable information is made available via regional and national seasonal climate outlooks, such as those produced by WMO Regional Climate Centres (RCCs), Regional Climate Outlook Forums (RCOFs) and National Meteorological and Hydrological Services (NMHSs).

In summary:

- As of mid-August 2025, ENSO-neutral conditions persist over the tropical Pacific.
- Model predictions and expert assessments indicate a possible transition to La Niña conditions, with a 55% probability during September–November 2025 and a 60% probability during October-December 2025, while the continuation of the ENSO-neutral conditions is estimated at 45% and 40% respectively.
- The likelihood of El Niño conditions emerging during the forecast period (September to December, 2025) is negligible.

The state of ENSO will continue to be carefully monitored by WMO Members and partners. More detailed interpretations of the implications for regional climate variability will be carried out routinely by the climate forecasting community over the coming months and will be made available through the National Meteorological and Hydrological Services.

For web links of the National Meteorological Hydrological Services, please visit:

https://public.wmo.int/en/about-us/members

For the latest Global Seasonal Climate Update (GSCU) based on WMO Global Producing Centres of Seasonal Prediction, please visit:

https://www.wmolc.org/gscuBoard/list

An archive of all WMO El Niño/La Niña Updates issued so far, including this one, is available at:

https://wmo.int/el-ninola-nina-updates

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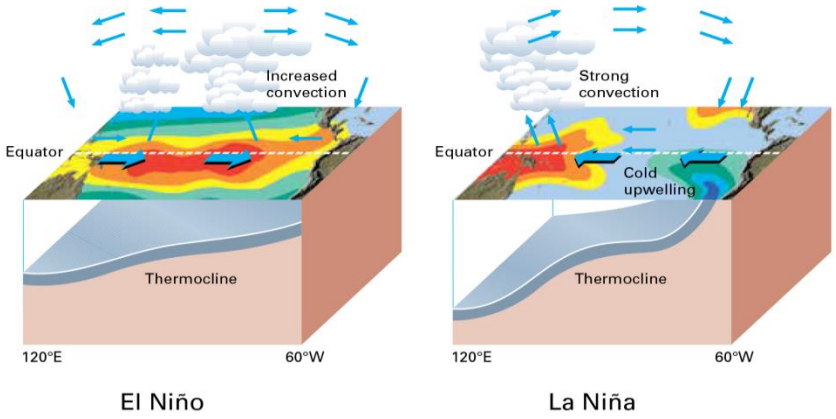
El Niño/La Niña Background



Typical circulation patterns during El Niño/La Niña (Source: WMO, 2003, "Climate into the 21st Century").

Climate Patterns in the Pacific

Research conducted over recent decades has shed considerable light on the important role played by interactions between the atmosphere and ocean in the tropical belt of the Pacific Ocean in altering global weather and climate patterns. During El Niño events, sea surface temperatures in the central and eastern tropical Pacific Ocean become substantially warmer than normal. In contrast, during La Niña events, the sea surface temperatures in these regions become colder than normal. These temperature changes are strongly linked to major climate fluctuations around the globe and, once initiated, such events can last for 12 months or more. The strong El Niño event of 1997–1998 was followed by a prolonged La Niña phase that extended from mid-1998 to early 2001. El Niño/La Niña events change the likelihood of particular climate patterns around the globe, but the outcomes of each event are never exactly the same. Furthermore, while there is generally a relationship between the global impacts of an El Niño/La Niña event and its intensity, there is always potential for an event to generate serious impacts in some regions irrespective of its intensity.

Forecasting and Monitoring the El Niño/La Niña Phenomenon

The forecasting of Pacific Ocean developments is undertaken in a number of ways. Complex dynamical models project the evolution of the tropical Pacific Ocean from its currently observed state. Statistical forecast models can also capture some of the precursors of such developments. Expert analysis of the current situation adds further value, especially in interpreting the implications of the evolving situation below the ocean surface. All forecast methods try to incorporate the effects of ocean-atmosphere interactions within the climate system. The meteorological and oceanographic data that allow El Niño and La Niña episodes to be monitored and forecast are drawn from national and international observing systems. The exchange and processing of the data are carried out under programmes coordinated by the WMO.

WMO El Niño/La Niña Update

The WMO El Niño/La Niña Update is prepared on a quasi-regular basis (approximately every three months) through a collaborative effort between WMO and the International Research Institute for Climate and Society (IRI) as a contribution to the United Nations Inter-Agency Task Force on Natural Disaster Reduction. It is based on contributions from the leading centres around the world monitoring and predicting this phenomenon and expert consensus facilitated by WMO and IRI.

For more information on the Update and related aspects, please visit:
https://public.wmo.int/en/our-mandate/climate/el-niñola-niña-update