16TH SESSION OF THE PACIFIC ISLANDS CLIMATE OUTLOOK FORUM PICNE-16

23 APRIL, 2025 **ONLINE: ZOOM**





















OCEAN OUTLOOK

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Seasonal outlook for ocean variables Focus on Sea Surface Temperature and Sea Level Start with El Nino state



Historical Nino 3.4 Sea Surface Temperature Anomaly







Mid-March 2025 IRI Model-Based Probabilistic ENSO Forecasts





La Niña Forecast Probability

- Neutral Forecast Probability
- El Niño Forecast Probability
- La Niña Climatology
- Neutral Climatology
- El Niño Climatology _____



NDJ

NWS/NCEP/CPC



Last update: Mon Apr 21 2025 Initial conditions: 22Mar2025-31Mar2025





As of mid-March 2025, the equatorial Pacific is transitioning from weak La Niña conditions to a ENSO-neutral state.

- Sea surface temperatures in the Niño 3.4 region are now closer to average, with • anomalies at -0.35°C for Feb, 2025, well above the -0.5°C threshold required for La Niña conditions.
- The ENSO plume forecast indicates a high probability (91%) for ENSO-neutral conditions from Mar-May 2025, and these conditions are favored to continue through Sep-Nov 2025.
- For Oct-Dec 2025 and Nov-Jan 2025/26, there is no strong preference for any category, although La Niña is slightly favored over ENSO-neutral.
- The probability of El Niño remains very low throughout the forecast period, • increasing gradually from 1% in Apr-Jun to 20% in Nov-Jan 2025/26.



https://www.cpc.ncep.noaa.gov/products/CFSv2/CFSv2seasonal.shtml

CFSv2 seasonal SST anomalies (K)



https://www.cpc.ncep.noaa.gov/products/CFSv2/CFSv2seasonal.shtml





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Initial conditions: 19Mor2025-28Mor2025

Last update: Fri Apr 18 2025



NWS/NCEP/CPC

CFSR sea surface height (0.01 m)



Caption of image/diagram

Source:

CFSv2 seasonal SSH (0.01 m)



Model forecast (CFSv2: initialized 20250302-20250331) Lead = 3.5 months (202506)



Sea Level Anomalies: June 2025

Source: https://uhslc.soest.hawaii.edu/sea-level-forecasts/

Model forecast (CFSv2: initialized 20250302-20250331) Lead = 4.5 months (202507)



Sea Level Anomalies: July 2025

Source: https://uhslc.soest.hawaii.edu/sea-level-forecasts/





2025 Apr 15 NOAA Coral Reef Watch 60% Probability Coral Bleaching Heat Stress for Apr-Jul 2025. Experimental, v5.0, CFSv2-based, 28 to 112 Ensemble Members







2025 Apr 15 NOAA Coral Reef Watch Bleaching Heat Stress Probabilities (Alert 1 & 2) for Apr-Jul 2025 Experimental, v5.0, CFSv2-based, 28 to 112 Ensemble Members

2025 Apr 15 NOAA Coral Reef Watch Bleaching Heat Stress Probabilities (Warning & Higher) for Apr-Jul 2025 Experimental, v5.0, CFSv2-based, 28 to 112 Ensemble Members



Experimental, v5.0, CFSv2-based, 28 to 112 Ensemble Members 180 -16D -14014D 160120120 140 180 -160-140 160 < 10 10-20 20-30 30-40 40-50 50-60 60-70 70-80 80-90 90-99 100 % Probability percent **Bleaching Probabilities Apr-Jul 2025: Watch**

2025 Apr 15 NOAA Coral Reef Watch Bleaching Heat Stress Probabilities (Watch & Higher) for Apr-Jul 2025 Experimental, v5.0, CFSv2-based, 28 to 112 Ensemble Members

Source:

https://coralreefwatch.noaa.gov/satellite/bleachingoutlook_cfs/outlook_cfs.php/



Summary

- possible mild La Nina conditions
- North Pacific expected to see slightly neutral to 0.5°C
- Sea level anomalies also low, high in
 - the western N. Pacific then dropping
- Coral stress continues













Pacific expected to be enter neutral or higher SST's (1°C) while most locations























