ENSO Transition: La Niña Weakening Toward Neutral Phase

EngineHouse Analysis

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Overview

Tropical Pacific sea surface temperatures and key atmospheric-oceanic indicators signal a transition away from the current weak La Niña episode toward neutral ENSO conditions. World Meteorological Organisation forecasts indicate a 60% probability of neutral conditions dominating the central and eastern equatorial Pacific through May 2026, with declining likelihood of La Niña persistence. This transition carries significant implications for regional climate variability and global weather patterns over the coming months.

SECTION 2

Main Findings

What the evidence shows

Key Findings

- Weakening La Niña signal: Since mid-February 2026, tropical Pacific sea surface temperatures and regional atmospheric-oceanic indicators show the current weak La Niña episode is losing intensity. This matters because La Niña episodes drive distinct precipitation and temperature patterns across the tropics and subtropics; their decay signals an imminent shift in global climate forcing. The implication is that regions currently experiencing La Niña-typical conditions—enhanced rainfall in parts of Southeast Asia and the western Pacific, suppressed rainfall in the eastern Pacific—should expect pattern disruption.
- Neutral conditions emerging as dominant outcome: WMO seasonal forecast centres project 60% probability of neutral ENSO conditions in the central and eastern equatorial Pacific from March to May 2026, compared to lower probability of La Niña persistence. This matters because neutral phases represent a baseline state with reduced predictability and weaker teleconnections to regional climates. The implication is that forecasters face increased uncertainty in seasonal outlooks for affected regions, and climate-sensitive sectors must prepare for reduced signal strength in traditional ENSO-based prediction models.
- Systematic monitoring and expert interpretation ongoing: WMO members and partners are conducting continuous ENSO monitoring with periodic expert interpretation of regional climate effects to be disseminated through national meteorological services. This matters because timely, detailed regional impact assessments are essential for adaptation planning in vulnerable sectors. The implication is that decision-makers should expect refined forecasts of regional consequences in coming months, enabling more targeted climate risk management.

SECTION 3

Evidence

Key passages from the source

Key Passages

- Observational basis for transition: 'Since mid-February 2026, tropical Pacific sea surface temperatures, together with the principal atmospheric and oceanic indicators of the region, demonstrate that recent conditions associated with the current weak La Niña episode are losing vigour and giving way to neutral conditions with respect to the El Niño-Southern Oscillation (ENSO) phenomenon.' This establishes the empirical foundation for the transition signal—direct measurement of ocean temperatures and coupled atmosphere-ocean indices show clear directional change.
- Probabilistic forecast for neutral dominance: 'According to the latest forecasts and expert assessments, the probability that neutral ENSO conditions will prevail in the central and eastern equatorial Pacific zones from March to May 2026 is 60%, while the probability that conditions indicative of a La Niña episode will persist is [lower].' This quantifies the shift in forecast confidence toward neutral conditions, reflecting model consensus across WMO's global production centres.
- Institutional commitment to regional interpretation: 'WMO Members and partners will continue to monitor ENSO evolution closely. Over the coming months, climate prediction experts will periodically develop more detailed interpretations of its effects on regional climate variability, which will be disseminated by National Meteorological and Hydrological Services.' This signals that generic global forecasts will be translated into actionable regional climate intelligence.

ENSO Phase Transition Schematic

Visual representation of the transition from weak La Niña phase toward neutral ENSO conditions, showing typical atmospheric circulation patterns and sea surface temperature anomalies for each phase.

diagram

SECTION 4

Consequences

Human and systemic impacts

Human and Systemic Consequences

The transition from weak La Niña toward neutral ENSO conditions creates both direct and indirect climate impacts across vulnerable populations. Mortality risk shifts as regional precipitation and temperature patterns weaken their current La Niña signature: regions dependent on enhanced monsoon rainfall (parts of Southeast Asia, East Africa) face reduced predictability of water availability, increasing heat stress mortality during dry spells; conversely, areas experiencing suppressed rainfall under La Niña may see temporary relief, though the transition period itself introduces volatility. Affordability pressures emerge for agricultural and water-dependent economies as seasonal forecasting confidence declines—farmers and water managers accustomed to La Niña-based planning must adapt to reduced signal strength, increasing input costs and operational uncertainty. Displacement risks are moderate but non-trivial: regions experiencing marginal water stress under La Niña may face acute shortages during the neutral transition if monsoon patterns shift abruptly, potentially triggering temporary migration. Systemic effects are substantial: the shift toward neutral conditions reduces the predictive power of ENSO-based climate services that many developing nations rely upon for seasonal planning, weakening early warning systems and forcing a recalibration of climate adaptation strategies across agriculture, hydropower, fisheries, and public health sectors. The loss of a strong climate signal also complicates attribution of weather extremes to underlying climate change, potentially obscuring long-term warming trends during the neutral phase.

SECTION 5

Why This Matters

Broader significance

Significance

This ENSO transition marks a critical inflection point in global seasonal climate predictability. The shift from a weak but identifiable La Niña signal toward neutral conditions represents a reduction in climate forcing coherence—the loss of a strong, globally-coordinated ocean-atmosphere driver that typically anchors seasonal forecasts and regional adaptation planning. For climate-vulnerable regions and sectors, this transition period introduces forecast uncertainty precisely when decision-makers need clarity; it also signals the need for enhanced investment in sub-seasonal and local-scale prediction capabilities to compensate for reduced ENSO signal strength. The WMO's commitment to detailed regional interpretation suggests recognition that generic neutral-phase forecasts are insufficient—the institutional response itself indicates the severity of the predictability challenge ahead.

Sources & Provenance

- World Meteorological Organisation (WMO) Seasonal Climate Forecast Bulletin, April 2026. Spanish-language source material covering ENSO status, WMO Global Production Centres forecasts, and institutional monitoring protocols.
- WMO Global Production Centres for Long-Range Forecasts: Dynamic climate models and expert assessments underlying probabilistic ENSO forecasts for March–May 2026.
- WMO reference material on ENSO atmospheric-oceanic circulation patterns and historical climate characteristics during El Niño and La Niña episodes (WMO, 2003, Climate into the 21st Century).