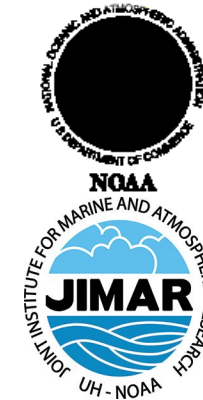




# NWS Climate Services

## February PEAC Audio Conference Call Summary

### 9 February, 1430 HST (10 February 2023, 0030 GMT)

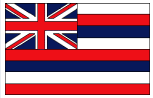


#### January rainfall totals reported

% 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	January	Inches	inches	NDJ
Airai	19.04	187	10.18	8.86	112
Yap	8.51	133	6.39	2.12	108
Chuuk	9.34	92	10.10	-0.76	101
Pohnpei	17.94	136	13.18	4.76	94
Kosrae	21.87	131	16.67	5.20	113
Kwajalein	7.08	224	3.16	3.92	105
Majuro	12.14	157	7.74	4.40	106
Guam NAS	14.02	350	4.01	10.01	176
Saipan	11.16	441	2.53	8.63	163
Pago Pago	15.19	114	13.34	1.85	100
Lihue	5.05	227	2.22	2.83	124
Honolulu	0.43	37	1.15	-0.72	74
Kahului	4.81	209	2.30	2.51	145
Hilo	2.06	23	8.87	-6.81	85

## 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

Most of the rain gages on Kaua'i recorded near to above average rainfall totals for the month of January. Below average totals were mostly clustered in the Hanapēpē and Waimea areas of the island. The U.S. Geological Survey's (USGS) Kilohana rain gage had the highest monthly total of 33.88 inches (225 percent of average), and the highest daily total of 13.32 inches on January 30. The Anahola and Mākaha Ridge gages posted their highest January rainfall totals since 2005.

### Oahu

O'ahu rainfall totals for the month of January were near to above average at most of the gages. The main areas with below average rainfall were in north O'ahu and the lower leeward slopes from Honolulu Airport to Wai'anae. The USGS' Moanalua Rain Gage No. 1 had the highest monthly total of 23.71 inches (189 percent of average), and the highest daily total of 6.84 inches on January 29. The rainfall gradient was quite strong along the lower leeward side of the Wai'anae Range with Mākua Range having its highest January rainfall since 2004 (172 percent of average) and the Wai'anae gage having a January total at just 44 percent of average. Along the Ko'olau Range, the 'Āhuimanu and Niu Valley gages posted their highest January totals since 2005.

### Maui

Despite having a very dry start, most of the rain gages across Maui County finished the month with above average January totals. The National Park Service's Pu'u Ali'i rain gage on Moloka'i had the highest monthly total of 37.25 inches (295 percent of average), and the highest daily total of 16.68 inches on January 28. Although this site has a short period of record going only back to June 2012, the January total was still notable since it was the second highest overall monthly total recorded at this gage, topped only by 48.28 inches in March 2015. Among other notable totals, the Pukalani gage recorded its highest January total in 29 years of data. Kula Branch Station had its wettest January since 1982, and Kahului Airport, Kaunakakai Mauka, Lahainaluna, Māhinahina, and Waikapū Country Club had their highest January totals since 2004.

### Big Island

Unlike the rest of the state, the Big Island had a dry January with most sites having below average monthly totals. The USGS' rain gage at Kawainui Stream had the highest monthly total of 7.12 inches (53 percent of average) and the highest daily total of 3.96 inches on January 27. There were no long term monthly rainfall records broken on the Big Island. Hilo Airport was on track to have its driest January on record, but an uptick in windward Big Island rainfall at the end of the month kept it off of the top 10 driest January listing.

# Current State of ENSO and predictions

Issued 9 February 2023

**ENSO Alert System Status: [La Niña Advisory](#)**

**Synopsis: ENSO-neutral conditions are expected to begin within the next couple of months, and persist through the Northern Hemisphere spring and early summer.**

Although a weak La Niña was still apparent during January, below-average sea surface temperatures (SSTs) continued to weaken further across the equatorial Pacific Ocean. The latest weekly Niño index values were mostly near  $-0.5^{\circ}\text{C}$ , with the exception of Niño-1+2 which was  $+0.1^{\circ}\text{C}$ . Like the surface, negative subsurface temperature anomalies continued to weaken, with above-average subsurface temperatures expanding eastward at depth and near the surface of the eastern Pacific Ocean. Low-level easterly wind anomalies continued, but were confined to the western and central Pacific Ocean. Upper-level westerly wind anomalies were evident over the east-central Pacific. Suppressed convection persisted over the western and central tropical Pacific, while enhanced convection was observed over western Indonesia. Overall, the coupled ocean-atmosphere system continued to reflect La Niña.

The most recent IRI plume predicts a transition from La Niña to ENSO-neutral in the next couple of months. The forecaster consensus is largely in agreement. ENSO-neutral is expected to prevail during the spring and early summer. There are increasing chances of El Niño at longer forecast horizons, though uncertainty remains high because of the spring prediction barrier, which typically is associated with lower forecast accuracy. In summary, ENSO-neutral conditions are expected to begin within the next couple of months, and persist through the Northern Hemisphere spring and early summer.

## 6. Rainfall Verification (NDJ)- November, December, January

The verification result of NDJ rainfall forecasts was 12 hits and 2 misses (Heidke score: 0.5952).

November, December, January (NDJ) 2022 Verification																
Updated 2/9/2023 NDJ																
Location	UKMO	ECMWF	CA	NASA	NCEP	IRI	APCC	Initial:	Initial:	% norm	3 mo Verification	Tercile	Post Conference	Post Conference		
								Rainfall Outlook	Final Probs						PEAC	PEAC
													Forecast Final	Probs Final		
<b>Palau</b>																
Koror 7° 22' N, 134° 32' E	Above	Above	Above	Avg-below	Above	Above	Above	Above	Above	20:30:50	112	40.80	Above			
<b>FSM</b>																
Yap 9° 29' N, 138° 05' E	Above	Above	Above	Avg-below	Above	Above	Above	Avg-above	30:35:35	108	25.67	Avg.				
Chuuk 7° 28' N, 151° 51' E	Above	Avg-above	Above	Below	Below	Below	Above	Avg-above	30:35:35	101	32.17	Avg.				
Pohnpei 6° 59' N, 158° 12' E	Above	Avg-above	Above	Above	Avg.	Above	Above	Avg-above	30:35:35	94	41.45	Avg.				
Kosrae 5° 21' N, 162° 57' E	Avg.	Avg.	Above	Above	Above	Clim.	Below	Avg.	30:40:30	113	52.56	Avg.				
<b>RMI</b>																
Kwajalein 8° 43' N, 167° 44' E	Avg.	Avg-below	Avg-above	Avg.	Avg.	Avg.	Avg.	Avg.	30:40:30	105	22.05	Avg.				
Majuro 7° 04' N, 171° 17' E	Below	Avg-below	Above	Below	Avg-below	Clim.	Above	Avg-below	35:35:30	106	34.65	Avg.				
<b>Guam and CNMI</b>																
Guam 13° 29' N, 144° 48' E	Above	Avg.	Avg-above	Avg-above	Avg-above	Clim.	Avg.	Above	25:35:40	176	29.00	Above				
Saipan 15° 06' N, 145° 48' E	Above	Above	Avg-above	Avg-above	Avg-above	Clim.	Avg.	Above	30:30:40	163	19.56	Above				
<b>American Samoa</b>																
Pago Pago 14° 20' S, 170° 43' W	Avg-above	Above	Below	Below	Avg-below	Clim.	Below	Avg-above	30:35:35	100	36.22	Avg.				
<b>State of Hawaii</b>																
19.7° - 21.0° N, 155.0° - 159.5° W																
Lihue	Above	Above	Avg-above	Avg-below	Avg.	Clim.	Below	Avg-above	30:35:35	124	11.08	Avg.				
Honolulu	Above	Above	Avg-above	Avg-below	Avg.	Clim.	Below	Avg-above	30:35:35	74	2.82	Below				
Kahului	Above	Above	Avg-above	Avg-below	Avg.	Clim.	Below	Avg-above	30:35:35	145	9.88	Above				
Hilo	Above	Above	Avg-above	Avg-below	Avg.	Clim.	Below	Avg-above	30:35:35	85	25.90	Below				

Clim. indicates equal chances of below normal rainfall-average rainfall-and above average rainfall.

Note: Interpretation of tercile probability—What do these **\*Final Probability** seasonal forecasts mean? For example, a 35:35:30 probability forecasts in NDJ season indicates a 30% chance (probability) for occurrence of excess rainfall during the NDJ season, 35% chance for occurrence of rainfall within a pattern considered normal during the NDJ season, and 35% chance for occurrence of deficit rainfall during the NDJ season.

Also note that excess and deficit limit for each of the stations are different.

	Hit
	Miss
Heidke:	0.5952
RPSS:	0.1015

11	Hit
3	Miss
Heidke:	0.5952
RPSS:	0.1015

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

	Koror	Yap	Chuuk	Pohnpei	Guam	Saipan	Majuro	Kwai
below (<)								
33.33%	29.21	21.82	30.16	38.94	14.88	11.78	32.31	21.12
near								
66.66%	38.94	28.08	36.49	47.32	21.97	16.53	36.56	25.30
above (>)								

	Lihue	Honolulu	Kahului	Hilo	Pago Pago	Kosrae
below (<)						
33.33%	8.57	3.89	5.16	26.44	32.98	44.1
near						
66.66%	16.95	8.76	9.46	42.99	47.68	55.78
above (>)						

## 6. Rainfall Outlook FMA– February, March, April

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

### Tercile Cut-offs for FMA 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 (>)						

## Drought monitoring updates.

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

- i. With WxCoder III data, we have 23 stations in the monthly analysis.
- ii. January was dry (less than the 4- or 8-inch monthly minimum needed to meet most water needs) at Kwajalein & Wotje (RMI); it was wet elsewhere. January was drier than normal at Chuuk and Jaluit, and wetter than normal elsewhere.
- iii. The end-of-January monthly analysis (January 31) is consistent with the weekly analysis for January 31 and is the weekly analysis. Compared to the end-of-December monthly analysis:
  - a. D2 improved to D1 on Kapingamarangi.
  - b. D0 ended at Ailinglaplap, Jaluit, Kwajalein, Lukunor, Ulithi, & Fananu.
  - c. The USDM status stayed the same (D-Nothing) at the other stations.
  - d. D0 began on Fananu, Ulithi, Ailinglaplap, Jaluit, & Kwajalein.
  - e. Utirik was plotted as missing due to missing data for the month.
- iv. Some January 2023 precipitation ranks:
  - a. **Kapingamarangi:** 7th wettest January (in a 33-year record), but 2nd driest rank for June-January through February-January.
  - b. **Lukunor:** 19th wettest January (39 years), but driest August-January through April-January and February-January; 2nd driest March-January.
  - c. At the wet end of the scale:
    1. wettest January at Saipan (43 years) & Ulithi (39 years)
    2. Guam: 3rd wettest January.
    3. Mili: 2nd wettest January and wettest for October-January through February-January.

### B. Current (Weekly) Drought Conditions: The discussion above is the monthly (end of January) analysis. The latest weekly USAPI USDM assessment may show different USDM classifications. The latest weekly USAPI USDM assessment is for February 7.

- I. The February 7 analysis has D0 at Kapingamarangi & D0 at Ailinglaplap, Kwajalein, Majuro, & Wotje, but D-Nothing everywhere else except No Data for Utirik.

### C. January 2023 NCEI State of the Climate Drought Report: The January 2023 NCEI SotC Drought report will go online next week.

- I. The web page url for the January report will be:

- a. <https://www.ncei.noaa.gov/access/monitoring/monthly-report/drought/202301#regional-usapi>

### D. New USAPI USDM listserver [usapidrought@lists.unl.edu](mailto:usapidrought@lists.unl.edu)