NWS Climate Services

November PEAC Audio Conference Call Summary

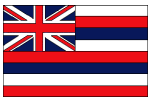
10 November, 1430 HST (11 November 2022, 0030 GMT)

September 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	ASO
Airai	28.49	248	11.51	16.98	115
Yap	26.48	217	12.18	14.30	108
Chuuk	14.27	124	11.51	2.76	104
Pohnpei	21.98	144	15.27	6.71	142
Kosrae	18.53	169	10.94	7.59	138
Kwajalein	18.02	161	11.18	6.84	121
Majuro	18.76	147	12.73	6.03	127
Guam NAS	17.12	150	11.44	5.68	103
Saipan	16.07	151	10.62	5.45	99
Pago Pago	13.82	149	9.26	4.56	134
Lihue	2.11	64	3.30	-1.19	70
Honolulu	0.79	63	1.26	-0.47	63
Kahului	0.28	51	0.55	-0.27	71
Hilo	6.94	81	8.61	-1.67	64

Reports from around the Region



Hawaii (Kevin Kodama)

Precipitation Summaries for HI can also be found:

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

Kauai

Windward locations of Kaua'i had mostly near to above average October rainfall totals. Leeward areas had mostly near to below average totals. The U.S. Geological Survey's (USGS) rain gage on top of Mount Wai'ale'ale had the highest monthly rainfall total of 21.60 inches (64 percent of average), and the highest daily total of 5.61 inches on October 2 associated with the passage of the above-mentioned weak cold front. There were no October rainfall records broken on Kaua'i.

Rainfall totals for 2022 through the end of October 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 227.33 inches (70 percent of average).

Oahu

Gages along the windward Ko'olau slopes posted mostly near to above average October rainfall totals. Leeward locations had mostly near to below average totals. The highest October total of 13.47 inches (120 percent of average) came from the USGS' Hālawa Tunnel gage. The highest daily total was 3.03 inches at Kamehame on October 19 as a result of a cold front passage. It is rather unusual for Kamehame to have the highest daily total for O'ahu.

Most of the O'ahu rainfall totals for 2022 through the end of October were below average. The USGS' Poamoho Rain Gage No. 1 had the highest year-to-date total of 91.83 inches (50 percent of average).

Maui

Maui County October rainfall totals were mostly near to above average. Several of the below average totals were from Maui's central valley and Upcountry regions where the worst drought conditions are ongoing. The highest monthly total of 33.25 inches (194 percent of average) came from the USGS' rain gage at West Wailuaiki Stream. The highest daily total of 6.74 inches was recorded on October 26 at the USGS' gage on top of Pu'u Kukui.

Rainfall totals for 2022 through the end of October were below average at many of the rain gages in Maui County. Recent wet conditions in east Maui have helped push totals into the near average range. The West Wailuaiki rain gage had the highest year-to-date total of 163.28 inches (86 percent of average).

Big Island

Windward Big Island and Ka'ū District totals for the month of October were mostly near to below average. Monthly totals from the Kona slopes were mostly above average. The Papaikou Well rain gage had the highest monthly total of 18.79 inches (119 percent of average), and the highest daily total of 3.70 inches on October 5.

Big Island rainfall totals for 2022 through the end of October were near to below average at most of the gages. The USGS' rain gage at Honoli'i Stream has taken over the lead for the highest year-to-date total with 139.73 inches (74 percent of average).

Current State of ENSO and predictions

Issued 10 November 2022

ENSO Alert System Status: La Niña Advisory

Synopsis: **There is a 76% chance of La Niña during the Northern Hemisphere winter (December-February) 2022-23, with a transition to ENSO-neutral favored in February-April 2023 (57% chance).**

Below-average sea surface temperatures (SSTs) strengthened in the east-central Pacific Ocean during the past month. All of the latest weekly Niño index values were near -1.0°C, with the exception of Niño-1+2 which was at -1.8°C. Since late July 2022, negative subsurface temperature anomalies have been quite persistent, reflecting the stationary pattern of below-average temperatures across the eastern Pacific Ocean. For the monthly average, low-level easterly wind anomalies and upper-level westerly wind anomalies were evident across most of the equatorial Pacific. However, in the last week, the low-level trade winds weakened in association with sub-seasonal tropical variability. Convection remained suppressed over the western and central tropical Pacific and enhanced over Indonesia. Overall, the coupled ocean-atmosphere system continued to reflect La Niña.

The most recent IRI plume forecast of the Niño-3.4 SST index indicates La Niña will persist into the Northern Hemisphere winter 2022-23, and then transition to ENSO-neutral in February-April 2023. The forecaster consensus, which also considers the North American Multi-Model Ensemble (NMME), is in agreement with the timing of this transition. The recent weakening of the trade winds suggest below-average SSTs may be near their minimum, though considerable uncertainty remains over how gradually the anomalies will decay. In summary, there is a 76% chance of La Niña during the Northern Hemisphere winter (December-February) 2022-23, with a transition to ENSO-neutral favored in February-April 2023 (57% chance).

This discussion is a consolidated effort of the National Oceanic and Atmospheric Administration (NOAA), NOAA's National Weather Service, and their funded institutions. Oceanic and atmospheric conditions are updated weekly on the Climate Prediction Center web site (El Niño/La Niña Current Conditions and Expert Discussions). Additional perspectives and analysis are also available in an ENSO blog. A probabilistic strength forecast is available here. The next ENSO Diagnostics Discussion is scheduled for 8 December 2022.

6. Rainfall Verification AS)-August, September, October (Josie)

The verification result of **ASO** rainfall forecasts was 7 hits and 7 misses (Heidke score: 0.2703).

August, September, October (ASO) 2022 Verification

Updated 11/14/2022 ASO

Location	UKMO	ECMWF	CA	NASA	NCEP	IRI	APCC	Initial: Rainfall Outlook	Initial: Final Probs	3 mo Verification % norm	3 mo Verification Total (in)	3 mo Verification Tercile	Post Conference PEAC Forecast Final	Post Conference PEAC Probs Final
Palau														
Airai 7° 22' N, 134° 32' E	Avg-above	Below	Avg.	Avg.	Above	Avg.	Above	Avg.	30:40:30	115	49.75	Above		
FSM														
Yap 9° 29' N, 138° 05' E	Avg.	Below	Below	Avg-below	Avg.	Below	Below	Below	40:35:25	108	43.81	Avg.		
Chuuk 7° 28'N, 151° 51'E	Below	Below	Avg-below	Avg-above	Avg.	Below	Avg.	Below	40:30:30	104	37.40	Avg.		
Pohnpei 6° 59'N, 158° 12'E	Below	Avg.	Avg.	Above	Avg-below	Below	Above	Below	40:30:30	142	59.58	Above		
Kosrae 5° 21'N, 162° 57'E	Below	Below	Above	Avg-below	Below	Below	Below	Below	40:30:30	138	54.33	Above		
RMI														
Kwajalein 8° 43'N, 167° 44'E	Below	Avg.	Avg.	Above	Avg.	Above	Avg.	Avg.	30:40:30	121	38.17	Above		
Majuro 7° 04' N, 171° 17'E	Below	Above	Above	Avg-above	Avg-below	Above	Above	Above	30:30:40	127	45.13	Above		
Guam and CNMI														
Guam 13° 29'N, 144° 48' E	Below	Below	Below	Below	Avg-below	Below	Below	Avg-below	35:35:30	103	40.01	Avg.		
Saipan 15° 06'N, 145° 48' E	Below	Below	Avg.	Avg-below	Avg-below	Below	Below	Avg-below	35:35:30	99	33.34	Avg.		
American Samoa														
Pago Pago 14° 20'S, 170° 43'W	Below	Below	Below	Avg-below	Avg-below	Clim.	Below	Below	45:30:25	134	28.34	Above		
State of Hawaii														
19.7° - 21.0' N, 155.0° - 159.5' W														
Lihue	Avg-below	Below	Avg-below	Avg-below	Avg.	Clim.	Below	Avg-below	35:35:30	70	4.95	Below		
Honolulu	Avg-below	Below	Avg-below	Avg-below	Avg.	Clim.	Below	Avg-below	35:35:30	63	1.29	Below		
Kahului	Avg-below	Below	Avg-below	Avg-below	Avg.	Clim.	Below	Avg-below	35:35:30	71	0.87	Below		
Hilo	Avg-below	Below	Avg-below	Avg-below	Avg-below	Clim.	Below	Avg-below	35:35:30	64	16.74	Below		

7	Hit
7	Miss
Heidke:	0.2703
RPSS:	0.0407

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%	35.83	37.61	33.32	40.96	39.08	31.99	32.51	29.26
near								
66.66%	43.49	44.47	42.92	45.22	44.79	36.25	40.5	34.92
above (>)								

	Lihue	Honolulu	Kahului	Hilo	Pago Pago	Kosrae
below (<)						
33.33%	6.24	1.62	0.84	26.06	19.26	37.76
near						
66.66%	8.43	3.14	2.45	33.29	27.9	40.35
above (>)						

6. Rainfall Outlook NDJ– November, December, January (Josie)

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

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

	Koror	Yap	Chuuk	Pohnpei	Guam	Saipan	Majuro	Kwaj
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 (>)						

Drought Monitoring Updates: (Richard Heim)

Drought monitoring updates.

A. End-of-October Monthly Drought Assessment:

i. With WxCoder III data, we have 23 stations in the monthly analysis.

ii. October was dry (less than the 4- or 8-inch monthly minimum needed to meet most water needs) at Kapingamarangi & Nukuoro (FSM), and Wotje (RMI); it was wet elsewhere. October was drier than normal at Lukunor & Kapingamarangi (FSM); October was wetter than normal at the rest of the main stations.

iii. The end-of-October monthly analysis (October 31) is consistent with the weekly analyses for October 25 and November 1 and is the same as those two analyses since they didn't change week-to-week. Compared to the end-of-September monthly analysis

a. D2 continued on Kapingamarangi.

b. D1 improved to D0 on Lukunor.

c. D1 ended (changed to D-Nothing) on American Samoa (Tutuila).

d. D0 ended at Ulithi and Yap.

e. D0 began on Wotje.

f. The USDM status stayed the same (D-Nothing) at the other stations.

g. Utirik was plotted as missing due to missing data for the month.

iv. Some October 2022 precipitation ranks:

a. Kapingamarangi: 9th driest October (in a 33-year record), but driest April-October, March-October, February-October, and January-October; 2nd driest rank for May-October, December-October, and November-October.

b. Lukunor: 20th driest October (38 years) and driest August-October, July-October, June-October, and May-October.

c. Ulithi: 3rd wettest October (39 years), but still the 2nd driest July-October and June-October.

d. Wotje: 7th driest October (39 years) and 6th driest August-October.

e. Jaluit: 13th wettest October (39 years), but still 7th driest May-October.

f. Nukuoro: 10th driest October (40 years).

g. At the wet end of the scale:

Mili ranked wettest for all 12 time periods (from October through November-October).

B. Current (Weekly) Drought Conditions: The discussion above is the monthly (end of October) analysis. The latest weekly USAPI USDM assessment may show different USDM classifications. The latest weekly USAPI USDM assessment is for November 8.

i. The November 8 analysis has D0 at Nukuoro; otherwise, it is the same as the end-of-October analysis.