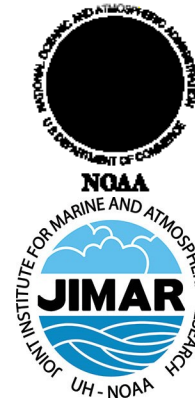




# NWS Climate Services

## October PEAC Audio Conference Call Summary

### 13 October, 1430 HST (14 October 2022, 0030 GMT)

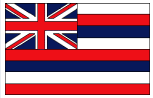


### September rainfall totals reported

% 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	September	Inches	inches	JAS
Airai	5.26	<b>31</b>	16.83	<b>-11.57</b>	64
Yap	7.76	<b>57</b>	13.50	<b>-5.74</b>	78
Chuuk	14.15	121	11.71	<b>2.44</b>	98
Pohnpei	17.91	<b>143</b>	12.55	<b>5.36</b>	<b>152</b>
Kosrae	19.11	134	14.22	<b>4.89</b>	<b>141</b>
Kwajalein	7.34	68	10.74	<b>-3.40</b>	97
Majuro	17.72	<b>159</b>	11.17	<b>6.55</b>	109
Guam NAS	13.74	109	12.66	<b>1.08</b>	97
Saipan	6.72	67	10.09	<b>-3.37</b>	98
Pago Pago	7.99	122	6.53	<b>1.46</b>	136
Lihue	0.65	<b>34</b>	1.94	<b>-1.29</b>	69
Honolulu	0.43	72	0.60	<b>-0.17</b>	64
Kahului	0.53	<b>279</b>	0.19	<b>0.34</b>	65
Hilo	4.65	<b>50</b>	9.31	<b>-4.66</b>	<b>56</b>

## 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

September rainfall totals were below average at most of the rain gages on Kaua'i. Most of the rainfall totals for 2022 through the end of September were below average across 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 205.73 inches (70 percent of average).

### Oahu

O'ahu rainfall totals were near to above average at most of the gages. The below average monthly totals were mainly along the north and northwest sides of the island. Rainfall totals for 2022 through the end of September were near to below average at all of the gages on O'ahu. The USGS' Poamoho Rain Gage No. 1 had the highest year-to-date total of 80.47 inches (49 percent of average).

### Maui

Maui County monthly totals exhibited a wide range of conditions, from 4 percent of average rainfall at Kula 1, to 438 percent of average at Kīhei No. 2. All of the Lāna'i gages had monthly totals over 200 percent of average. The USGS' rain gage at West Wailuaiki Stream had the highest monthly total of 11.97 inches (84 percent of average) and the highest daily total of 2.63 inches on September 3. Due to the aforementioned heavy rain event on September 9, the Kīhei No. 2 gage posted its highest September total on record.

All of the Maui County rain gages had near to below average rainfall totals for 2022 through the end of September with most of the totals below 50 percent of average. The USGS' Pu'u Kukui rain gage had the highest year-to-date total of 139.73 inches (50 percent of average).

### Big Island

Big Island rainfall conditions were unusual in September, with windward sites being mostly drier than average and leeward sites being wetter than average. Nearly all of the windward totals were below 50 percent of average. Rainfall totals for 2022 through the end of September were near to below average at most of the gages. The USGS' rain gage at Kawainui Stream had the highest year-to-date total of 131.19 inches (122 percent of average).

# Current State of ENSO and predictions

Issued 13 October 2022

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

**Synopsis: There is a 75% chance of La Niña during the Northern Hemisphere winter (December-February) 2022-23, with a 54% chance for ENSO-neutral in February-April 2023.**

Below-average sea surface temperatures (SSTs) continued across the central and eastern equatorial Pacific Ocean during September. Most of the Niño indices decreased during the past month, with the latest weekly index values spanning  $-0.8^{\circ}\text{C}$  to  $-1.6^{\circ}\text{C}$ . For the last couple of months, negative subsurface temperature anomalies remained mostly unchanged, reflecting the persistence of below-average temperatures across the eastern Pacific Ocean. Low-level easterly wind anomalies and upper-level westerly wind anomalies prevailed across most of the equatorial Pacific. Convection was suppressed over the western and central tropical Pacific and was 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 January-March 2023. The forecaster consensus for this month favors a slightly later transition to ENSO-neutral, during February-April 2023, which is consistent with the latest North American Multi-Model Ensemble (NMME). However, predicting the timing of transitions is challenging, and there continues to be uncertainty over how long La Niña may last. In summary, there is a 75% chance of La Niña during the Northern Hemisphere winter (December-February) 2022-23, with a 54% chance for ENSO-neutral in February-April 2023.

## 6. Rainfall Verification JAS-July, August, September (Josie)

The verification result of JAS rainfall forecasts was 11 hits and 3 misses (Heidke score: 0.5926).

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	Avg.	<b>Below</b>	Avg.	<b>Below</b>	Avg-above	<b>Below</b>	<b>Below</b>	Avg-below	35:35:30	64	34.57	<b>Below</b>
<b>FSM</b>												
Yap 9° 29' N, 138° 05' E	<b>Below</b>	<b>Below</b>	<b>Below</b>	<b>Below</b>	Avg-below	<b>Below</b>	<b>Below</b>	<b>Below</b>	50:30:20	78	33.87	<b>Below</b>
Chuuk 7° 28' N, 151° 51' E	<b>Below</b>	<b>Below</b>	Avg-below	<b>Above</b>	Avg.	<b>Below</b>	Avg.	Avg-below	35:35:30	98	35.99	<b>Avg.</b>
Pohnpei 6° 59' N, 158° 12' E	<b>Below</b>	Avg-below	Avg.	<b>Above</b>	Avg-above	<b>Above</b>	<b>Above</b>	<b>Below</b>	40:30:30	152	64.26	<b>Above</b>
Kosrae 5° 21' N, 162° 57' E	<b>Below</b>	<b>Below</b>	<b>Above</b>	Avg-below	Avg.	<b>Below</b>	<b>Below</b>	<b>Below</b>	40:35:25	141	60.94	<b>Below</b>
<b>RMI</b>												
Kwajalein 8° 43' N, 167° 44' E	<b>Below</b>	Avg-above	Avg.	Avg.	Avg-above	<b>Above</b>	Avg.	Avg.	30:40:30	97	29.38	<b>Avg.</b>
Majuro 7° 04' N, 171° 17' E	<b>Below</b>	Avg-above	<b>Above</b>	Avg-below	<b>Above</b>	<b>Above</b>	<b>Below</b>	<b>Below</b>	40:30:30	109	37.07	<b>Avg.</b>
<b>Guam and CNMI</b>												
Guam 13° 29' N, 144° 48' E	<b>Below</b>	Avg.	<b>Below</b>	<b>Below</b>	Avg.	<b>Below</b>	<b>Below</b>	Avg-below	35:35:30	97	36.60	<b>Below</b>
Saipan 15° 06' N, 145° 48' E	<b>Below</b>	Avg.	Avg-below	<b>Below</b>	Avg.	<b>Below</b>	<b>Below</b>	Avg-below	35:35:30	98	31.43	<b>Avg.</b>
<b>American Samoa</b>												
Pago Pago 14° 20' S, 170° 43' W	<b>Below</b>	<b>Below</b>	<b>Below</b>	Avg-below	Avg-below	Clim.	<b>Below</b>	<b>Below</b>	45:30:25	136	23.75	<b>Above</b>
<b>State of Hawaii</b>												
19.7° - 21.0° N, 155.0° - 159.5° W												
Lihue	<b>Below</b>	<b>Below</b>	Avg-below	Avg-below	Avg.	Clim.	<b>Below</b>	<b>Below</b>	40:35:25	69	3.76	<b>Below</b>
Honolulu	<b>Below</b>	<b>Below</b>	Avg-below	Avg-below	Avg.	Clim.	<b>Below</b>	<b>Below</b>	40:30:30	64	0.74	<b>Below</b>
Kahului	<b>Below</b>	<b>Below</b>	Avg-below	Avg-below	Avg.	Clim.	<b>Below</b>	<b>Below</b>	40:30:30	65	0.68	<b>Below</b>
Hilo	<b>Below</b>	<b>Below</b>	Avg-below	Avg-below	Avg.	Clim.	<b>Below</b>	Avg-below	35:35:30	56	15.19	<b>Below</b>

11	<b>Hit</b>
3	<b>Miss</b>
<b>Heidke:</b>	<b>0.5926</b>
<b>RPSS:</b>	<b>0.0838</b>

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

	<b>Koror</b>	<b>Yap</b>	<b>Chuuk</b>	<b>Pohnpei</b>	<b>Guam</b>	<b>Saipan</b>	<b>Majuro</b>	<b>Kwaj</b>
below (<)								
33.33%	39.25	41.9	34.86	40.06	37.2	29.48	31.17	28.97
near								
66.66%	50.04	46.11	44.29	50.76	44.54	35.85	38.16	33.09
above (>)								

	<b>Lihue</b>	<b>Honolulu</b>	<b>Kahului</b>	<b>Hilo</b>	<b>Pago Pago</b>	<b>Kosrae</b>
below (<)						
33.33%	5.27	1.02	0.84	25.17	15.04	41.49
near						
66.66%	7.79	1.67	1.64	33.44	23.4	47.32
above (>)						

## 6. Rainfall Outlook OND– October, November, December (Josie)

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

### 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%	31.24	27.44	30.88	43.58	24.01	20.13	35.14	29.07
near								
66.66%	38.99	32.32	38.67	49.78	29.41	23.26	41.82	31.88

above (>)

	Lihue	Honolulu	Kahului	Hilo	Pago Pago	Kosrae
below (<)						
33.33%	9.18	4.36	4.18	28.26	31.15	39.86
near						
66.66%	15.56	8.52	8.05	41.99	41.56	44.83

above (>)

## Drought monitoring updates.

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

- i. With WxCoder III data, we have 23 stations in the monthly analysis.
- ii. September was dry (less than the 4- or 8-inch monthly minimum needed to meet most water needs) at Airai (Palau); Yap, Ulithi, Lukunor, & Kapingamarangi (FSM); Kwajalein, Jaluit & Wotje (RMI); and Pago Pago (American Samoa); it was wet elsewhere. September was drier than normal at Saipan (Marianas); Airai (Palau); Kwajalein (RMI); Pago Pago (American Samoa); and Yap, Lukunor, & Kapingamarangi (FSM), because this is the wet season (at most stations) and normals are high; September was wetter than normal at Guam, Chuuk, Pohnpei, Kosrae, & Majuro.
- iii. The end-of-September monthly analysis (September 30) is consistent with the weekly analyses for September 27 and October 4. Compared to the end-of-August monthly analysis:
  - a. D1 worsened to D2 on Kapingamarangi.
  - b. D1 developed on Lukunor and American Samoa (Tutuila).
  - c. D0 developed at Ulithi and Yap.
  - d. The USDM status stayed the same (D-Nothing) at the other stations.
  - e. Uirik and Fananu were plotted as missing due to missing data for the month.
- iv. Some September 2022 precipitation ranks:
  - a. **Kapingamarangi:** 10<sup>th</sup> driest September (in a 31-year record), but driest April-September, March-September, February-September, and January-September; 2<sup>nd</sup> driest rank for all other longer time periods (December-September through October-September).
  - b. **Lukunor:** 2<sup>nd</sup> driest September (39 years) and driest August-September, July-September, June-September, and May-September.
  - c. **Ulithi:** 6<sup>th</sup> driest September (39 years), but driest August-September and July-September, and 2<sup>nd</sup> driest June-September.
  - d. **Yap:** 5<sup>th</sup> driest September (72 years), but driest August-September.
  - e. **Jaluit:** 7<sup>th</sup> driest September (39 years).
  - f. **Guam:** 8<sup>th</sup> driest August-September (66 years).
  - g. **Pago Pago:** 14<sup>th</sup> driest September (57 years of data), but 8<sup>th</sup> driest December-September.
  - h. At the wet end of the scale:

Mili had the fourth wettest September and wettest July-September & April-September through October-September.

Ailinglaplap had the wettest March-September (38 years), November-September, and October-September.

### B. Current (Weekly) Drought Conditions: The discussion above is the monthly (end of September) analysis. The latest weekly USAPI USDM assessment may show different USDM classifications. The latest weekly USAPI USDM assessment is for October 11.

- i. The October 11 analysis has D-Nothing at Yap; otherwise, it is the same as the end-of-September analysis.