



NWS Climate Services

March PEAC Audio Conference Call Summary

14 March, 1430 HST (15 March 2024, 0030 GMT)

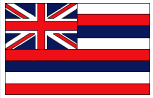


February rainfall totals reported

% 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	February	Inches	inches	DFJ
Airai	11.97	123	9.73	2.25	99
Yap	2.84	55	5.19	-2.35	60
Chuuk	5.49	76	7.25	-1.76	94
Pohnpei	16.27	170	9.55	6.72	79
Kosrae	15.43	119	12.93	2.50	82
Kwajalein	1.37	52	2.64	-1.27	84
Majuro	5.11	74	6.88	-1.77	67
Guam NAS	1.88	62	3.03	-1.15	80
Saipan	2.05	79	2.59	-0.54	111
Pago Pago	24.09	201	12.00	12.09	178
Lihue	0.92	50	1.84	-0.92	103
Honolulu	0.30	30	0.99	-0.69	110
Kahului	0.70	7	1.07	-1.00	102
Hilo	5.77	69	8.38	-2.61	60

Reports from around the Region



Hawaii (Kevin Kodama)

Precipitation Summaries for HI can also be found:

https://www.weather.gov/hfo/hydro_summary

Kauai

February rainfall totals were below average at most of the gages on Kauaʻi. Leeward sites were particularly dry as all of the totals west of Port Allen were below 50 percent of average. The U.S. Geological Survey's (USGS) gage on top of Mount Waiʻaleʻale had the highest monthly total of 24.95 inches (102 percent of average) and the highest daily total of 3.42 inches on February 5.

The combination of a wet January and a dry February resulted in near average rainfall totals for 2024 through the end of February at most of the gages on Kauaʻi. Mount Waiʻaleʻale had the highest year-to-date total of 42.18 inches (86 percent of average).

Oahu

Oʻahu rainfall totals for the month of February were below average at most of the gages. Most of the totals along the slopes of the Koʻolau Range were 30 to 70 percent of average, while most of the totals on the Waiʻanae Range were below 50 percent of average. The USGS' Poamoho Rain Gage No. 1 had the highest monthly total of 11.38 inches (72 percent of average). Their Hālawā Tunnel rain gage had the highest daily total of 2.39 inches on February 28. The Hakipuʻu Mauka gage posted its lowest February total since 2012.

Rainfall totals for 2024 through the end of February were near to below average at most of the gages on Oʻahu. The Poamoho Rain Gage No. 1 had the highest year-to-date total of 23.17 inches (68 percent of average). Gages on the slopes of the Waiʻanae Range were mostly above average due to the very wet conditions in January.

Maui

Gages along the windward slopes of Molokaʻi and Maui recorded near to above average February rainfall totals. Most of the remaining gages in Maui County had below average totals. Leeward Maui was very dry with several totals at less than 10 percent of average. The USGS' rain gage on Puʻu Kukui had the highest monthly total of 16.75 inches, and the highest daily total of 2.68 inches on February 27.

Although February was generally dry, Maui County rainfall totals for 2024 through the end of February were mostly above average due to the very wet conditions in January. Puʻu Kukui had the highest year-to-date total of 43.50 inches (76 percent of average).

Big Island

Most of the gages on the Big Island recorded below average rainfall totals for the month of February. Exceptions were along the Hāmākua and Kona slopes with near to above average totals. Among the automated sites, the USGS' rain gage at Kawainui Stream had the highest monthly total of 13.99 inches (146 percent of average). A manually recorded rainfall total near Honokaʻa from the CoCoRaHS network had the highest overall monthly total of 14.68 inches. The highest daily total was 5.27 inches on February 2 at the National Weather Service's Honokaʻa gage. This daily total provided the main contribution to the monthly total of 13.17 inches (163 percent of average), which was the highest February amount since 2013 at this site. In the interior of the Big Island, Ahumoa and Pōhakuloa Training Area West (PTA West) had their lowest February totals since 2010.

Big Island rainfall totals for 2024 through the end of February were near to below average at most of the gages. The Kawainui Stream rain gage had the highest year-to-date total of 19.19 inches (83 percent of average).

Current State of ENSO and predictions

Issued 14 March 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 (83% chance), with the odds of La Niña developing by June-August 2024 (62% chance).

During February 2024, sea surface temperature (SST) anomalies continued to weaken across most of the equatorial Pacific Ocean. In the last week, below-average SSTs emerged in a small region of the eastern equatorial Pacific Ocean (~100°W). The weekly Niño indices weakened but remained positive, with the latest value in Niño-3.4 standing at 1.4°C. Area-averaged subsurface temperature anomalies were slightly negative, reflecting the consequences of an upwelling Kelvin wave and associated below-average temperatures across the equatorial Pacific Ocean. Low-level winds were near average over most of the equatorial Pacific, while upper-level wind anomalies were easterly over the east-central Pacific. Convection was enhanced near the Date Line and was suppressed near Indonesia. Collectively, the coupled ocean-atmosphere system reflected a weakening El Niño.

The most recent IRI plume indicates a transition to ENSO-neutral during spring 2024, with La Niña potentially developing during summer 2024. While different types of models suggest La Niña will develop, the forecast team favors the dynamical model guidance, which is slightly more accurate for forecasts made during this time of year. Even though forecasts made through the spring season tend to be less reliable, there is a historical tendency for La Niña to follow strong El Niño events. In summary, a transition from El Niño to ENSO-neutral is likely by April-June 2024 (83% chance), with the odds of La Niña developing by June-August 2024 (62% chance).

6. Rainfall Verification DJF-- December, January, February (Josie)

The verification result of DJF rainfall forecasts was 8 hits and 6 misses (Heidke score: 0.2762).

	UKMO	ECMWF	CA	NASA	NCEP	IRI	APCC	Rainfall Outlook	Final Probs	3 mo Verification		
										% norm	Total (in)	T
22° N, 134° 32' E	Below	Below	Below	Below	Below	Below	Below	Below	50:30:20	99	33.28	
19° N, 138° 05' E	Avg-below	Below	Avg-below	Below	Below	Avg-below	Below	Below	40:35:25	60	12.10	F
1° 28' N, 151° 51' E	Below	Below	Below	Below	Below	Below	Below	Below	45:30:25	94	26.76	
6° 59' N, 158° 12' E	Below	Below	Below	Avg-below	Below	Below	Below	Below	50:30:20	79	30.68	F
0° 21' N, 162° 57' E	Below	Below	Below	Above	Below	Avg-below	Below	Below	40:35:25	82	37.53	F
8° 43' N, 167° 44' E	Below	Below	Avg-below	Below	Below	Below	Below	Avg-Below	40:35:25	84	10.45	F
7° 04' N, 171° 17' E	Below	Below	Below	Above	Below	Avg-below	Below	Avg-Below	40:35:25	67	17.45	F
id CNMI												
3° 29' N, 144° 48' E	Avg-below	Below	Avg-above	Avg.	Avg-below	Clim.	Avg.	Avg-Below	40:35:25	80	9.75	F
15° 06' N, 145° 48' E	Below	Below	Avg.	Avg.	Avg-below	Clim.	Avg.	Avg-Below	40:35:25	111	9.98	
n Samoa												
10° 14' 20' S, 170° 43' W	Avg-below	Below	Below	Avg-above	Avg-below	Clim.	Below	Avg-Below	40:35:25	178	68.08	A
Hawaii												
19° 0' N, 155.0° - 159.5' W	Avg-below	Below	Avg-below	Avg-below	Avg.	Below	Below	Below	45:30:25	103	7.46	
	Avg-below	Below	Avg-below	Avg-below	Avg.	Below	Below	Below	45:30:25	110	3.82	
	Avg-below	Below	Avg-below	Avg-below	Avg.	Below	Below	Below	45:30:25	102	6.14	
	Above	Below	Avg-below	Avg-below	Avg.	Below	Below	Below	45:30:25	60	16.60	F

8	Hit
6	Miss
Heidke:	0.2762
RPSS:	0.0267

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%	26.42	17.47	25.39	34.23	11.41	8.66	24.24	11.78
near								
66.66%	37.21	25.53	32.01	45.42	16.49	11.56	30.01	16.47
above (>)								

	Lihue	Honolulu	Kahului	Hilo	Pago Pago	Kosrae
below (<)						
33.33%	7.45	3.68	4.64	19.58	35.2	43.72
near						
66.66%	13.98	8.62	8.68	33.29	46.65	53.68
above (>)						

6. Rainfall Outlook MAM– March, April, May

MAM Forecast Location	Rainfall Outlook	Probability Pre-Conference	Final Outlook	Final Probability
Palau				
Airai 7° 22' N, 134° 32' E	Below	45:30:25	-	-
FSM				
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	-	-
RMI				
Kwajalein 8° 43' N, 167° 44' E	Below	50:30:20	-	-
Majuro 7° 04' N, 171° 17' E	Below	45:30:25	-	-
Guam and CNMI				
Guam 13° 29' N, 144° 48' E	Below	40:35:25	-	-
Saipan 15° 06' N, 145° 48' E	Below	40:35:25	-	-
American Samoa				
Pago Pago 14° 20' S, 170° 43' W	Avg	30:40:30	-	-
State of Hawaii				
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	Below	45:30:25	-	-

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

	Koror	Yap	Chuuk	Pohnpei	Guam	Saipan	Majuro	Kwai
below (<)								
33.33%	26.86	14.74	30.3	46.13	7.61	5.88	21.02	9.74
near								
66.66%	33.44	22.41	36.94	58.61	11.51	8.02	32.44	21.13

above (>)

	Lihue	Honolulu	Kahului	Hilo	Pago Pago	Kosrae
below (<)						
33.33%	5.32	1.83	2.45	22.5	27.97	51
near						
66.66%	7.98	3.05	4.64	34	38.33	55.49

above (>)

3. Drought monitoring updates.

A. End-of-February Monthly Drought Assessment:

- i. With WxCoder III data, we have 23 stations in the monthly analysis.
- ii. February was dry (less than the 4- or 8-inch monthly minimum needed to meet most water needs) in the Marianas, Marshalls, and most of the FSM; it was wet in the Republic of Palau and American Samoa, and at Pohnpei, Kosrae, and Kapingamarangi (in the FSM). February was drier than normal in the Marianas, Marshalls, and western to central FSM; it was near to wetter than normal in Palau, American Samoa, and the southern and eastern FSM.
- iii. The end-of-February monthly analysis (February 29) is consistent with the weekly analyses for February 27 and March 5 (and is the same as the February 27 analysis).

a. End-of-February drought conditions:

1. D0 developed at Chuuk & Nukuoro.
2. D0 worsened to D1 at Woleai, Guam, & Rota.
3. D0 worsened to D2 at Saipan.
4. D1 worsened to D2 at Pingelap, Kwajalein, and Wotje.
5. D2 continued at Ulithi & Yap.
6. D1 improved to D0 at Majuro & Pohnpei.
7. D0 continued at Jaluit & Lukunor.
8. D-Nothing at all other locations.
9. Mili, Utirik, & Fananu were plotted as missing due to missing data for the month.

b. Compared to the end-of-January monthly analysis:

1. 6 stations were D0, 3 were D1, and 6 were D2 in February.
2. 7 stations were D0, 5 were D1, and 2 were D2 in January.
3. Some February 2024 precipitation ranks:
 - a. **Nukuoro: fourth driest February** (in a 42-year record).
 - b. **Pingelap: sixth driest February** (42 years), **second driest November-February, August-February, and July-February**, and fifth driest March-February (last 12 months).
 - c. **Guam: 16th driest February** (67 years) and **sixth driest November-February**, but fifth wettest March-February (last 12 months).
 - d. **Lukunor: 12th driest February** (40 years), sixth driest November-February, **fifth driest May-February**, and sixth driest March-February (last 12 months).
 - e. **Ulithi: 21st driest February** (41 years), but **eighth driest November-February** and ninth driest September-February.
 - f. **Woleai: 15th driest February** (40 years), but **ninth driest December-February**.
 - g. **Yap: 18th driest February** (73 years), but eighth driest November-February and **fifth driest September-February**.
 - h. **Jaluit: 17th driest February** (41 years), but ninth driest December-February, eighth driest September-February and August-February, fifth driest July-February back through April-February, and **fourth driest March-February (last 12 months)**.
 - i. **Wotje: 12th driest February** (41 years), but **sixth driest July-February**.
 - j. **Kwajalein: 23rd driest February** (72 years), but **seventh driest July-February**.
 - k. **Majuro: 29th driest February** (70 years), but ninth driest September-February and **fifth driest July-February, June-February, and May-February**.
- l. Some stations at the wet end of the scale:

1. **Kapingamarangi** had the fifth wettest February (37 years) and **wettest July-February back through April-February**.

2. **Pohnpei** had the 14th wettest February (73 years) and **wettest May-February and April-February**.

i. Current (Weekly) Drought Conditions: The discussion above is the monthly (end of February) analysis. The latest weekly USAPI USDM assessment may show different USDM classifications. The latest weekly USAPI USDM assessment is for March 12 (https://droughtmonitor.unl.edu/data/png/20240312/20240312_usapi_text.png).

ii. The March 12 weekly analysis has the following changes compared to the end of February: Majuro worsened to D1 and Guam worsened to D2, but Nukuoro improved to D-Nothing.