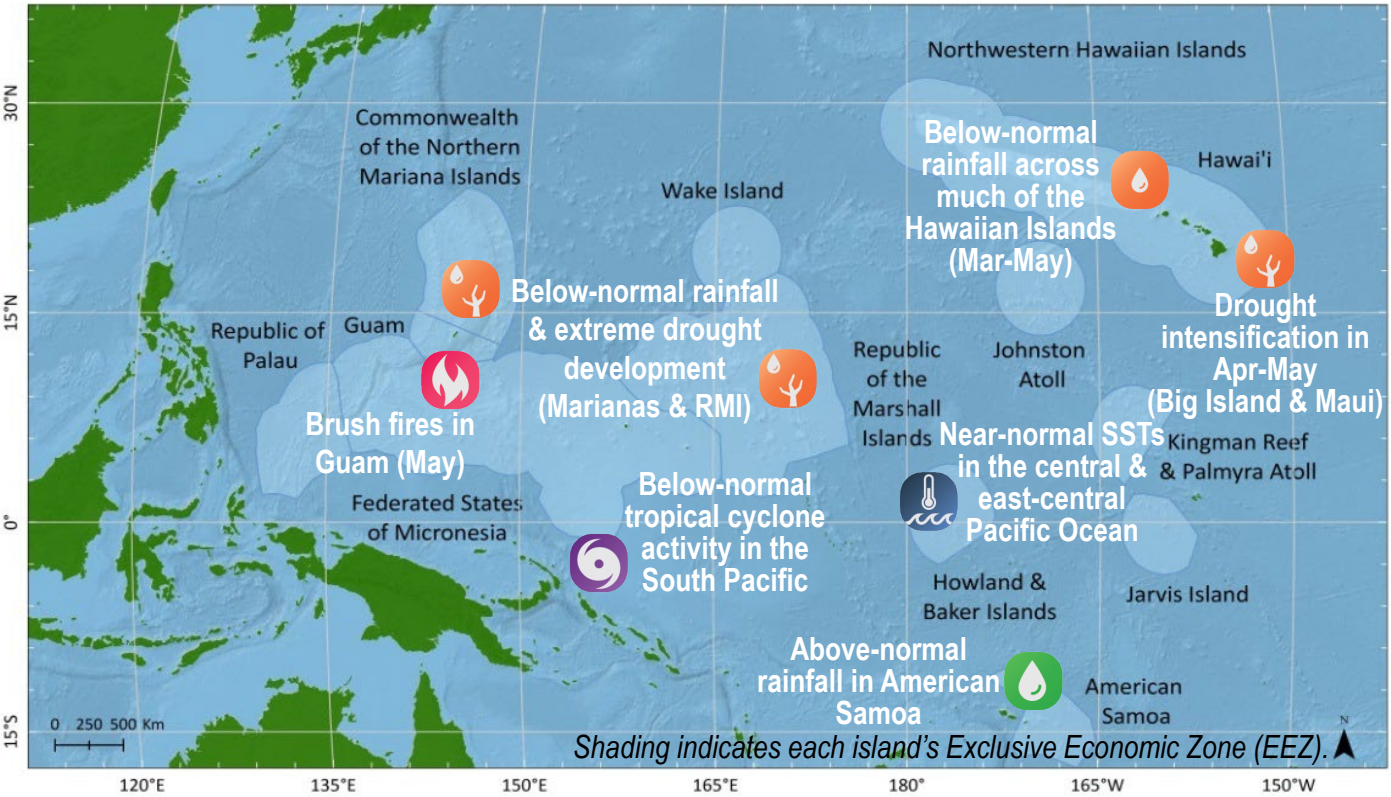
Significant Events – *For March–May 2025*



Highlights for Hawaii and the U.S. Affiliated Pacific Islands

- During the March-May period (MAM), ENSO-neutral conditions (Oceanic Niño Index [ONI] = -0.1ºC for MAM) were observed with near-average sea surface temperatures (SSTs) across the east-central equatorial Pacific Ocean. Currently, ENSO-neutral conditions are present and expected to persist through the Northern Hemisphere summer 2025 (82% chance in June-August) and may continue into winter 2025-26 (48% chance of ENSO-neutral and 41% chance of La Niña), according to the latest (6/12/25) ENSO status update by NOAA Climate Prediction Center (CPC).
- For the MAM period, above-normal precipitation was observed across areas of the U.S. Affiliated Pacific Islands (USAPI) including portions of the Federated States of Micronesia (FSM), isolated areas of the Republic of the Marshall Islands (RMI), Palau, and American Samoa. Conversely, below-normal rainfall was observed across much of RMI and in the Mariana Islands, where severe-to-extreme drought developed during May in areas including Wotje, Kwajalein, Guam, Rota, and Saipan. In the Hawaiian Islands, drier-than-normal conditions prevailed across much of the island chain during MAM. Drought conditions improved during March; however, re-emerged and intensified (April-May) on the Big Island, Maui, and Molokai, while drought-related conditions improved (May) in Kauai and Oahu.
- According to reanalysis data, near-normal to below-normal SSTs were generally observed (MAM) across an area extending from the west-central equatorial Pacific Ocean to the east-central equatorial Pacific Ocean. In the western tropical Pacific Ocean (west of 150ºE) and Niño 1+2 , SSTs were slightly above normal.

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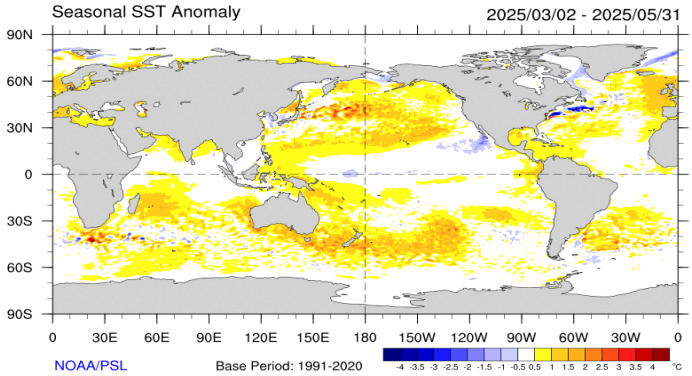
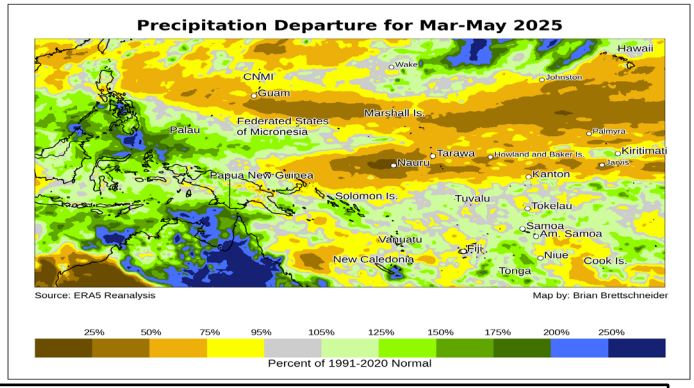
Climate Overview – *For March–May 2025*





Seasonal sea surface temperature anomaly map for 3/2/25 to 5/31/25 (left) and 3-month seasonal precipitation departures from normal for the March–May 2025 period for the central and western tropical Pacific Ocean with warmer colors representing drier-than-normal conditions and cooler colors wetter-than-normal conditions (right).
Source: NOAA Physical Sciences Laboratory; ERA5 Reanalysis, B. Brettschneider, National Weather Service (right).

By the end of the MAM period, SSTs were near to slightly below normal across the central and east-central tropical Pacific Ocean, while normal SSTs were present in the tropical western Pacific Ocean. According to the NOAA CPC update (6/2/25), Niño region SST departures were as follows: Niño 3.4 at -0.1ºC, Niño 3 at -0.3ºC, Niño 1+2 at 0.8ºC, and Niño 4 at 0.1ºC.

Below-normal sea levels (~-5 to -15 cm anomalies) were observed in proximity to the equator (from ~5ºN to ~5ºS) during the March-April 2025 period in an area extending from the west-central Pacific Ocean through the east-central Pacific Ocean. By May, near-normal anomalies (~-5 to -+5 cm) prevailed across much of the central and eastern tropical Pacific Ocean. Conversely, above-normal sea levels were observed in areas around the Hawaiian Islands as well as across much of the tropical western Pacific (from ~5ºN to ~20ºN), including in the Mariana Islands and areas of western FSM (~+5 to +15 cm anomalies), according to data from the University of Hawaii Sea Level Center.

During the MAM period, drought-free conditions prevailed across areas of the USAPI including central FSM, Palau, and American Samoa, while drought developed and intensified in areas of RMI (Utirik, Wotje, Kwajalein), FSM (Pingelap), and the Marianas (Guam, Rota, Saipan). For MAM precipitation totals, Airai (Palau) recorded 34.02 in. (113% of normal). In FSM, Yap observed 21.21 in. (110% of normal), Kapingamarangi 28.23 in. (80% of normal), Pohnpei 47.8 in. (87% of normal), Lukunor 38.78 in. (110% of normal), Kosrae 55.76 in. (103% of normal), and Chuuk 28.36 in. (90% of normal). In the Mariana Islands, Saipan observed 6.96 in. (115% of normal) and Guam 7.47 in. (70% of normal). In the RMI, Majuro observed 35.85 in. (126% of normal), while Kwajalein logged 9.46 in. (61% of normal; 12th driest). In Pago Pago, American Samoa, precipitation for MAM was well above normal (52.09 in., 157% of normal; 4th wettest). For May, Pago Pago observed very wet conditions with 27.32 in. (256% of normal; 2nd wettest). In the Hawaiian Islands, dry conditions prevailed across much of the region with drought conditions persisting in Molokai, Maui, and Big Island. For the MAM period, Lihue observed 4.8 in. (49% of normal; 13th driest), Honolulu 2.71 in. (69% of normal), Molokai 1.93 in. (34% of normal; 5th driest), Kahului 1.58 in. (34% of normal; 7th driest), Kailua-Kona 3.44 in. (154% of normal), and Hilo 15.39 in. (53% of normal; 5th driest). Despite the broader dryness observed across the Hawaiian Islands, heavy rainfall and flash flooding were observed in Kauai (northern, western) during April with the National Weather Service (NWS) Kilohana observing station (southwest of Hanalei) logging 27.29 in. for the month. Moreover, heavy rainfall accumulations and flash flooding were observed in areas of North Kona (May) with the NWS Waiaha observing station reporting 12.16 in.

In the South Pacific region (east of 135ºE), tropical cyclone (TC) activity was below normal, with 5 named storms and a regional Accumulated Cyclone Energy (ACE) Index of 38.7 (normal 68.8) by 5/31/25, according to the Colorado State University Tropical Meteorology Project. In the Western North Pacific, it was the 4th latest start (6/15) to the TC season.

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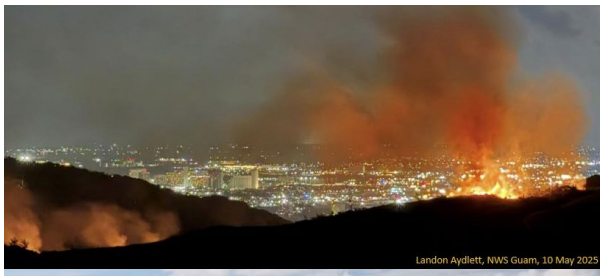
Sectoral Impacts – *For March–May 2025*



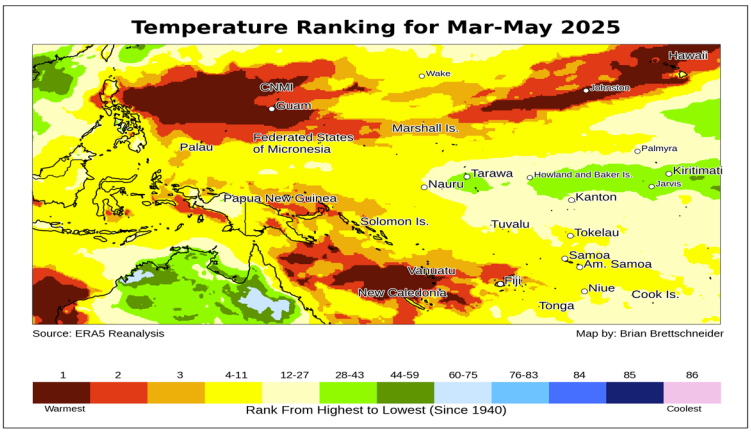
Brush fire activity observed in Guam (May 2025).
Source: NWS WFO Guam (top); Farron Taijeron (bottom).

Trail crew from the National Park of American Samoa clearing debris from recent landslide activity due to heavy rains and saturated soils (May 2025).
Source: National Park Service.

High surf and coastal flooding observed (5/7/25) in Coconut Point, Tutuila Island, American Samoa.
Source: NWS WSO, Pago Pago.

Facilities and Infrastructure – In American Samoa, heavy rainfall during the MAM period led to numerous flash flooding incidents including in the villages of Magusaga, Nu'uuli, Pago Pago, and Tafuna. Moreover, landslides were reported in the National Park of American Samoa as well as between the villages of Aua and Afona, which impacted travel along Route 006.

Heat/Wildfire – In the western Pacific, anomalously warm air temperatures were observed during the MAM period in areas of the Marianas, FSM, RMI, and Hawaiian Islands (below). In the Mariana Islands, Saipan Intl. Airport observed its 3rd warmest March on record with a mean average temperature of 82.4ºF. In American Samoa, Papo Pago AP broke daily maximum temperature records (all reaching 89ºF) on 14 separate days in March. In the Hawaiian Islands, observing stations at Lihue (Kauai) and Honolulu Intl. Airport (Oahu) both logged their warmest March mean average temperatures (75.4ºF, 77.8ºF, respectively) on record, while Molokai and Kona airports both observed their 2nd warmest March mean average temperatures on record. In Guam, numerous brush fires were reported during May (upper left).



2-meter surface air temperature rankings for the March-May 2025 period for the Pacific Ocean region.
Source: ERA5 Reanalysis, B. Brettschneider, NWS.

Water Resources – In Majuro (RMI), reservoir storage reached 60% of total capacity (36,000,000 gallons) on 5/31/25. Across the Hawaiian Islands, 28-day average streamflows (6/4/25) were below normal at numerous USGS gauging stations on the Big Island and Maui, including along Hawaii's longest river, Wailuku River (8th percentile), at Piihonua, Hawaii.

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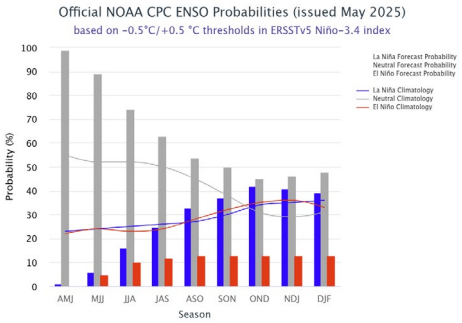
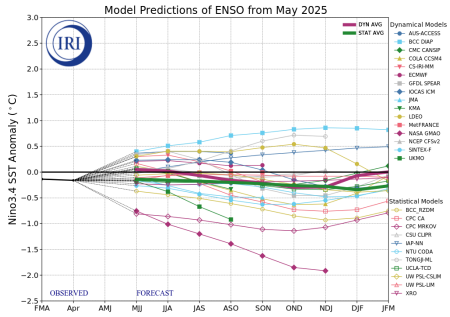
Seasonal Outlook – *For June–August 2025*



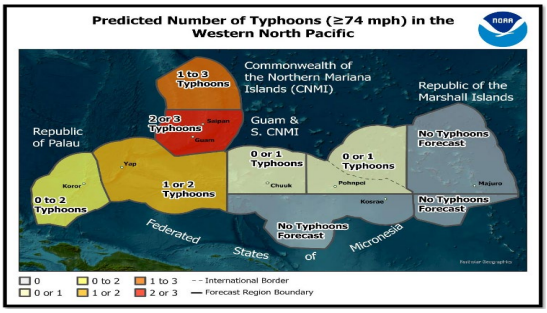


Forecast for each of the three possible ENSO categories for the next 8 overlapping 3-month seasons. Blue bars show the chances of La Niña, gray bars the chances for neutral, and red bars the chances for El Niño (left); and ENSO forecast model predictions (right). Source: NOAA CPC (left); Columbia University IRI (right).

According to the latest NOAA CPC ENSO Diagnostic Discussion (6/12/25), ENSO-neutral conditions are expected to persist through the Northern Hemisphere summer (82% chance) and may continue into winter 2025-26 (48% chance of ENSO-neutral and 41% chance of La Niña in Nov-Jan). In terms of seasonal sea level anomalies, NOAA NCEP CFSv2 models suggest a dip in the equatorial central and eastern Pacific, while elevated levels are expected across much of the western tropical Pacific and around the Hawaiian Islands, according to the University of Hawaii Sea Level Center.

The NOAA Coral Reef Watch four-month coral bleaching heat stress outlook (Jun-Sep 2025) calls for a high probability (90%) of high heat stress (Alert Level 1-2) developing in the tropical western Pacific Ocean in proximity to the equator, including areas southern FSM, Admiralty Islands, and New Guinea.

According to NOAA's central Pacific hurricane season outlook (5/15/25), there is a 30% chance of below-normal tropical cyclone activity with 1-4 TCs (normal 4 to 5) expected, 50% chance of near-normal, and 20% chance of above-normal. In the Western North Pacific, the NOAA's TC Outlook calls for below-normal activity for FSM, and RMI, while near-normal activity is expected for Guam, CNMI, Yap State (western FSM), and the Republic of Palau.



Predicted number of tropical cyclones of typhoon (≥74 mph sustained winds) intensity for June to December 2025. Source: NOAA NWS WFO Guam.

For the Jun-Aug 2025 precipitation forecast, above-normal rainfall amounts are favored for Palau and areas of western and southern FSM. Elsewhere, below-normal precipitation is expected for areas of northern FSM, northern RMI, American Samoa, and across much of the Hawaiian Islands.

Regional Partners

NOAA Coral Reef Watch:
https://coralreefwatch.noaa.gov/

NOAA National Centers for Environmental Information:
https://www.ncei.noaa.gov/

NOAA NMFS Pacific Island Fisheries Science Center:
https://www.fisheries.noaa.gov/about/pacific-islands-fisheries-science-center

NOAA NWS Weather Forecast Offices Honolulu, Guam, & Pago Pago:
https://www.weather.gov/hfo/
https://www.weather.gov/gum/
https://www.weather.gov/ppg/

NOAA OceanWatch - Central Pacific Node:
https://oceanwatch.pifsc.noaa.gov/index.html

NPS Pacific Island Inventory & Monitoring Network:
https://www.nps.gov/im/pacn/index.htm

University of Guam - Water and Environmental Research Institute:
https://weri.uog.edu/

University of Hawaii - Asia Pacific Data Research Center (APDRC):
https://apdrc.soest.hawaii.edu/

University of Hawaii – Cooperative Institute for Marine & Atmospheric Research:
https://www.soest.hawaii.edu/jimar/index.htm

University of Hawaii - Sea Level Center:
https://uhslc.soest.hawaii.edu/

USGS Science Center - Pacific Coastal and Marine Science Center:
https://www.usgs.gov/pacific-coastal-and-marine-science-center

USGS Pacific Islands Water Science Center:
https://www.usgs.gov/pacific-coastal-and-marine-science-center

Western Regional Climate Center:
https://wrcc.dri.edu/

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