NWS Climate Services

June PEAC Audio Conference Call Summary

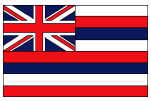
9 June, 1430 HST (10 June 2022, 0030 GMT)

May 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	March	Inches	inches	MAM
Airai	24.06	153	15.72	8.34	57.84
Yap	12.04	153	7.85	4.19	33.55
Chuuk	19.87	176	11.30	8.57	50.89
Pohnpei	22.32	112	19.96	2.36	78.99
Kosrae	22.12	125	17.75	4.37	90.93
Kwajalein	13.17	196	6.72	6.45	32.45
Majuro	6.72	66	10.11	-3.39	50.35
Guam NAS	2.35	69	3.40	-1.05	9.40
Saipan	1.81	76	2.38	-0.57	9.75
Pago Pago	9.32	96	9.66	-0.34	20.14
Lihue	2.66	179	1.49	1.17	7.45
Honolulu	1.40	350	0.40	1.00	1.83
Kahului	0.18	37	0.49	-0.31	0.46
Hilo	12.65	172	7.36	5.29	32.63

Reports from around the Region



Hawaii (Kevin Kodama)

Precipitation Summaries for HI can also be found:

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

Kauai

Kauaʻi rainfall totals for the month of May were near to above average at most of the gages. Below average totals were mostly from the north side of the island. The U.S. Geological Survey's (USGS) rain gage on Mount Waiʻaleʻale had the highest monthly total of 35.61 inches (116 percent of average) and the highest daily total of 4.71 inches on May 2. The gage at Hanalei posted its lowest May total since 2012.

Nearly all of the gages on Kauaʻi had below average rainfall totals for 2022 through the end of May. Līhuʻe Airport was the only site with a near average total. The Mount Waiʻaleʻale gage had the highest year-to-date total of 123.27 inches (79 percent of average).

Oahu

May rainfall totals from the windward Koʻolau sites and west Oʻahu sites north of Nānākuli were mostly near to below average. South and central Oʻahu gages had mostly near to above average monthly totals resulting from rain bands in the unseasonal southerly low level flow on May 18 through May 20. The USGS' Poamoho Rain Gage No. 1 had the highest monthly total of 15.17 inches (87 percent of average) and the highest daily total of 2.96 inches on May 28. The Hakipuu Mauka gage had its lowest May total since 2012.

Oʻahu rainfall totals for 2022 through the end of May were mostly near to below average. The Poamoho Rain Gage No. 1 had the highest year-to-date total of 50.55 inches (54 percent of average).

Maui

The island of Maui had a wide range of conditions in May, from near to above average totals in the east and southeast flanks of Haleakalā, to below average totals in the central valley and lower leeward West Maui. Molokaʻi and Lānaʻi had below average monthly totals. The USGS' gage on top of Puʻu Kukui had Maui County's highest May total of 26.94 inches (97 percent of average). This was the highest May total at this site since 2012. Puʻu Kukui also had the highest daily total of 8.67 inches on May 1, which was the first day of a 4-day period where the gage logged 20.20 inches of rainfall. The 0.74 inches at the Kihei No. 2 gage registered as the highest May total since 2002. The entire May total at this site occurred by 12:15 AM HST on May 2. In contrast, ʻUlupalakua Ranch had it lowest May total since 2012.

All of the Maui County gages had below average rainfall totals for 2022 through the end of May. Most of the year-to-date totals remained below 50 percent of average, with Kahului Airport at only 7 percent of average. The Puʻu Kukui gage had the highest total of 84.25 inches (52 percent of average).

Big Island

Most of the Big Island gages had near to above average totals for the month of May. Below average totals were mainly from the Kaʻū District. The USGS' rain gage at Honoliʻi Stream had the highest monthly total of 26.69 inches (163 percent of average) and the highest daily total of 7.90 inches on May 3. This relatively new site is the closest automated gage to the Big Island's climatological rainfall maximum so it will often have the highest monthly total. The Mauna Loa Observatory had its highest May total since 2002, and the PTA Kipuka Alala, Waiākea Uka, and Hilo Airport gages had their highest May totals since 2006. In the Kaʻū District, Kapāpala Ranch had its lowest May total since 2012.

Most of the Big Island gages had below average rainfall totals for 2022 through the end of May. Among the near to above average totals, most were along the slopes of the South Kona District and in the South Hilo District. The rain gage at Honoliʻi Stream had the highest year-to-date total of 81.16 inches (85 percent of average).

Current State of ENSO and predictions

Issued 9 June 2022

ENSO Alert System Status: La Niña Advisory

Synopsis: **Though La Niña is favored to continue through the end of the year, the odds for La Niña decrease into the Northern Hemisphere late summer (52% chance in July-September 2022) before slightly increasing through the Northern Hemisphere fall and early winter 2022 (58-59% chance).**

During May, below-average sea surface temperatures (SSTs) continued across most of the central and eastern equatorial Pacific Ocean. However, negative SST anomalies weakened during the past month, as reflected by the Niño indices, which ranged from -0.6°C to -0.9°C during the past week. Subsurface temperatures anomalies (averaged between 180°-100°W and 0-300m depth) also weakened with values returning to near zero. Below-average subsurface temperatures persisted near the surface to at least ~75m depth from the central to the eastern equatorial Pacific Ocean, with above-average temperatures continuing at depth (~100 to 200m) in the western and central Pacific Ocean. Low-level easterly wind anomalies prevailed in the east-central equatorial Pacific, while upper-level westerly wind anomalies continued over most of the equatorial Pacific. Convection was suppressed over the western and central Pacific and was weakly enhanced over parts of Indonesia. Overall, the coupled ocean-atmosphere system continues to reflect La Niña.

The most recent IRI/CPC plume average for the Niño-3.4 SST index forecasts La Niña to persist into the Northern Hemisphere winter 2022-23. This is now in greater agreement with the forecast consensus this month, which also predicts La Niña to continue into the winter. However, it is clear that recent observed oceanic and atmospheric anomalies have weakened and this is anticipated to continue through the summer. Uncertainty remains over whether La Niña may transition to ENSO-neutral during the summer, with forecasters predicting a 52% chance of La Niña and a 46% chance of ENSO-neutral during July-September 2022. After this season, the forecast is for renewed cooling, with La Niña favored during the fall and early winter. In summary, though La Niña is favored to continue through the end of the year, the odds for La Niña decrease into the Northern Hemisphere late summer (52% chance in July-September 2022) before slightly increasing through the Northern Hemisphere fall and early winter 2022 (58-59% chance; click CPC/IRI consensus forecast for the chances in each 3-month period).

6. Rainfall Verification MAM-March, April, May (Josie)

The verification result of **MAM** rainfall forecasts was 11 hits and 3 misses (Heidke score: 0.4519). The 3 missed stations are Pago Pago, Saipan, and Yap.

Location	UKMO	ECMWF	CA	NASA	NCEP	IRI	APCC	Rainfall Outlook	Final Probs	3 mo Verification			PEAC JFM	PEAC JFM
										% norm	Total (in)	Tercile	Forecast Final	Probs Final
Palau														
Airai 7° 22' N, 134° 32' E	Above	Avg-above	Above	Avg-above	Above	Above	Above	Above	25:35:40	122	33.70	Above		
FSM														
Yap 9° 29' N, 138° 05' E	Above	Avg-above	Avg-above	Avg-above	Avg.	Above	Above	Above	25:35:40	143	23.16	Above		
Chuuk 7° 28'N, 151° 51'E	Above	Above	Above	Avg-above	Avg-below	Clim.	Above	Above	30:30:40	80	20.62	Below		
Pohnpei 6° 59'N, 158° 12'E	Avg-above	Above	Above	Avg-above	Avg-below	Above	Above	Avg-above	30:35:35	154	55.23	Above		
Kosrae 5° 21'N, 162° 57'E	Avg-above	Avg-above	Above	Avg-below	Avg-below	Above	Avg-below	Avg-above	30:35:35	125	56.98	Above		
RMI														
Kwajalein 8° 43'N, 167° 44'E	Above	Above	Above	Above	Avg.	Avg.	Above	Avg-above	30:35:35	230	18.77	Above		
Majuro 7° 04' N, 171° 17'E	Above	Avg-above	Above	Avg-below	Avg-below	Above	Avg.	Avg-above	30:35:35	156	33.13	Above		
Guam and CNMI														
Guam 13° 29'N, 144° 48' E	Above	Avg.	Avg.	Avg.	Avg.	Avg-above	Above	Avg-above	30:35:35	103	9.40	Avg.		
Saipan 15° 06'N, 145° 48' E	Above	Avg.	Avg.	Avg.	Avg.	Clim.	Above	Avg-above	30:35:35	139	9.75	Above		
American Samoa														
Pago Pago 14° 20'S, 170° 43'W	Below	Avg-below	Below	Avg-above	Avg.	Below	Avg-below	~~Avg Below~~	~~35:35:30~~	108	38.73	Avg.	Avg	30:40:30
State of Hawaii														
19.7° - 21.0' N, 155.0° - 159.5' W														
Lihue	Above	Above	Above	Avg-above	Avg-above	Above	Above	Above	25:30:45	152	10.14	Avg.		
Honolulu	Above	Above	Above	Avg-above	Avg-above	Above	Above	Above	25:30:45	231	6.78	Avg.		
Kahului	Above	Above	Above	Avg-above	Avg.	Above	Above	Above	25:30:45	7	0.38	Below		
Hilo	Above	Above	Above	Avg-above	Avg.	Above	Above	Above	25:30:45	43	12.14	Below		

11	Hit
3	Miss
Heidke:	0.4519
RPSS:	-0.1040

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%	26.86	14.74	30.3	46.13	7.61	5.88	21.02	9.74
near								
66.66%	33.44	22.41	36.94	58.61	11.51	8.02	32.44	21.13
above (>)								

	Lihue	Honolulu	Kahului	Hilo	Pago Pago	Kosrae
below (<)						
33.33%	5.32	1.83	2.45	22.5	27.97	51
near						
66.66%	7.98	3.05	4.64	34	38.33	55.49
above (>)						

6. Rainfall Outlook JJA– June, July, August (Josie)

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

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%	47.11	40.34	33.35	40.21	29.26	21.38	31.08	24.49
near								
66.66%	55.07	45.79	43.35	50	36.54	30.82	35.58	28.47
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 (>)						

Drought Monitoring Updates: (Richard Heim)

Drought monitoring updates.

Notes for USAPI USDM authors -- Highlights from Reports from Around the Region and drought discussion:

- Kwajalein: vegetation still pretty brown.
- Wotje: Satellite-derived precip looks dry Wotje & surrounding islands; probably last half of March before it gets better.
- Majuro: Not much crops on Majuro (limited bandana, taro, tree crops) so they focus on reservoir levels as impacts.
- Kapingamarangi & Nukuoro: Possibly could improve Kapinga & Nukuoro to D-Nothing next week if rains continue.
- Chuuk: Wildfires happening on Chuuk, vegetation is drying out. 2 water tanks service downtown area, are half full, in northern part of Chuuk. Guam, Saipan: were some decent fires in south part of Guam. Vegetation still green on Guam, D-nothing good. Saipan drier, but drought concerns are minimal.

Drought monitoring updates.

A. <u>End-of-May Monthly Drought Assessment</u>:

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

ii. May was dry (less than the 4- or 8-inch monthly minimum needed to meet most water needs) in the Marianas, Wotje & Majuro (RMI), and Kapingamarangi, Pingelap, & Ulithi (FSM); it was wet elsewhere. May was drier than normal at Kapingamarangi & Lukunor (FSM), Pago Pago (American Samoa), Majuro (RMI), and Guam & Saipan (Marianas); May was wetter than normal at the rest of the main stations.

iii. The end-of-May monthly analysis (May 31) is consistent with the weekly analysis for May 31, and is the same as the May 31 analysis. Compared to the end-of-April monthly analysis:

a. D2 improved to D1 at Wotje.

b. D0 returned to Guam, Rota, & Saipan.

c. D1 returned to Kapingamarangi.

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

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

iv. Some January 2022 precipitation ranks:

a. Kapingamarangi: driest May, April-May, & March-May (in a 28-year record); 2nd or 3rd or 4th driest rank for all other time periods (Feb-May thru June-May); last 12 months ranked as the 3rd driest June-May (18 years of data).

b. Pago Pago: 30th driest May (57 years of data); 5th driest March-May & Sep-May.

c. Pingelap: 6th driest May (38 years).

d. Saipan: 9th driest May (42 years).

e. Wotje: This is a transition month, so the 6.85 inches of rain that fell in May 2022 ranked the month as the 8th wettest May in the 38-year record.

f. At the wet end of the scale:

g. Mili had the 4th wettest May, Woleai 5th wettest May, Airai 3rd (?) wettest May.