



# NWS Climate Services

## May PEAC Audio Conference Call Summary

9 May, 1430 HST (10 May 2024, 0030 GMT)

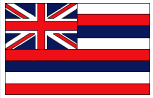


### April rainfall totals reported

% 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	April	Inches	inches	FMA
Airai	13.44	155	8.68	4.76	123
Yap	1.83	30	6.02	-4.19	32
Chuuk	12.38	102	12.11	0.27	69
Pohnpei	21.36	116	18.41	2.95	117
Kosrae	14.64	68	21.63	-6.99	83
Kwajalein	4.19	75	5.57	-1.38	90
Majuro	10.43	98	10.61	-0.18	67
Guam NAS	7.17	248	2.89	4.28	118
Saipan	1.76	70	2.50	-0.74	81
Pago Pago	10.83	116	9.33	1.50	137
Lihue	13.14	703	1.87	11.27	196
Honolulu	1.41	276	0.51	0.90	63
Kahului	1.66	198	0.84	0.82	62
Hilo	13.41	160	8.37	5.04	126

## 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

The mid-April heavy rain event resulted in above average totals over the entire island of Kaua'i. Rain gages near the town of Waimea recorded monthly totals greater than 10 times the April average. Records for the highest April rainfall were broken at the Anahola, Hanapēpē, Kalāheo, Līhu'e Airport, Līhu'e Variety Station, 'Ōma'o, and Wailua UH Experiment Station gages. At the Kalāheo gage, the 12.68 inches of rainfall over the 12-hour period ending at 5 AM HST on April 12 exceeded the monthly rainfall record for this site. The previous April rainfall record at this location was 8.41 inches in 2001. A higher 12-hour rainfall total of 12.80 inches for the period ending at 6 AM HST, April 12 was recorded at the Līhu'e Variety Station gage. This amount of rain over a 12-hour period has an annual probability of occurrence of less than 0.2 percent. The Līhu'e Variety Station gage also had Kaua'i's highest 24-hour total of the month with 13.10 inches of rain for the period ending at 11:45 HST on April 12. The USGS' Mount Wai'ale'ale rain gage had the highest monthly total of 58.23 inches (154 percent of average).

At the end of March, all of the Kaua'i gages had near to below average rainfall for 2024. The recent rainy conditions have pushed all totals for 2024 through the end of April into the near to above average range. The Mount Wai'ale'ale rain gage had the highest year-to-date total of 128.49 inches (103 percent of average).

### Oahu

Rainfall totals were near to above average at most of the O'ahu gages for the month of April. The USGS' Poamoho Rain Gage No. 1 had the highest monthly total of 22.16 inches (101 percent of average), and the highest daily total of 7.81 inches on April 27. Record April rainfall totals were recorded at the Moanalua, Pacific Palisades, Wheeler Army Airfield, and Waiawa Correctional Facility sites.

Although it was a rather wet month across most of O'ahu, rainfall totals for 2024 through the end of April were near to below average at most of the gages. The Poamoho No. 1 Rain Gage had the highest year-to-date total of 53.66 inches (70 percent of average).

### Maui

Data from the Maui County rain gages showed a wide range of conditions during the month of April. Lāna'i, central and east Moloka'i, most of West Maui, and the windward slopes of Haleakalā had mostly near to above average monthly rainfall totals. The Upcountry and lower leeward slopes of Haleakalā had below average April totals. The USGS' rain gage on top of Pu'u Kukui had the highest monthly total of 35.87 inches (93 percent of average), and the highest daily total of 3.81 inches on April 8.

Most of the Maui County rainfall totals for 2024 through the end of April were near to above average. The Pu'u Kukui rain gage had the highest year-to-date total of 98.23 inches (73 percent of average).

### Big Island

Windward Big Island rain gages had near to above average totals for the month of April. Leeward and interior Big Island sites had mostly below average totals. Monthly totals from the South Kohala and North Kona Districts, and the Pōhakuoa region of the island were especially low with many amounts registering at less than 30 percent of average. The USGS' rain gage at Honoli'i Stream had the highest monthly total of 24.44 inches (107 percent of average). The USGS' Saddle Road Quarry gage had the highest daily total of 2.48 inches on April 2. The Ahumoa gage logged its lowest April rainfall total since 2013.

Big Island rainfall totals for 2024 through the end of April were near to below average at most of the gages. The Honoli'i Stream rain gage had the highest year-to-date total of 68.08 inches (86 percent of average).

## Current State of ENSO and predictions

Issued 9 May 2024

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

**Synopsis: A transition from El Niño to ENSO-neutral is likely in the next month. La Niña may develop in June-August (49% chance) or July-September (69% chance).**

During April 2024, below-average equatorial sea surface temperatures (SSTs) emerged in small regions of the eastern Pacific Ocean. However, above-average SSTs prevailed across the rest of the equatorial Pacific. The latest weekly Niño index values remained between +0.5°C and +0.8°C in all regions, except for Niño-3 which was +0.3°C. Below-average subsurface temperatures held steady during the month (area-averaged index) with negative anomalies extending from the Date Line to the eastern Pacific Ocean. Low-level wind anomalies were easterly over the western equatorial Pacific, while upper-level winds were near average. Convection was near average overall across the equatorial Pacific Ocean and Indonesia. Collectively, the coupled ocean-atmosphere system reflected the continued weakening of El Niño and transition toward ENSO-neutral.

The most recent IRI plume favors an imminent transition to ENSO-neutral, with La Niña developing during July-September 2024 and then persisting through the Northern Hemisphere winter. The forecast team continues to favor the dynamical model guidance, which suggests La Niña could form as early as June-August 2024, with higher confidence of La Niña during the following seasons. La Niña generally trends to follow strong El Niño event, which also provides added confidence in the model guidance favoring La Niña. In summary, a transition from El Niño to ENSO-neutral is likely in the next month. La Niña may develop in June-August (49% chance) or July-September (69% chance).

## 6. Rainfall Verification FMA– February, March, April (Josie)

The verification result of **FMA** rainfall forecasts was 10 hits and 4 misses (Heidke score: 0.4478).

February, March, April -FMA 2024 Verification												
Updated 6/6/2024		FMA										
								Initial:	Initial:			
Location	UKMO	ECMWF	CA	NASA	NCEP	IRI	APCC	Rainfall Outlook	Final Probs	3 mo Verification		
										% norm	Total (in)	Tercile
<b>Palau</b>												
Airai 7° 22' N, 134° 32' E	Below	Below	Avg-below	Above	Avg.	Avg-below	Below	Below	45:30:25	123	28.97	Avg.
<b>FSM</b>												
Yap 9° 29' N, 138° 05' E	Below	Below	Below	Avg-above	Below	Below	Below	Below	50:30:20	32	5.31	Below
Chuuk 7° 28' N, 151° 51' E	Below	Below	Below	Below	Below	Below	Below	Below	50:30:20	69	21.17	Below
Pohnpei 6° 59' N, 158° 12' E	Below	Below	Below	Avg-below	Below	Below	Below	Below	50:30:20	117	49.65	Above
Kosrae 5° 21' N, 162° 57' E	Below	Below	Below	Avg-above	Below	Below	Below	Below	50:30:20	83	42.77	Below
<b>RMI</b>												
Kwajalein 8° 43' N, 167° 44' E	Below	Below	Below	Avg-below	Avg-below	Below	Below	Below	50:30:20	90	10.17	Avg.
Majuro 7° 04' N, 171° 17' E	Above	Below	Below	Avg.	Below	Below	Below	Below	45:30:25	67	16.62	Below
<b>Guam and CNMI</b>												
Guam 13° 29' N, 144° 48' E	Avg-below	Below	Below	Avg-below	Avg-below	Below	Below	Below	40:35:25	118	10.67	Above
Saipan 15° 06' N, 145° 48' E	Avg-below	Below	Avg-below	Avg-below	Avg-below	Avg-below	Below	Below	40:35:25	81	5.38	Below
<b>American Samoa</b>												
Pago Pago 14° 20' S, 170° 43' W	Above	Below	Avg-above	Avg-above	Avg.	Above	Below	Avg-above	1.274710648	137	43.85	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	Below	45:30:25	196	14.95	Above
Honolulu	Below	Below	Avg-below	Avg-below	Avg.	Below	Below	Below	45:30:25	63	1.94	Avg.
Kahului	Below	Below	Avg-below	Avg-below	Avg.	Below	Below	Below	45:30:25	62	2.66	Below
Hilo	Below	Below	Avg-below	Avg-below	Avg.	Below	Below	Below	45:30:25	126	34.26	Avg.
										<b>4</b>	<b>MISS</b>	
										<b>Heidke:</b>	<b>0.5173</b>	
										<b>RPSS:</b>	<b>0.0734</b>	

### 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%	22.53	14.18	25.26	38.32	6.88	6.15	21.03	8.63
near								
66.66%	31.23	19.83	31.4	48.92	10.04	8.74	28.4	16.52
above (>)								

	Lihue	Honolulu	Kahului	Hilo	Pago Pago	Kosrae
below (<)						
33.33%	5.78	1.88	3.25	24.59	32.29	45.07
near						
66.66%	9.92	4.7	6.41	45.54	36.83	52.02
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	Avg-Above	30:35:35	-	-
<b>FSM</b>				
Yap 9° 29' N, 138° 05' E	Avg-Below	35:35:30	-	-
Chuuk 7° 28' N, 151° 51' E	Avg.	30:40:30	-	-
Pohnpei 6° 59' N, 158° 12' E	Avg.	30:40:30	-	-
Kosrae 5° 21' N, 162° 57' E	Avg.	30:40:30	-	-
<b>RMI</b>				
Kwajalein 8° 43' N, 167° 44' E	Avg-Below	35:35:30	-	-
Majuro 7° 04' N, 171° 17' E	Avg.	30:40:30	-	-
<b>Guam and CNMI</b>				
Guam 13° 29' N, 144° 48' E	Below	50:30:20	-	-
Saipan 15° 06' N, 145° 48' E	Below	45:30:25	-	-
<b>American Samoa</b>				
Pago Pago 14° 20' S, 170° 43' W	Above	30:30:40	-	-
<b>State of Hawaii</b>				
19.7° - 21.0' N, 155.0° - 159.5' W				
Lihue	Avg-Below	35:35:30	-	-
Honolulu	Avg-Below	35:35:30	-	-
Kahului	Avg-Below	35:35:30	-	-
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%	36.75	28.42	32.16	43.82	17.31	11.70	26.86	19.85
near								
66.66%	50.8	41.19	41.44	55.76	25.7	16.41	36.36	27.79

above (>)

	<u>Lihue</u>	<u>Honolulu</u>	<u>Kahului</u>	<u>Hilo</u>	<u>Pago Pago</u>	<u>Kosrae</u>
below (<)						
33.33%	3.66	0.56	0.41	16.04	17.77	42.52
near						
66.66%	5.12	1.46	1.65	25.01	26.87	56.94

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>