NWS Climate Services

August PEAC Audio Conference Call Summary

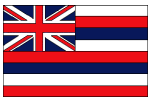
12 August, 1430 HST (13 August 2021, 0030 GMT)

July 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	July	Inches	inches	MJJ
Airai	13.55	62	21.99	-8.44	44.48
Yap	10.13	67	15.08	-4.95	29.07
Chuuk	16.13	135	11.98	4.15	50.66
Pohnpei	14.30	93	15.43	-1.14	65.63
Kosrae	24.77	166	14.91	9.86	80.47
Kwajalein	8.05	82	9.87	-1.82	21.11
Majuro	9.42	84	11.17	-1.75	47.51
Guam NAS	8.76	86	10.14	-1.38	20.98
Saipan	10.94	123	8.91	2.03	19.50
Pago Pago	4.64	84	5.55	-0.91	23.67
Lihue	1.77	105	1.69	0.08	3.27
Honolulu	0.08	22	0.36	-0.28	0.17
Kahului	0.00		0.38	-0.38	0.14
Hilo	9.52	100	9.53	-0.01	17.95

Reports from around the Region



Hawaii (Kevin Kodama)

Precipitation Summaries for HI can also be found:

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

Kauai

Most of the gages on Kauai recorded near to above average rainfall totals for the month of July. The below average totals mainly occurred along the lower slopes from Hanapepe to Waimea. The U.S. Geological Survey's (USGS) rain gage on top of Mount Waialeale had the highest monthly total of 47.24 inches (122 percent of average) and the highest daily total of 4.04 inches on July 4. One notable aspect of the Waialeale rainfall was that there were daily totals greater than an inch on 23 days in July.

All of the gages on Kauai had near to above average rainfall totals for 2021 through the end of July. Mount Waialeale had the state's highest year-to-date total of 317.67 inches (140 percent of average).

Oahu

July rainfall totals across Oahu were near to below average at most locations. Many of the gages along the lower leeward slopes had monthly totals at less than 50 percent of average. Windward Koolau gages had monthly totals between 40 and 70 percent of average. The gage at the Manoa Lyon Arboretum had the highest July total of 13.32 inches (87 percent of average) and the highest daily total of 1.40 inches on July 25. The Kahuku and Aloha Tower gages had their lowest July totals since 2006 and 2007, respectively.

Rainfall totals for 2021 through the end of July were near to above average at nearly all of the gages on Oahu. The USGS' Poamoho Rain Gage No. 1 had the highest year-to-date total of 115.33 inches (89 percent of average).

Maui

Gages along the windward slopes of Maui and Molokai had near average July rainfall totals. All of the remaining sites in Maui County had below average totals, including several sites with no measurable rainfall for the entire month. In fact, out of 5 gages in Maui's central valley, only the Wailuku gage recorded any rainfall (0.04 inches, 5 percent of average). Kahului Airport had its lowest July rainfall total since the site started weather observations in 1954, and has not had any measurable rainfall since May 20, 2021. Elsewhere, Hana Airport, Kaunakakai, and Ulupalakua Ranch had their lowest July totals since 2006. The USGS' rain gage at West Wailuaiki Stream had the highest monthly total of 23.35 inches (117 percent of average) and the highest daily total of 1.85 inches on July 24.

Most of the Maui County rainfall totals for 2021 through the end of July were still near to above average due to wet conditions early in the year. However, the recent dryness has dropped several leeward sites into the below average range. The rain gage at West Wailuaiki Stream has recorded the highest year-to-date total of 171.63 inches (122 percent of average).

Big Island

Windward Big Island gages logged near to above average rainfall totals for the month of July. On the Kona slopes, rain gages posted yet another month of near to above average rainfall. Looking at the 4 upslope gages (Waiaha Stream, Kainaliu, Kealakekua, and Honaunau), the Kona slopes region has not had below average rainfall since April 2020. Most of the sites in the Kau and South Kohala Districts had below average July totals. The USGS' rain gage at Kawainui Stream had the highest monthly total of 31.31 inches (233 percent of average). This gage has not recorded a monthly total this high since August 2018. The highest daily total of 3.85 inches came from the Waiakea Uka gage on July 26.

Big Island rainfall totals for 2021 through the end of July were near to above average at most locations. The Piihonua gage had the highest year-to-date total of 123.15 inches (116 percent of average). Glenwood was not far behind with 121.84 inches (90 percent of average).

5. Current State of ENSO and predictions

Issued 12 August 2021

ENSO Alert System Status: La Niña Watch

***Synopsis*: ENSO-neutral is favored for the remainder of summer (~60% chance in the July-September season), with La Niña possibly emerging during the August-October season and lasting through the 2021-22 winter (~70% chance during November-January).**

Recently, sea surface temperatures (SSTs) were near-to-below average in the central and east-central equatorial Pacific, with above-average SSTs in the far eastern Pacific. In the last week, most Niño indices were slightly negative (-0.2ºC to -0.3ºC) except for the Niño-1+2 index, which was +0.7ºC. Subsurface temperatures cooled considerably in July, becoming quite negative (averaged from 180-100ºW;, reflecting the emergence of below-average subsurface temperatures east of the Date Line. Low-level wind anomalies were easterly over the east-central Pacific Ocean, while upper-level wind anomalies were westerly across the eastern Pacific. Tropical convection was suppressed over the western Pacific Ocean and enhanced over a small region near Indonesia. Given the surface conditions, the ocean-atmosphere system reflected ENSO-neutral.

Compared to last month, forecasts from the IRI/CPC plume are generally cooler in the Niño-3.4 SST region during the fall and winter 2021-22. Recent model runs from the NCEP CFSv2 and the North American Multi-Model Ensemble suggest the onset of a weak La Niña in the coming months, persisting through winter 2021-22. The forecaster consensus continues to favor these models, which is also supported by the noticeable decrease in the observed subsurface temperature anomalies this past month. In summary, ENSO-neutral is favored for the remainder of summer (~60% chance in the July-September season), with La Niña possibly emerging during the August-October season and lasting through the 2021-22 winter (~70% chance during November-January; click CPC/IRI consensus forecast for the chances in each 3-month period).

6. Rainfall Verification MJJ– May, June, July (Sony)

The verification result of **MJJ** rainfall forecasts was 12 hits and 2 misses (Heidke score: 0.4880). The 2 missed stations are Airai and Yap.

Location	UKMO	ECMWF	CA	NASA	NCEP	IRI	APCC	Rainfall Outlook	Final Probs	3 mo Verification			PEAC MJJ	PEAC MJJ
										% norm	Total (in)	Tercile	Forecast	Probs
Palau														
Airai 7° 22' N, 134° 32' E	Avg.	**Above**	Avg-above	Avg-above	Avg-above	**Above**	Avg.	~~Avg-above~~	~~**30:35:35**~~	81	44.48	Avg.	**Above**	**25:35:40**
FSM														
Yap 9° 29' N, 138° 05' E	**Above**	Avg.	Avg-above	Avg-above	Avg-above	**Above**	Avg-above	Avg-above	**30:35:35**	83	29.07	Below		
Chuuk 7° 28'N, 151° 51'E	**Above**	Avg.	Avg-above	**Above**	**Above**	**Above**	Avg-above	Avg-above	**30:35:35**	**145**	50.66	Above		
Pohnpei 6° 59'N, 158° 12'E	**Above**	Avg-above	Avg-above	**Above**	**Above**	**Above**	Avg-above	**Above**	**25:35:40**	131	65.62	Above		
Kosrae 5° 21'N, 162° 57'E	**Above**	Avg-above	Avg-above	Avg-below	**Above**	**Above**	Avg-above	Avg-above	**30:35:35**	**170**	80.47	Above		
RMI														
Kwajalein 8° 43'N, 167° 44'E	Avg.	Avg.	Avg.	**Above**	Avg-above	Avg-above	Avg.	Avg-above	**30:35:35**	90	21.11	Avg.		
Majuro 7° 04' N, 171° 17'E	**Above**	**Above**	Avg-above	Avg-above	**Above**	Clim.	Avg-above	**Above**	**30:30:40**	**147**	47.51	Above		
Guam and CNMI														
Guam 13° 29'N, 144° 48' E	**Above**	**Above**	Avg-above	Avg-above	Avg-above	**Above**	Avg-above	Avg-above	**30:35:35**	106	20.98	Avg.		
Saipan 15° 06'N, 145° 48' E	**Above**	**Above**	Avg-above	Avg-above	Avg-above	**Above**	Avg-above	Avg-above	**30:35:35**	131	19.50	Above		
American Samoa														
Pago Pago 14° 20'S, 170° 43'W	Avg-below	**Below**	Avg.	Avg.	Avg-below	Clim.	Avg-below	Avg-below	**35:35:30**	115	23.67	Avg.		
State of Hawaii														
19.7° - 21.0' N, 155.0° - 159.5' W														
Lihue	Avg.	**Below**	Avg.	Avg-below	Avg.	**Below**	Avg.	Avg-below	**35:35:30**	73	3.27	Below		
Honolulu	Avg.	**Below**	Avg.	Avg-below	Avg.	**Below**	Avg-below	Avg-below	**35:35:30**	**18**	0.17	Below		
Kahului	Avg.	**Below**	Avg-below	Avg-below	Avg.	**Below**	Avg-below	Avg-below	**35:35:30**	**15**	0.14	Below		
Hilo	Avg.	**Below**	Avg-below	Avg-below	Avg.	**Below**	Avg-below	Avg-below	**35:35:30**	77	17.95	Below		

12	Hit
2	Miss
Heidke:	0.4880
RPSS:	0.0713

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

	Koror	Yap	Chuuk	Pohnpei	Guam	Saipan	Majuro	Kwaj
below (<)								
33.33%	42.33	31.95	34.01	45.79	18.47	13.58	30.51	20.99
near								
66.66%	55.62	39.5	37.92	54.28	25.81	18.53	33.4	26.52
above (>)								

	Lihue	Honolulu	Kahului	Hilo	Pago Pago	Kosrae
below (<)						
33.33%	4.87	0.84	0.7	20.19	18.47	45.01
near						
66.66%	5.93	1.62	1.83	29.13	26.83	50.14
above (>)						

6. Rainfall Outlook ASO- August, September, October (Sony)

JAS Forecast Location	Rainfall Outlook	Probability Pre-Conference	Final Outlook	Final Probability
Palau				
Airai 7º 22' N, 134º 32' E	**Above**	**25:30:45**	-	-
FSM				
Yap 9º 29' N, 138º 05' E	Avg-above	**30:35:35**	-	-
Chuuk 7º 28'N, 151º 51'E	Avg.	**30:40:30**	-	-
Pohnpei 6º 59'N, 158º 12'E	Avg.	**30:40:30**	-	-
Kosrae 5º 21'N, 162º 57'E	Avg-below	**35:35:30**	-	-
RMI				
Kwajalein 8º 43'N, 167º 44'E	Avg-below	**35:35:30**	-	-
Majuro 7º 04' N, 171º 17'E	Avg-above	**30:35:35**	-	-
Guam and CNMI				
Guam 13º 29'N, 144º 48' E	Avg-below	**35:35:30**	-	-
Saipan 15º 06'N, 145º 48' E	Avg-below	**35:35:30**	-	-
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	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 ASO 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)

A. End-of-July Monthly Drought Assessment:

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

ii. July was dry (less than the 4- or 8-inch monthly minimum needed to meet most water needs) at

Iii. Lukunor (in the FSM) and Ailing laplap, Jaluit, and Wotje (in the RMI); it was wet elsewhere. July was drier than normal at most of the stations (because normals dur ing the wet season are higher than the monthly minimum), and wetter than normal at t hree stations (Chuuk, Kosrae, & Saipan). The end-of-July monthly analysis (July 31) is consistent with the weekly analyses for July 27 and August 3, and is the same as both of them since there was no change between them. Compared to the end-of-June monthly analysis:

A. The USDM status improved at Wotje (D0 to D-Nothing).

B. The USDM status changed at Ailinglaplap & Jaluit (D0 began).

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

D. Utirik & Fananu were plotted as missing due to missing data for the month.

iv. Some July 2021 precipitation ranks:

A. **Ailinglaplap:** (dry short-term, wet long-term): driest July, June-July, & May-July in the 37-year record. April-July 2nd driest such 4-month period. But Sep-July and Aug-July 2nd wettest such 11- & 12-month periods.

B. **Jaluit:** July 2nd driest (38 yrs), Jun-Jul 4th driest, and Aug-Jul 7th driest.

C. **Lukunor:** July 2nd driest (37 yrs), Jun-Jul 5th driest.

D. **Kapingamarangi:** July 2021 ranked near the middle of the 32-year historical record (18th driest/15th wettest), but longer time scales were dry with Aug-Jul 2nd driest and Sep-Jul 3rd driest such 12-month period.

B. Current (Weekly) Drought Conditions: The discussion above is the monthly (end of July) analysis. The latest weekly USAPI USDM assessment may show different USDM classifications. The latest weekly USAPI USDM assessment is for August 10.

i. The August 10 analysis has D0-S at Kapingamarangi & Lukunor.

C. July 2021 NCEI State of the Climate Drought Report: The July 2021 NCEI SotC Drought report went online today.

i. The web page url is:

A. https://www.ncdc.noaa.gov/sotc/drought/202107#regional-usapi