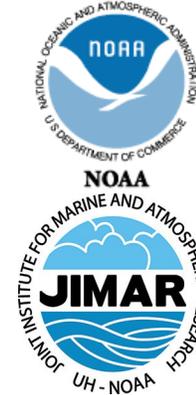




NWS Climate Services

December PEAC Audio Conference Call Summary

10 December, 1430 HST (11 December 2020, 0030 GMT)



University of
Hawai'i
M Ā N O A
UH/SOEST

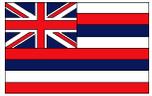


November rainfall totals reported

% 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 | SON |
| Airai | 9.97 | 78 | 12.79 | -2.82 | 37.36 |
| Yap | 17.27 | 196 | 8.83 | 8.44 | 40.96 |
| Chuuk | 13.45 | 127 | 10.61 | 2.84 | 43.63 |
| Pohnpei | 25.13 | 169 | 14.83 | 10.30 | 58.64 |
| Kosrae | 24.52 | 177 | 13.83 | 10.69 | 56.93 |
| Kwajalein | 12.95 | 115 | 11.28 | 1.67 | 44.10 |
| Majuro | 14.99 | 112 | 13.44 | 1.55 | 48.59 |
| Guam NAS | 10.33 | 140 | 7.38 | 2.95 | 38.04 |
| Saipan | 4.95 | 88 | 5.61 | -0.66 | 23.49 |
| Pago Pago | 16.25 | 160 | 10.14 | 6.11 | 49.78 |
| Lihue | 5.19 | 147 | 3.53 | 1.66 | 10.50 |
| Honolulu | 0.16 | 12 | 1.36 | -1.20 | 3.43 |
| Kahului | 0.25 | 14 | 1.84 | -1.59 | 0.78 |
| Hilo | 18.79 | 165 | 11.38 | 7.41 | 32.40 |

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 rain gages picked up mostly near to above average rainfall for the month of November. Leeward gages had mostly below average monthly totals. The U.S. Geological Survey's (USGS) rain gage on Mount Waialeale had the highest monthly total of 59.23 inches (158 percent of average) and the highest daily total of 9.30 inches on November 24. This gage recorded another 7.42 inches on November 25 for a 2-day total of 16.72 inches. The monthly rainfall totals at Mount Waialeale, Omao, and Wailua UH Experiment Station were the highest November amounts since 2009.

All of the Kauai rainfall totals for 2020 through the end of November were near to above average. The Mount Waialeale gage had the highest year-to-date total of 396.67 inches (109 percent of average) and should end the year with more than 400 inches for just the second time in the last 10 years.

Oahu

November rainfall totals from gages along the slopes of the Koolau Range were mostly near to above average. Below average totals were mostly from the southeastern and northwestern ends of the mountain range. All of the monthly totals from the slopes of the Waianae Range were below average. The USGS' Poamoho Rain Gage No. 1 had the highest monthly total of 22.19 inches (102 percent of average) and the highest daily total of 4.95 inches on November 24. The persistent trade winds resulted in Honolulu Airport recording well below average rainfall, with its 0.16 inches being the lowest November total since 1983.

Rainfall totals for 2020 through the end of November remained near average at most of the gages. The USGS' Poamoho Rain Gage No. 1 had the highest year-to-date total of 144.62 inches (70 percent of average).

Maui

Extreme rainfall variability occurred across Maui County during the month of November, with well above average totals along the slopes exposed to trade wind rainfall, and well below average rainfall in many leeward areas. Lower leeward slopes from Kepuni to Maalaea on Maui, and west of Kawela on Molokai, had less than 10 percent of average rainfall. The USGS' rain gage on Puu Kukui had the highest monthly total of 46.83 inches (156 percent of average) and the highest daily total of 9.81 inches on November 23. During the 5-day period from November 20 through 24, this site recorded 29.75 inches of rainfall.

Maui County rainfall totals for 2020 through the end of November remained near average at most of the sites. The Puu Kukui gage had the highest year-to-date total of 216.76 inches (64 percent of average) and it is probably the most notable among the few sites with a below average 2020 total.

Big Island

After an October with windward sites recording less than half of the average monthly rainfall, November totals from these same sites were mostly above average. The slopes of the South Kona District also received well above average rainfall. Below average monthly totals were mostly in the Kau, South Kohala, and North Kona Districts, as well as the Pohakuloa region in the interior of the island. The Mountain View rain gage had the highest monthly total of 28.44 inches (150 percent of average), followed closely by USGS' Saddle Road Quarry gage with 28.36 inches (218 percent of average). The Saddle Road Quarry gage had the highest daily total of 11.93 inches during the above mentioned heavy rain event on November 22. Among the windward Big Island sites, there were 11 with November totals greater than 20 inches. On the Kona slopes, the Kealakekua gage observed its highest November total on record.

Most of the Big Island rain gages had near to above average rainfall totals for 2020 through the end of November. The USGS' rain gage at Kawaiunui Stream had the highest year-to-date total of 166.56 inches (137 percent of average).



American Samoa (Richard Heim– USAPI narrative):

Pago for November had the 9th wettest November (oct/nov was 4th wettest) Oct was wettest on record.

Reports from around the Region CON'T



Kwajalein (Tyler Bodnar):

Deficit of 8-6 inches. October is at normal for rainfall.



Majuro (No Attendance):



Pohnpei (Wilfred)

Two flood statements were issued for the month of November.



Kosrae (No Attendance):



Chuuk (Sanchez Salle):

Boat accident due to rough seas during the day on the 14th of November. Strong current caused capsizing of small boat.



Yap (Brandon):

Plenty of rainfall. Coral reef study for month of November for 30-40% coral bleaching on eastern reef and less on western reef. No reports on outer islands.



Palau (Kikuko Mochimaru):

All stations except for Peleliu surpassed the 8 inches of monthly average rainfall needed to meet most water needs. The greatest 24-hour rainfall recorded by majority of the stations accumulated on Day 8 ranging between 2.06 inches to 3.15 inches contributed by a monsoon trough linked to Invest 93W (later known as TC Vamco). Airai's rainfall totals fell below both the average and median Normals and Koror's rainfall totals fell between the two. The highest temperatures recorded ranged from 85 to 93°F, lowest temperatures observed ranged from 70 to 78°F, while temperature averages fell below the Normal with exception to Peleliu.

Reports from around the Region CON'T



Guam and CNMI (Mark Lander):

Wet and lots of rainfall. Gale force winds outside of a tc. Tropical cyclone is quiet and some became further to the west. 23rd (56mph wind gust). December so far is still wet. Not large scale monsoon but still good amount of rain but yet still dry.

Tropical Cyclones (Mark Landers):

Quiet T.C. period so far with what seems to be a strong La Nina season.

5. Current State of ENSO and predictions

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

Issued 10 December 2020

Synopsis: : La Niña is likely to continue through the Northern Hemisphere winter 2020-21 (~95% chance during January-March), with a potential transition during the spring 2021 (~50% chance of Neutral during April-June).

La Niña persisted during November, as indicated by well below-average sea surface temperatures (SSTs) extending from the Date Line to the eastern Pacific Ocean. Most of the weekly indices fluctuated through the month, with the westernmost Niño regions Niño-4 and Niño-3.4 ending up around -1.0°C . The negative equatorial subsurface temperature anomalies (averaged from 180° - 100°W) weakened slightly last month, but continued to reflect below-average temperatures from the surface to 200m depth in the eastern Pacific Ocean. The atmospheric circulation over the tropical Pacific Ocean remained consistent with La Niña. Over the western and central tropical Pacific Ocean, low-level wind anomalies were easterly and upper-level wind anomalies were westerly. Tropical convection continued to be suppressed from the western Pacific to the Date Line. Also, both the Southern Oscillation and Equatorial Southern Oscillation indices were positive. Overall, the coupled ocean-atmosphere system indicates the continuation of La Niña.

A majority of the models in the IRI/CPC plume predict La Niña (Niño-3.4 index less than -0.5°C) to persist through the Northern Hemisphere winter 2020-21 and to weaken through the spring. Supported by the latest forecasts from several models, the forecaster consensus is for a moderate strength La Niña (Niño-3.4 index values between -1.0°C and -1.5°C) during the peak November-January season. In summary, La Niña is likely to continue through the Northern Hemisphere winter 2020-21 (~95% chance for January-March), with a potential transition during the spring 2021 (~50% chance of Neutral during Apr-Jun; click [CPC/IRI consensus forecast](#) for the chances in each 3-month period).

6. Rainfall Verification SON– September, October, November (Sony)

The verification result of **SON** rainfall forecasts was 9 hits and 5 misses (Heidke score: 0.0136).

| SON Verification Location | Rainfall Outlook | Final Probs | 3 month Verification | | |
|------------------------------------|---------------------|----------------|----------------------|------------|---------|
| | | | % norm | Total (in) | Tercile |
| Palau | | | | | |
| Airai 7° 22' N, 134° 32' E | Above | 20:35:45 | 91 | 37.36 | Avg. |
| FSM | | | | | |
| Yap 9° 29' N, 138° 05' E | Avg. | 30:40:30 | 119 | 40.96 | Above |
| Chuuk 7° 28' N, 151° 51' E | Avg-above | 30:35:35 | 129 | 43.63 | Above |
| Pohnpei 6° 59' N, 158° 12' E | Avg-below | 35:35:30 | 137 | 58.64 | Above |
| Kosrae 5° 21' N, 162° 57' E | Avg-above | 35:35:30 | 146 | 56.93 | Above |
| RMI | | | | | |
| Kwajalein 8° 43' N, 167° 44' E | Avg-below | 35:35:30 | 133 | 44.10 | Above |
| Majuro 7° 04' N, 171° 17' E | Avg-above | 30:35:35 | 130 | 48.59 | Above |
| Guam and CNMI | | | | | |
| Guam 13° 29' N, 144° 48' E | Avg-below | 35:35:30 | 121 | 38.04 | Above |
| Saipan 15° 06' N, 145° 48' E | Avg-below | 35:35:30 | 89 | 23.49 | Below |
| American Samoa | | | | | |
| Pago Pago 14° 20' S, 170° 43' W | Avg-above | 30:35:35 | 192 | 49.78 | Above |
| State of Hawaii | | | | | |
| 19.7° - 21.0' N, 155.0° - 159.5' W | | | | | |
| Lihue | Avg-below | 35:35:30 | 120 | 10.50 | Avg. |
| Honolulu | Avg-below | 35:35:30 | 107 | 3.43 | Avg. |
| Kahului | Avg-below | 35:35:30 | 30 | 0.78 | Below |
| Hilo | Avg-below | 35:35:30 | 111 | 32.40 | Avg. |
| | | | 9 | | Hit |
| | | | 5 | | Miss |
| | | | Heidke: | | 0.3063 |
| | | | RPSS: | | 0.0136 |

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

| | Koror | Yap | Chuuk | Pohnpei | Guam | Saipan | Majuro | Kwai |
|-----------|-------|-------|-------|---------|-------|--------|--------|-------|
| 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 (>)

6. Rainfall Outlook DJF: December, January, February (Sony)

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

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

| | Koror | Yap | Chuuk | Pohnpei | Guam | Saipan | Majuro | Kwai |
|-----------|-------|-------|-------|---------|-------|--------|--------|-------|
| below (<) | | | | | | | | |
| 33.33% | 26.42 | 17.47 | 25.39 | 34.23 | 11.41 | 8.66 | 24.24 | 11.78 |
| near | | | | | | | | |
| 66.66% | 37.21 | 25.53 | 32.01 | 45.42 | 16.49 | 11.56 | 30.01 | 16.47 |

above (>)

| | Lihue | Honolulu | Kahului | Hilo | Pago Pago | Kosrae |
|-----------|-------|----------|---------|-------|-----------|--------|
| below (<) | | | | | | |
| 33.33% | 7.45 | 3.68 | 4.64 | 19.58 | 35.2 | 43.72 |
| near | | | | | | |
| 66.66% | 13.98 | 8.62 | 8.68 | 33.29 | 46.65 | 53.68 |

above (>)