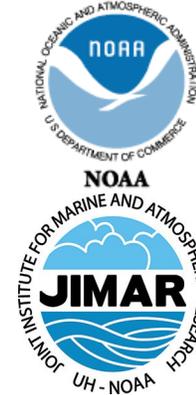




NWS Climate Services

December PEAC Audio Conference Call Summary

8 December, 1430 HST (9 December 2022, 0030 GMT)



University of
Hawai'i
M Ā N O A
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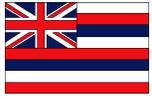


November rainfall totals reported

% 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	November	Inches	inches	SON
Airai	10.00	78	12.79	-2.79	106
Yap	5.99	68	12.18	-2.84	117
Chuuk	9.83	93	11.51	-0.78	113
Pohnpei	11.92	80	15.27	-2.91	121
Kosrae	14.74	107	10.94	0.91	134
Kwajalein	9.02	81	11.18	-2.19	104
Majuro	12.21	91	12.73	-1.23	130
Guam NAS	5.66	77	11.44	-1.72	116
Saipan	3.39	60	10.62	-2.22	99
Pago Pago	11.93	118	9.26	1.79	130
Lihue	1.10	31	3.30	-2.43	44
Honolulu	0.15	11	1.26	-1.21	43
Kahului	1.17	64	0.55	-0.67	77
Hilo	16.36	144	8.61	4.98	95

Reports from around the Region



Hawaii (Kevin Kodama)

Precipitation Summaries for HI can also be found:

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

Kauai

Nearly all of the rain gages on Kaua'i recorded below average totals for the month of November. Leeward sites were especially dry, with several low elevation gages reporting monthly totals below 10 percent of average. The U.S. Geological Survey's (USGS) rain gage on Mount Wai'ale'ale had the highest monthly total of 23.67 inches (63 percent of average). The USGS' Kilohana gage had the highest daily total of 5.53 inches on November 24 associated with a cold front passage that day. The Anahola rain gage posted its lowest November total in its 31-year data record. Lihu'e Variety Station and Wainiha had their lowest November totals since 2012.

Rainfall totals for 2022 through the end of November were below average at most of the gages on Kaua'i. Many of these totals were between 40 and 70 percent of average. The Mount Wai'ale'ale gage had the highest year-to-date total of 251.00 inches (69 percent of average).

Oahu

November rainfall totals were below average at nearly all of the gages on O'ahu. Most of the west O'ahu sites had monthly totals at less than 10 percent of the long term November average. The USGS' Poamoho Rain Gage No. 1 had the highest monthly total of 11.19 inches (51 percent of average) and the highest daily total of 4.80 inches on November 4. Mililani and Wheeler Army Airfield had their lowest November totals on record. Waipi'o and Hakipu'u Mauka had their lowest November totals since 1994 and 2002, respectively, and the 'Ahuimanu Loop, Bellows Air Force Station, Hawai'i Kai Golf Course, Kahuku, Kunia, Pālehua, Schofield Barracks, and Waihe'e Pump all had their lowest November totals since 2012.

Most of the O'ahu rainfall totals for 2022 through the end of November were below average. The USGS' Poamoho Rain Gage No. 1 had the highest year-to-date total of 103.02 inches (50 percent of average).

Maui

Windward gages across Maui County had near to above average monthly rainfall totals, and leeward gages had below average totals. The USGS' rain gage at West Wailuaiki Stream had the highest monthly total of 23.23 inches (117 percent of average) and the highest daily total of 5.30 inches on November 24 as a result of the above-mentioned cold front passage. The Kamalo rain gage on Moloka'i had its highest November total since 1996. The Hāna Airport gage in east Maui had its highest November total since 2009.

Maui County rainfall totals for 2022 were near average at the windward gages and below average at the leeward sites. The West Wailuaiki rain gage had the highest year-to-date total of 186.51 inches (89 percent of average).

Big Island

Rain gages on the Big Island's windward slopes had mostly near average November totals. Gages in the South Kona District and in the North Kona District south of Hualālai volcano mostly had above average rainfall totals. Most of the remaining sites on the Big Island had below average totals. Among the automated gages, Pāpa'ikou Well had the highest monthly total of 16.52 inches (77 percent of average). However, the highest overall total came from the Wainaku CoCoRaHS site with a manually recorded November total of 17.75 inches. The highest daily total was 4.30 inches at the Hilo Airport gage on November 3.

Big Island rainfall totals for 2022 through the end of November were near to below average at most of the gages. The USGS' rain gage at Honoli'i Stream had the highest year-to-date total of 155.47 inches (73 percent of average).

Current State of ENSO and predictions

Issued 8 December 2022

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

Synopsis: La Niña is expected to continue into the winter, with equal chances of La Niña and ENSO-neutral during January-March 2023. In February-April 2023, there is a 71% chance of ENSO-neutral.

Below-average sea surface temperatures (SSTs) persisted in the central and eastern Pacific Ocean during the past month. All of the latest weekly Niño index values were near -1.0°C , except for the Niño-1+2 index which was at -0.5°C . In November 2022, negative subsurface temperature anomalies weakened, reflecting an eastward expansion of the above-average subsurface temperatures in the western and central Pacific and contraction of the below-average temperatures across the eastern Pacific. Low-level easterly wind anomalies and upper-level westerly wind anomalies were evident across most of the equatorial Pacific throughout the month. The convection pattern continued to show suppressed convection over the western and central tropical Pacific and enhanced convection over Indonesia.

The most recent IRI plume indicates that La Niña will persist into the Northern Hemisphere winter 2022-23. For the dynamical model averages, ENSO-neutral is favored in January-March 2023, while the statistical model average shows the transition to ENSO-neutral occurs in February-April 2023. The forecaster consensus, which also considers the North American Multi-Model Ensemble (NMME), is split on whether La Niña or ENSO-neutral will prevail during January-March 2023. Regardless, there is higher confidence that ENSO-neutral will emerge by the Northern Hemisphere spring. In summary, La Niña is expected to continue into the winter, with equal chances of La Niña and ENSO-neutral during January-March 2023. In February-April 2023, there is a 71% chance of ENSO-neutral.

6. Rainfall Verification (SON)- September, October, November

The verification result of **SON** rainfall forecasts was 7 hits and 7 misses (Heidke score: 0.3096).

September, October, November (SON) 2022 Verification												
Updated 12/9/2022 SON												
Location	UKMO	ECMWF	CA	NASA	NCEP	IRI	APCC	Initial:	Initial:	3 mo Verification		
								Rainfall Outlook	Final Probs	% norm	Total (in)	Tercile
Palau												
Airai 7° 22' N, 134° 32' E	Above	Avg.	Avg-above	Avg-below	Avg-above	Below	Above	Above	30:30:40	106	43.75	Above
FSM												
Yap 9° 29' N, 138° 05' E	Above	Avg.	Avg.	Avg.	Avg.	Above	Above	Avg.	25:40:35	117	40.23	Above
Chuuk 7° 28' N, 151° 51' E	Below	Avg-below	Avg.	Avg-below	Avg.	Below	Above	Avg-below	35:35:30	113	38.25	Avg.
Pohnpei 6° 59' N, 158° 12' E	Below	Avg-below	Avg.	Avg.	Avg-below	Below	Above	Avg-below	35:35:30	121	51.81	Above
Kosrae 5° 21' N, 162° 57' E	Below	Below	Above	Above	Below	Clim.	Above	Below	40:30:30	134	52.38	Above
RMI												
Kwajalein 8° 43' N, 167° 44' E	Avg.	Avg-below	Avg.	Avg-above	Avg.	Above	Avg.	Avg.	30:40:30	104	34.45	Above
Majuro 7° 04' N, 171° 17' E	Below	Avg.	Above	Above	Avg-below	Above	Above	Avg-below	35:35:30	130	48.69	Above
Guam and CNMI												
Guam 13° 29' N, 144° 48' E	Avg-below	Avg.	Avg-below	Avg-below	Avg-below	Below	Avg.	Avg-below	35:35:30	116	36.52	Above
Saipan 15° 06' N, 145° 48' E	Avg.	Avg.	Avg.	Avg-below	Avg-below	Clim.	Avg.	Avg.	30:40:30	99	26.18	Avg.
American Samoa												
Pago Pago 14° 20' S, 170° 43' W	Avg-below	Below	Below	Avg-below	Avg-below	Clim.	Above	Avg-below	35:35:30	130	33.74	Above
State of Hawaii												
19.7° - 21.0° N, 155.0° - 159.5° W												
Lihue	Avg.	Above	Avg-below	Avg-below	Avg.	Clim.	Below	Avg-below	35:35:30	44	3.86	Below
Honolulu	Avg.	Above	Avg-below	Avg-below	Avg.	Clim.	Below	Avg-below	35:35:30	43	1.37	Below
Kahului	Avg.	Above	Avg-below	Avg-below	Avg.	Clim.	Below	Avg-below	35:35:30	77	1.98	Below
Hilo	Avg.	Above	Avg-below	Avg-below	Avg-below	Clim.	Below	Avg-below	35:35:30	95	27.95	Avg.

7	Hit
7	Miss
Heidke:	0.3096
RPSS:	0.0144

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%	30.65	32.05	32.73	41.51	30.44	26.19	34.74	30.69
near								
66.66%	41.38	38.09	38.35	47.07	33.78	29.77	42.55	34.83
above (>)								

	Lihue	Honolulu	Kahului	Hilo	Pago Pago	Kosrae
below (<)						
33.33%	9.17	2.52	2.08	24.29	26.91	38.3
near						
66.66%	11.22	5.59	4.76	40.81	31.48	43.49
above (>)						

Drought monitoring updates.

A. End-of-November Monthly Drought Assessment:

- i. With WxCoder III data, we have 23 stations in the monthly analysis.
- ii. November was dry (less than the 4- or 8-inch monthly minimum needed to meet most water needs) at Kapingamarangi, Ulithi, & Yap (FSM); Saipan (Marianas); and Jaluit & Wotje (RMI); it was wet elsewhere. November was drier than normal at most stations, and wetter than normal only at Nukuoro & Woleai (FSM), Pago Pago, and Ailinglaplap & Mili (Marshalls).
- iii. The end-of-November monthly analysis (November 30) is consistent with the weekly analyses for November 29 and December 6 and is the same as those two analyses since they didn't change week-to-week (except Nukuoro was plotted as missing on the November 29 map). Compared to the end-of-October monthly analysis:
 - a. D2 continued on Kapingamarangi.
 - b. D0 continued on Lukunor & Wotje.
 - c. D0 began on Yap.
 - d. The USDM status stayed the same (D-Nothing) at the other stations..
 - e. Utirik was plotted as missing due to missing data for the month.
- iv. Some November 2022 precipitation ranks:
 - a. Kapingamarangi: 9th driest November (in a 34-year record), but driest April-November through January-November; 2nd driest rank for June-November, May-November, & December-November.
 - b. Lukunor: 14th driest November (39 years) and driest August-November through April-November.
 - c. Ulithi: 14th driest November (40 years), but still the 2nd driest June-November.
 - d. Saipan: 8th driest November (42 years).
 - e. Jaluit: 12th driest November (39 years), and 5th driest May-November.
 - f. Wotje: 15th driest November (38 years), and 8th driest August-November and 9th driest October-November.
 - g. Yap: 12th driest November (72 years).
 - h. At the wet end of the scale:
 1. Pingelap: 3rd wettest November & wettest October-November.
 2. Mili: 6th wettest November & wettest for all other 11 time periods (from October-November through December-November).

B. Current (Weekly) Drought Conditions: The discussion above is the monthly (end of November) analysis. The latest weekly USAPI USDM assessment may show different USDM classifications. The latest weekly USAPI USDM assessment is for December 6. The December 6 analysis is the same as the end-of-November analysis.

C. November 2022 NCEI State of the Climate Drought Report: The November 2022 NCEI SotC Drought report will go online next week. The web page url for the November report will be: <https://www.ncei.noaa.gov/access/monitoring/monthly-report/drought/202211#regional-usapi>

D. USAPI USDM Authors:

There are 8 USAPI USDM (OCONUS) authors and one backup: Ahira Sanchez-Lugo, Rocky Bilotta, and myself (Richard Heim) from NCEI; Curtis Riganti, Denise Gutzmer, Tsegaye Tadesse, and Deb Bathke (backup) from NDMC; Brad Rippey (from USDA); Rich Tinker (from CPC). Rocky will have his first author rotation in February 2023.