NWS Climate Services

September PEAC Audio Conference Call Summary

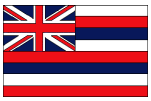
8 September, 1430 HST (9 September 2022, 0030 GMT)

August 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	August	Inches	inches	JJA
Airai	16.00	108	14.85	1.16	81
Yap	9.57	65	14.82	-5.25	86
Chuuk	8.98	70	12.86	-3.88	82
Pohnpei	19.69	138	14.26	5.43	145
Kosrae	16.69	117	14.22	2.47	142
Kwajalein	12.81	132	9.74	3.07	120
Majuro	8.65	74	11.69	-3.04	80
Guam NAS	9.15	62	14.74	-5.59	89
Saipan	10.55	80	13.13	-2.58	111
Pago Pago	6.53	121	5.38	1.15	133
Lihue	2.19	119	1.84	0.35	74
Honolulu	0.07	37	0.19	-0.12	44
Kahului	0.06	13	0.48	-0.42	17
Hilo	5.15	62	8.37	-3.22	74

Reports from around the Region



Hawaii (Kevin Kodama)

Precipitation Summaries for HI can also be found:

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

Kauai

The rainfall during the last week of August helped push most of the monthly totals on Kauaʻi into the near to above average range. The U.S. Geological Survey's (USGS) rain gage on Mount Waiʻaleʻale had the highest monthly total of 26.56 inches (76 percent of average). However, the highest daily total of 3.87 inches came from the USGS' Kilohana rain gage on August 4 as a weak low pressure trough passed north of the state. While several sites on Kauaʻi had higher than average rainfall, the Anahola gage over northeast Kauaʻi posted its lowest August total since 2012.

Despite the boost in rainfall for many locations, rainfall totals for 2022 through the end of August remained below average at most of the gages on Kauaʻi. Many of these totals were 40 to 70 percent of average. The Mount Waiʻaleʻale gage had the highest year-to-date total of 194.58 inches (74 percent of average).

Oahu

Gages along the windward slopes of the Koʻolau Range had near to above average rainfall totals for the month of August. Most of the remaining gages on the island had below average monthly totals. The lower leeward slopes were particularly dry with most of the August totals at less than 20 percent of average. The USGS' Kahana Rain Gage had the highest monthly total of 11.48 inches (133 percent of average), and the highest daily total of 4.94 inches on August 16. Records for the lowest August totals were broken at the Mānoa Lyon Arboretum and Pacific Palisades gages. The Nuuanu Upper and Moanalua gages posted their lowest August totals since 1996 and 2006, respectively.

Oʻahu rainfall totals for 2022 through the end of August were below average at most of the gages. Many of the totals were in the range of 40 to 70 percent of average. The USGS' Poamoho Rain Gage No. 1 had the highest year-to-date total of 70.78 inches (48 percent of average). Honolulu Airport has a near-average total of 8.54 inches so far this year, but has recorded only 0.32 inches in the last 3 months, which registered as the seventh lowest June through August period on record for this site.

Maui

Most of the rain gages across Maui County had below average rainfall totals for the month of August. There were some notable above average amounts, such as 5.99 inches at ʻUlupalakua Ranch (550 percent of average) and 0.23 inches at Kealia Pond (288 percent of average). The ʻUlupalakua rainfall helped ease drought conditions in the area, but the 0.23 inches at Kealia Pond, while better than nothing, is not considered to be a drought-busting total. The USGS' rain gage at West Wailuaiki Stream had the highest monthly total of 7.71 inches (45 percent of average). ʻUlupalakua Ranch had the highest daily total of 3.30 inches on August 4. The 5.71 inches recorded by the USGS' Puʻu Kukui gage was the lowest August total since 1985. Haiku had its lowest August total since 2006.

Nearly all of the Maui County rain gages had below average totals for 2022 through the end of August. Most of the totals were below 50 percent of average. The Puʻu Kukui rain gage had the highest year-to-date total of 130.87 inches (51 percent of average).

Big Island

August rainfall totals were below average at most of the gages on the Big Island, with many at less than 50 percent of average. The USGS' rain gage at Honoliʻi Stream had the highest monthly total of 7.42 inches (38 percent of average), and the highest daily total of 1.92 inches on August 5. Records for the lowest August total were broken at Glenwood, Honokaʻa, Laupāhoehoe, Mountain View, Piʻihonua, and Waiākea Uka. The Kamuela and Kamuela Upper gages had their lowest August totals since 2008 and 2011, respectively.

Big Island rainfall totals for 2022 through the end of August 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 126.13 inches (126 percent of average).

Current State of ENSO and predictions

Issued 14 July 2022

ENSO Alert System Status: La Niña Advisory

Synopsis: **La Niña is favored to continue through Northern Hemisphere winter 2022-23, with a 91% chance in September-November, decreasing to a 54% chance in January-March 2023.**

During August, below-average sea surface temperatures (SSTs) persisted across the central and east-central equatorial Pacific Ocean. The largest SST anomalies were evident in the Niño-3.4 and Niño-4 regions, with the latest weekly values reaching -0.8°C and -1.1°C, respectively. Negative subsurface temperature anomalies were mostly unchanged during the month, reflecting the dominance of below-average temperatures across the eastern Pacific Ocean. Low-level easterly wind anomalies and upper-level westerly wind anomalies continued across most of the equatorial Pacific. Convection and rainfall 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. There is an interesting split in the dynamical versus statistical model forecasts, with the latter set suggesting La Niña will persist longer, through January-March 2023. At this time, the forecaster consensus sides with the statistical models, although there is still large uncertainty over how long La Niña will last and when it will transition to ENSO-neutral (56% chance of a transition to ENSO-neutral during February-April 2023). In summary, La Niña is favored to continue through Northern Hemisphere winter 2022-23, with a 91% chance in September-November, decreasing to a 54% chance in January-March 2022.

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

6. Rainfall Verification JJA-June, July, August (Josie)

The verification result of **JJA** rainfall forecasts was 9 hits and 5 misses (Heidke score: 0.4539). The 5 missed stations are Chuuk, Pohnpei, Guam, Pago Pago and Hilo.

June, July, August (JJA) 2022 Verification

Updated 9/9/2022 JJA

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.	Below	Below	Below	Avg.	Below	Below	Avg-Below	35:35:30	81	43.50	Below		
FSM														
Yap 9° 29' N, 138° 05' E	Below	Below	Below	Below	Avg-below	Below	Below	Below	45:30:25	86	36.15	Below		
Chuuk 7° 28'N, 151° 51'E	Below	Avg.	Avg-below	Avg.	Avg.	Below	Below	Below	40:35:25	82	29.77	Below		
Pohnpei 6° 59'N, 158° 12'E	Below	Avg.	Avg.	Avg-above	Avg.	Above	Below	Avg.	30:40:30	145	64.37	Above		
Kosrae 5° 21'N, 162° 57'E	Below	Below	Avg-above	Below	Avg-above	Below	Below	Below	40:30:30	142	62.22	Above		
RMI														
Kwajalein 8° 43'N, 167° 44'E	Avg-below	Above	Avg-above	Above	Avg-above	Above	Above	Avg-above	30:35:35	120	31.82	Above		
Majuro 7° 04' N, 171° 17'E	Avg.	Above	Above	Avg-above	Above	Above	Above	Above	25:35:40	80	27.13	Below		
Guam and CNMI														
Guam 13° 29'N, 144° 48' E	Below	Avg.	Avg-below	Avg-below	Avg.	Below	Below	Avg-Below	35:35:30	89	27.74	Below		
Saipan 15° 06'N, 145° 48' E	Below	Avg.	Avg-below	Avg-below	Avg.	Below	Below	Below	40:35:25	111	28.55	Avg.		
American Samoa														
Pago Pago 14° 20'S, 170° 43'W	Below	Below	Avg-below	Avg-above	Avg-below	Clim.	Above	Below	40:30:30	133	21.60	Avg.		
State of Hawaii														
19.7° - 21.0' N, 155.0° - 159.5' W														
Lihue	Below	Below	Avg-below	Avg.	Avg.	Clim.	Below	Below	40:35:25	74	3.58	Below		
Honolulu	Below	Below	Avg-below	Avg.	Avg.	Clim.	Below	Below	40:35:25	44	0.32	Below		
Kahului	Below	Below	Avg-below	Avg.	Avg.	Clim.	Below	Below	40:35:25	17	0.16	Below		
Hilo	Below	Below	Avg-below	Avg.	Avg.	Clim.	Below	Avg-Below	40:35:25	74	17.96	Below		

5	Miss
Heidke:	0.3802
RPSS:	-0.0469

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%	34.28	21	32.97	49.71	13.05	8.14	25.63	15.41
near								
66.66%	42.1	32.89	39.15	56.96	15.95	11.06	34.51	26.35
above (>)								

	Lihue	Honolulu	Kahului	Hilo	Pago Pago	Kosrae
below (<)						
33.33%	4.39	0.71	0.74	19.45	14.32	43.42
near						
66.66%	6.88	1.3	1.51	31.4	21.74	46.35
above (>)						

6. Rainfall Outlook JAS– July, August, September (Josie)

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

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: (Richard Heim)

Drought monitoring updates.

A. End-of-August Monthly Drought Assessment:

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

ii. August was dry (less than the 4- or 8-inch monthly minimum needed to meet most water needs) at Ulithi, Lukunor, & Kapingamarangi (FSM), and Jaluit & Wotje (RMI); it was wet elsewhere. August was drier than normal at Saipan & Guam (Marianas), Majuro (RMI), and Yap, Chuuk, Lukunor, & Kapingamarangi (FSM), because this is the wet season (at most stations) and normals are high; August was wetter than normal at Airai, Pohnpei, Kosrae, Kwajalein, & Pago Pago.

iii. The end-of-August monthly analysis (August 31) is consistent with the weekly analyses for August 30 & September 6, and is the same as the analyses for these two weeks since there was no change between them. Compared to the end-of-July monthly analysis:

a. D1 continued on Kapingamarangi.

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

c. Utirik and Fananu were plotted as missing due to missing data for the month.

iv. Some August 2022 precipitation ranks:

a. **Kapingamarangi:** 7th driest August (in a 32-year record), but driest May-August, April-Aug, & March-Aug; 2nd or 3rd driest rank for all other longer time periods (February-August through September-August).

b. **Lukunor**: driest August, July-Aug, June-Aug, & May-Aug (26 years); 2nd driest April-August.

c. **Ulithi**: 2nd driest August (40 years), July-Aug, & June-Aug (38 years); 3rd driest May-Aug (38 years).

d. **Jaluit**: 6th driest May-August (38 years) & 8th driest June-Aug (38 years).

e. **Majuro:** 5th driest May-August (68 years) & 8th driest June-Aug (69 years).

f. **Chuuk:** 8th driest August (72 years) & 6th driest June-August (71 years).

g. **Yap:** 11th driest August (72 years).

h. **Guam:** 11th driest August (66 years).

i. **Pago Pago:** 26th wettest August (57 years of data), but 8th driest September-August.

j. At the wet end of the scale:

1. Mili 2nd wettest August (38 years) & wettest July-August & April-Aug thru September-Aug. 2.
2. Ailinglaplap wettest March-August (38 years) and September-August.