



# NWS Climate Services

## April PEAC Audio Conference Call Summary

### 11 April, 1430 HST (12 April 2024, 0030 GMT)

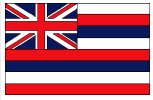


### March rainfall totals reported

% Normal: **blue** above normal & **red** below normal. Departure from normal: **blue**-above & **red**-below (same for 3 mon %)

	Rainfall	% Norm	Normal	Departure	3 mon %
	Inches	March	Inches	inches	JFM
Airai	3.56	46	7.67	-4.11	107
Yap	0.64	14	4.56	-3.92	57
Chuuk	3.30	40	8.32	-5.02	73
Pohnpei	12.02	91	13.17	-1.15	97
Kosrae	12.70	79	16.06	-3.36	95
Kwajalein	4.61	196	2.35	2.26	94
Majuro	1.08	16	6.58	-5.50	50
Guam NAS	1.62	78	2.07	-0.45	65
Saipan	1.57	83	1.89	-0.32	78
Pago Pago	8.93	84	10.68	-1.75	144
Lihue	0.89	34	2.59	-1.70	66
Honolulu	0.23	29	0.79	-0.56	108
Kahului	0.93	49	1.88	-0.95	116
Hilo	15.08	140	10.78	4.30	86

## Reports from around the Region



**Hawaii** (Kevin Kodama)

Precipitation Summaries for HI can also be found:

[https://www.weather.gov/hfo/hydro\\_summary](https://www.weather.gov/hfo/hydro_summary)

### Kauai

Kaua'i rainfall totals for the month of March were below average at most of the gages. For a second consecutive month, leeward sites were especially dry with monthly totals from Hanapēpē to Waimea at less than 10 percent of average. The U.S. Geological Survey's (USGS) gage on Mount Wai'ale'ale had the highest monthly total of 28.08 inches (74 percent of average). Their Kilohana rain gage had the highest daily total of 3.32 inches on March 3. The 0.25 inches recorded at the Hanapēpē rain gage registered as its lowest March total since 1993. The Līhu'e Airport, Mōhihi Crossing, Mākaha Ridge, and Port Allen gages all had their lowest March total since 2008.

All of the gages on Kaua'i had near to below average rainfall totals for 2024 through the end of March. Mount Wai'ale'ale had the highest year-to-date total of 70.26 inches (81 percent of average).

### Oahu

March rainfall totals were below average at most of the rain gages on O'ahu. Many of the totals were below 50 percent of average. The Mānoa Lyon Arboretum gage had the highest monthly total of 12.02 inches (87 percent of average). The Waiawa Correctional Facility gage had the highest daily total of 2.49 inches on March 6. The Waipi'o gage had its lowest March total since 2008.

Most of the O'ahu rainfall totals for 2024 through the end of March were below average. The gages with near to above average totals were mainly on the slopes of the Wai'anae Range due to very wet conditions in January. The USGS' Poamoho Rain Gage No. 1 had the highest year-to-date total of 31.50 inches (57 percent of average).

### Maui

Rainfall totals for the month of March were below average at most of the gages in Maui County, with many of the totals at less than 50 percent of average. The highest monthly total was 23.94 inches (83 percent of average) at the USGS' rain gage at West Wailuaiki Stream. Their rain gage on Pu'u Kukui had the highest daily total of 4.78 inches on March 6.

Despite the recent dryness, most of the Maui County rainfall totals for 2024 through the end of March were near to above average due to the very wet conditions in January. Pu'u Kukui had the highest year-to-date total of 62.36 inches (65 percent of average).

### Big Island

Gages along the windward and Kona slopes of the Big Island had mostly near to above average March rainfall totals. Monthly totals from the leeward Kohala, Ka'ū District, and interior Big Island gages were mostly below average. The USGS' rain gage at Honoli'i Stream had the highest monthly total of 28.42 inches (114 percent of average). This site had the highest daily total of 4.92 inches on March 7 from real-time rain gages. The highest daily total among all available sites was 6.07 inches on March 4 from the manually measured Wainaku CoCoRaHS gage. The wet trade wind weather helped the Honoka'a gage post its highest March total since 2014.

Most of the rainfall totals across the Big Island for 2024 through the end of March were near to below average. The USGS' rain gage at Kawainui Stream had the highest year-to-date total of 47.08 inches (119 percent of average).

# Current State of ENSO and predictions

Issued 11 April 2024

**ENSO Alert System Status: [El Niño Advisory](#) / [La Niña Watch](#)**

**Synopsis: A transition from El Niño to ENSO-neutral is likely by April-June 2024 (85% chance), with the odds of La Niña developing by June-August 2024 (60% chance).**

During March 2024, sea surface temperature (SST) anomalies continued to weaken across most of the equatorial Pacific Ocean. SST anomalies were coolest in the far eastern Pacific Ocean, with the latest weekly Niño-1+2 value at  $-0.1^{\circ}\text{C}$ . Weekly SST index values in the other Niño regions were between  $+0.9^{\circ}\text{C}$  and  $+1.2^{\circ}\text{C}$ . Below-average subsurface temperatures strengthened (area-averaged index in), reflecting the expansion of negative subsurface anomalies associated with an upwelling Kelvin wave. Low-level wind anomalies were easterly over the west-central equatorial Pacific, while upper-level wind anomalies were mostly near average. Equatorial convection was slightly suppressed around the Date Line and was near average around Indonesia. Collectively, the coupled ocean-atmosphere system reflected the continued weakening of El Niño.

The most recent IRI plume indicates a transition to ENSO-neutral during spring 2024, with La Niña potentially developing during late summer 2024. The forecast team continues to favor the dynamical model guidance, which is slightly more accurate than statistical models during this time of year. La Niña tends to follow strong El Niño events, which also provides added confidence in the model guidance favoring La Niña. In summary, a transition from El Niño to ENSO-neutral is likely by April-June 2024 (85% chance), with the odds of La Niña developing by June-August 2024 (60% chance).

## 6. Rainfall Verification JFM– January, February, March (Josie)

The verification result of JFM rainfall forecasts was 4 hits and 10 misses (Heidke score: 0.1602).

January, February, March -JFM 2024 Verification													
Updated 4/22/2024 JFM													
Location	UKMO	ECMWF	CA	NASA	NCEP	IRI	APCC	Initial:		3 mo Verification			
								Rainfall Outlook	Final Probs	% norm	Total (in)	Tercile	
<b>Palau</b>													
Airai 7° 22' N, 134° 32' E	Below	Below	Below	Avg-below	Below	Below	Below	Below	55:25:20	107	29.38	Avg.	
<b>FSM</b>													
Yap 9° 29' N, 138° 05' E	Below	Below	Below	Avg-below	Below	Below	Below	Below	55:25:20	57	9.21	Below	
Chuuk 7° 28' N, 151° 51' E	Below	Below	Below	Below	Below	Below	Below	Below	55:25:20	73	18.84	Below	
Pohnpei 6° 59' N, 158° 12' E	Below	Below	Below	Below	Below	Below	Below	Below	55:25:20	97	34.94	Avg.	
Kosrae 5° 21' N, 162° 57' E	Below	Below	Below	Below	Below	Below	Below	Below	50:30:20	95	43.17	Below	
<b>RMI</b>													
Kwajalein 8° 43' N, 167° 44' E	Below	Below	Below	Below	Avg-below	Below	Below	Below	50:30:20	94	7.64	Avg.	
Majuro 7° 04' N, 171° 17' E	Below	Below	Below	Below	Below	Below	Below	Below	50:30:20	50	10.57	Below	
<b>Guam and CNMI</b>													
Guam 13° 29' N, 144° 48' E	Below	Below	Avg-below	Avg-above	Avg-below	Avg-below	Below	Below	40:35:25	85	5.88	Below	
Saipan 15° 06' N, 145° 48' E	Below	Below	Avg-below	Avg-above	Avg-below	Clim.	Below	Below	40:30:30	78	5.48	Below	
<b>American Samoa</b>													
Pago Pago 14° 20' S, 170° 43' W	Avg.	Below	Avg.	Avg-above	Avg.	Clim.	Below	Avg-below	35:35:30	144	52.01	Above	
<b>State of Hawaii</b>													
19.7° - 21.0° N, 155.0° - 159.5° W													
Lihue	Below	Below	Avg-below	Avg-below	Avg.	Below	Below	Avg-below	35:35:30	66	4.41	Below	
Honolulu	Below	Below	Avg-below	Avg-below	Avg.	Below	Below	Avg-below	35:35:30	108	3.17	Avg.	
Kahului	Below	Below	Avg-below	Avg-below	Avg.	Below	Below	Avg-below	35:35:30	116	6.07	Below	
Hilo	Below	Below	Avg-below	Avg-below	Avg.	Below	Below	Avg-below	45:30:25	86	24.06	Avg.	

10	Hit
4	Miss
Heidke:	0.5173
RPSS:	0.0734

### Tercile Cut-offs for Season based on 1981-2010 Pacific Rainfall Climatologies (Luke He)

	Koror	Yap	Chuuk	Pohnpei	Guam	Saipan	Majuro	Kwaj
below (<)								
33.33%	23.9	14.98	22.35	34.4	8.52	6.98	20.29	7.24
near								
66.66%	32.43	21.91	31.31	43.28	11.35	9.47	24.26	11.19
above (>)								

	Lihue	Honolulu	Kahului	Hilo	Pago Pago	Kosrae
below (<)						
33.33%	6.52	2.08	4.24	22	35.08	43.67
near						
66.66%	13.75	7.8	8.23	44.53	42.92	53.33
above (>)						

## 6. Rainfall Outlook AMJ– April, May, June

AMJ Forecast Location	Rainfall Outlook	Probability Pre-Conference	Final Outlook	Final Probability
<b>Palau</b>				
Airai 7° 22' N, 134° 32' E	Below	45:30:25	-	-
<b>FSM</b>				
Yap 9° 29' N, 138° 05' E	Below	50:30:20	-	-
Chuuk 7° 28' N, 151° 51' E	Below	50:30:20	-	-
Pohnpei 6° 59' N, 158° 12' E	Below	50:30:20	-	-
Kosrae 5° 21' N, 162° 57' E	Below	50:30:20	-	-
<b>RMI</b>				
Kwajalein 8° 43' N, 167° 44' E	Below	50:30:20	-	-
Majuro 7° 04' N, 171° 17' E	Below	45:30:25	-	-
<b>Guam and CNMI</b>				
Guam 13° 29' N, 144° 48' E	Below	40:35:25	-	-
Saipan 15° 06' N, 145° 48' E	Below	40:35:25	-	-
<b>American Samoa</b>				
Pago Pago 14° 20' S, 170° 43' W	Avg-Above	30:35:35	-	-
<b>State of Hawaii</b>				
19.7° - 21.0' N, 155.0° - 159.5' W				
Lihue	Below	45:30:25	-	-
Honolulu	Below	45:30:25	-	-
Kahului	Below	45:30:25	-	-
Hilo	Avg-Below	35:35:30	-	-

### Tercile Cut-offs for FMA Season based on 1981-2010 Pacific Rainfall Climatologies (Luke He)

	<u>Koror</u>	<u>Yap</u>	<u>Chuuk</u>	<u>Pohnpei</u>	<u>Guam</u>	<u>Saipan</u>	<u>Majuro</u>	<u>Kwai</u>
below (<)								
33.33%	34.28	21	32.97	49.71	13.05	8.14	25.63	15.41
near								
66.66%	42.1	32.89	39.15	56.96	15.95	11.06	34.51	26.35

above (>)

	<u>Lihue</u>	<u>Honolulu</u>	<u>Kahului</u>	<u>Hilo</u>	<u>Pago Pago</u>	<u>Kosrae</u>
below (<)						
33.33%	4.74	1.23	1.25	21.42	22.42	47.62
near						
66.66%	5.97	1.77	2.17	29.01	33.53	51.87

above (>)

### 3. Drought monitoring updates.

#### A. End-of-March Monthly Drought Assessment:

- i. With WxCoder III data, we have 23 stations in the monthly analysis.
- ii. March was dry (less than the 4- or 8-inch monthly minimum needed to meet most water needs) in the Marianas, Marshalls, Palau, and the western to central FSM; it was wet in American Samoa, and in the southern & eastern FSM. March was drier than normal in the Marianas, Palau, American Samoa, and most of the FSM & Marshalls; it was near to wetter than normal at Kwajalein (in the Marshalls) & Lukunor & Kapingamarangi (FSM).
- iii. The end-of-March monthly analysis (March 31) is consistent with the weekly analyses for March 26 and April 2 (and is the same as the April 2 analysis).
  - a. End-of-March drought conditions:
    1. D3 developed at Wotje & Yap.
    2. D2 developed at Guam and Majuro.
    3. D2 continued at Ulithi and Saipan.
    4. D2 improved to D1 at Kwajalein.
    5. D2 improved to D0 at Pingelap.
    6. D1 developed at Chuuk.
    7. D1 continued at Woleai & Rota.
    8. D0 developed at Ailinglaplap and Airai.
    9. D0 continued at Jaluit.
    10. D0 ended at Lukunor, Nukuoro, & Pohnpei.
    11. D-Nothing at all other locations.
    12. Mili, Utirik, & Fananu were plotted as missing due to missing data for the month.
      - b. Compared to the end-of-February monthly analysis:
        1. 14 stations were in Dx -- 4 D0, 4 D1, 4 D2, 2 D3, none D4 -- in March.
        2. 15 stations were in Dx -- 6 D0, 3 D1, 6 D2, and none D3 or D4 -- in February.
        3. Some March 2024 precipitation ranks:
          - a. **Wotje:** driest March (in a 41-year record) (March 2024 ties with March in 1994 and 1990, each of which had no measurable rainfall), and fifth driest February-March (last 2 months) and July-March (9-month period).
          - b. **Yap:** second driest March (in a 73-year record), with fifth driest September-March and seventh driest February-March, December-March, and October-March.
          - c. **Ulithi:** fourth driest March (41 years), and sixth driest November-March and seventh driest January-March and September-March.
          - d. **Majuro:** fifth driest March (70 years), and fifth driest September-March (7-month period) and August-March (8-month period), fourth driest June-March (10 months) and April-March (last 12 months), and third driest July-March (9 months) and May-March (11-month period).
          - e. **Woleai:** sixth driest March (40 years), and sixth driest February-March, January-March, and December-March.
          - f. **Chuuk:** seventh driest March (73 years), and ninth driest February-March, but 22nd wettest April-March (last 12 months).
          - g. **Nukuoro:** ninth driest March (41 years), but fifth driest February-March.
          - h. **Airai:** ninth driest March (73-year combined record).
          - i. **Pingelap:** 18th driest March (40 years), but fifth driest December-March, November-March, October-March, September-March, and last 12 months (April-March), and second driest June-March (10-month period).

## Drought Monitoring Updates: (Richard Heim)

### 3. Drought monitoring updates.

- j. **Guam:** 14th driest March (68 years), and fourth driest November-March (last 5 months), but fifth wettest April-March (last 12 months).
- k. **Jaluit:** 13th driest March (41 years), and fifth driest July-March, May-March, and April-March, and fourth driest June-March.
  
- l. **Kwajalein:** 23rd wettest March (72 years), but ninth driest July-March (9-month period).
  
- m. Some stations at the wet end of the scale:

- 1. **Kapingamarangi** had the fourth wettest March (34 years) and wettest January-March and July-March back through April-March.
- 2. **Pohnpei** had the 27th driest March (73 years) but third wettest May-March and April-March.

i. Current (Weekly) Drought Conditions: The discussion above is the monthly (end of March) analysis. The latest weekly USAPI USDM assessment may show different USDM classifications. The latest weekly USAPI USDM assessment is for April 2 ([https://droughtmonitor.unl.edu/data/png/20240402/20240402\\_usdm\\_pg2.png](https://droughtmonitor.unl.edu/data/png/20240402/20240402_usdm_pg2.png)).

i. The April 2 map shows the same conditions as the March 31 monthly map.

C. March 2024 NCEI State of the Climate Drought Report: The March 2024 NCEI SotC Drought report will go online Thursday, April 11.

- i. The web page url for the March report will be:
  - a. <https://www.ncei.noaa.gov/access/monitoring/monthly-report/drought/202403#regional-usapi>