

## January 2024 Micronesia ENSO Update

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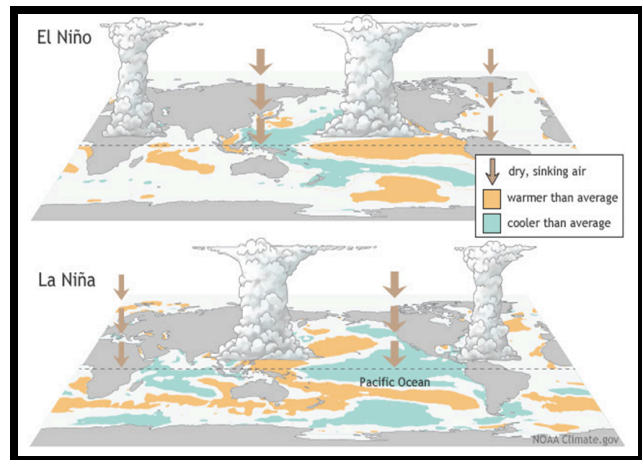
Released: Tuesday, January 9, 2024

### Key Points

- El Niño conditions expected to continue through the Northern Hemisphere winter
- El Niño expected to transition to ENSO-neutral during the late spring or early summer
- Increased chance of severe to extreme drought January through April/May 2024
- See Page 2 for El Niño impacts, preparedness actions and web links to resources

**WHAT IS EL NIÑO?:** The El Niño - Southern Oscillation (ENSO) is a climate pattern that occurs roughly every 3 to 7 years over the Pacific Ocean. The extremes of this oscillation are referred to as El Niño and La Niña.

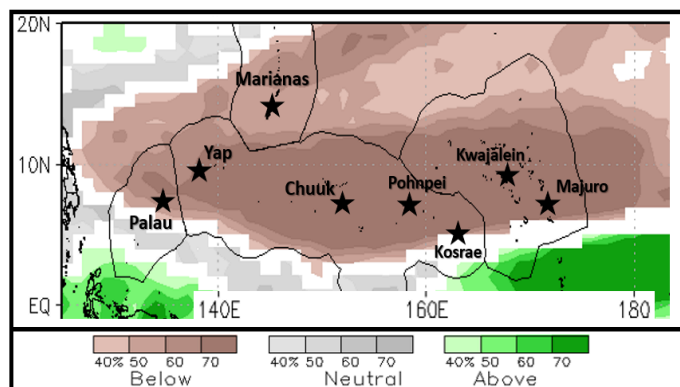
During an El Niño event, sea surface temperatures over the central and eastern Pacific become warmer than normal. The normal easterly trade winds weaken and sometimes, the winds will switch and blow from the west to the east. The result is drier weather conditions over the Western Pacific during the dry season months (January to April) which can impact food and water availability, like taro.



Mostly, El Niño conditions linger for a year, but sometimes longer. Conditions can start as early as March and typically peak in December.

**ENSO ALERT STATUS: EL NIÑO ADVISORY:** All international meteorological agencies have declared El Niño. Sea surface temperatures are above average across the central and eastern Pacific Ocean near the equator and atmospheric conditions across the tropical Pacific are consistent with El Niño. Large-scale tropical convection (large clusters of showers/thunderstorms) continues to focus closer to the Date Line. This is indicative of a mature El Niño during its traditional peak period.

**RAINFALL:** The El Niño 'wet phase' is ending as rainfall continues to decrease across the region. The El Niño 'dry phase' tends to be drier than normal with severe to extreme drought likely across many islands of the western North Pacific. Rainfall will continue to decrease across much of Micronesia as large-scale rainfall patterns focus closer to the equator and farther to the east, south of Hawaii. General guidance favors a drier than normal pattern for much of the region the next several months. Data provided from the



[North American Multi-Model Ensemble \(NMME\) model.](#)

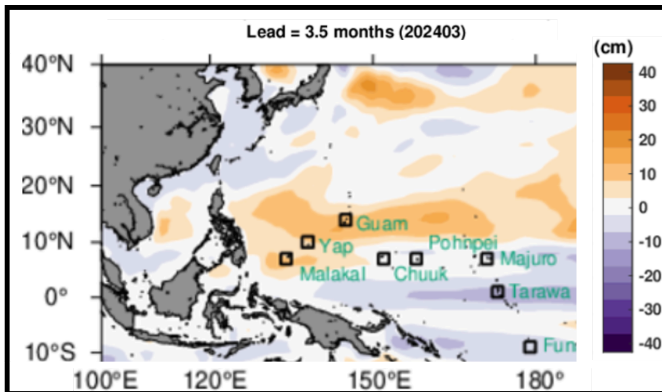


**TROPICAL CYCLONES (TCs):** The peak period for tropical cyclones has passed for much of the region. However, tropical cyclones can and do occur throughout the year in the western North Pacific.

**SEA LEVELS:** Sea levels are typically below normal across much of Micronesia during strong El Niño events from December to February. However, the ongoing El Niño has not acted as a classic El Niño. Some islands have experienced near-normal sea level heights recently, especially near and north of 10N latitude. High tide flooding remains a possibility based on local and regional weather patterns and is more likely to occur on these dates:

- ❖ Jan 11-15      new moon
- ❖ Jan 24-26      full moon
- ❖ Feb 8-13        new moon
- ❖ Feb 24-26      full moon
- ❖ Mar 8-14        new moon

It is important to note that large wave events and local storms/passing tropical disturbances could lead to coastal flooding and wave run-up despite El Niño's lower sea levels.



The image to the left, courtesy of the [University of Hawaii Sea Level Center \(UHSLC\)](#), shows forecast sea level heights (compared to normal) across the West Pacific for March 2024. Lower than normal sea level heights are projected to linger near the equator through March. The rest of Micronesia is favored to see sea levels increase gradually during the spring months as peak El Niño months fade.

*Image courtesy of M. Widlansky (UHSLC)*

**CORAL BLEACHING:** El Niño's dry phase increases concern for coral bleaching during the next several months - the greatest concern being impacts on shallow reef flats and lagoons. Drier, sunnier conditions, in combination with slightly lower than normal sea level heights, increases exposure of these marine areas to warmer temperatures. This leads to stress on coral colonies that may result in bleaching and possibly coral death.

**IMPACTS, PREPAREDNESS ACTIONS AND QUICK LINKS:**

**Drought:** Localized water supply shortages, negative impacts to crops and plants, and a greater risk of wildfires. Drought conditions are monitored closely by the [NWS Guam](#) and the [US Affiliated Pacific Islands \(USAPI\) US Drought Monitor](#). **Tropical Cyclones:** In general, keep up to date with regional weather forecasts and outlooks from NWS Guam. Tropical cyclones can, and do, occur year round in the western North Pacific. Visit the [Guam Homeland Security Typhoon Preparedness Tips](#) page for tips on keeping prepared throughout the year.

Note: Preparedness tips may vary greatly island to island. Contact your local Weather Office (WFO Guam, WSO Palau, WSO Yap, WSO Chuuk, WSO Pohnpei, WSO Majuro) and emergency management office for island-specific information.