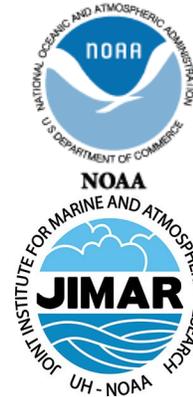




# NWS Climate Services

## February PEAC Audio Conference Call Summary

### 11 February, 1430 HST (12 February 2021, 0030 GMT)

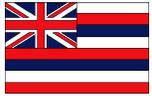


### January rainfall totals reported

% 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	January	Inches	inches	NDJ
Koror	10.42	102	10.18	0.24	36.21
Yap	12.85	201	6.39	6.46	47.11
Chuuk	11.56	114	10.10	1.46	45.48
Pohnpei	19.38	147	13.18	6.20	71.46
Kosrae	31.36	188	16.67	14.69	85.75
Kwajalein	2.34	74	3.16	-0.82	19.31
Majuro	11.58	150	7.74	3.84	43.28
Guam NAS	4.11	102	4.01	0.10	22.46
Saipan	2.30	91	2.53	-0.23	14.68
Pago Pago	17.62	132	13.34	4.28	48.42
Lihue	1.68	76	2.22	-0.54	8.92
Honolulu	3.23	281	1.15	2.08	3.70
Kahului	3.72	162	2.30	1.42	4.15
Hilo	17.47	197	8.87	8.60	50.99

## Reports from around the Region



**Hawaii** (Kevin)

### Kauai

Rain gages along the northern half of Kauai had mostly above average monthly totals for the month of January. Gages on the southern half had below average totals. The U.S. Geological Survey's (USGS) rain gage on Mount Waialeale had the highest monthly total of 38.45 inches (155 percent of average). This was followed closely by the USGS' Kilohana total of 38.33 inches (255 percent of average). The Kilohana rain gage had the highest daily total of 17.62 inches on January 19. The Wailua UH Experiment Station gage had its highest January total since 2005.

### Oahu

Most of the gages on Oahu recorded near to above average January rainfall totals. Pockets of below average totals came from the Kahuku area and portions of the leeward coast of Oahu. The Nuuanu Upper rain gage had the highest monthly total of 20.48 inches (214 percent of average). The highest daily total was from the Niu Valley gage which measured 5.44 inches on January 25. The Palolo Fire Station gage had its highest January total on record. Other notable sites included Nuuanu Upper, which had its wettest January since 2002, Niu Valley (2004), Waipio (2004), Aloha Tower (2005), and Kamehame (2005).

### Maui

January rainfall totals from Maui County were mostly near to above average. There were a few leeward areas that had below average monthly totals. The USGS' rain gage on Puu Kukui had the highest monthly total of 35.28 inches (113 percent of average) and the highest daily total of 10.21 inches on January 18. Monthly totals at the USGS' West Wailuaiki Stream rain gage and the National Park Service's Puu Alii gage on Molokai were also impressive at 31.47 and 29.08 inches, respectively. The Pukalani rain gage had its highest January total since 1997.

### Big Island

Big Island rainfall totals for the month of January were mostly near to above average. Rain gages with below average totals were mostly along the slopes of the Kohala Mountains and in the North Kona District. The USGS' Saddle Road Quarry rain gage had the highest monthly total of 23.44 inches (224 percent of average). This was followed closely by Mountain View's 23.26 inches (172 percent of average). The Saddle Road Quarry gage also had the highest daily total of 9.14 inches on January 25. Hilo Airport had its highest January total since 2002, and the Honanau, Kealakekua, and Pali 2 gages had their highest January totals since 2005.



### American Samoa:

American Samoa remained free of drought as rain was plentiful. Some reports of rock on roadways that limited access for drivers.



### Kwajalein (Nick):

January was quite dry in Kwajalein with only 2.34 inches of rainfall. February rainfall so far is looking better with more rainfall earlier in the month. Vegetation has displayed slight browning.



### Majuro (no attendance):



### Pohnpei (no attendance)



### Kosrae (no attendance):

Kosrae had second wettest January. Lots of rainfall in Kosrae.

## Reports from around the Region CON'T



### Chuuk (Boyd):

For January, most of the rain fell near the lagoon.



### Yap (Javez):

WSO station received 12.85 inches and 10 inches above for everywhere else on island. Lots of rainfall in Yap during January. One incident of young fisherman drifted 18 miles out of the reef and but rescued within the next day.



### Palau (Kiku):

It has been an active month in terms of the issuance of Regional and Local High Surf Advisories and Small Craft Advisories. Trade-winds were mainly gentle to moderate with gusts in the lower to mid-20 knots and one gust event on the 17<sup>th</sup> at 30 knots. Mainly moist trade-winds contributed to the overall rainfall accumulation for January 2021 but a few surface features such as a trough near the equator and another linked to a weak circulation southeast of Mindanao provided over an inch to nearly two inches of rain on a given day in the first and third week of January. Fortunately, there were no local impacts to report. In terms of rainfall, Airai's rainfall totals fell between its average and median criteria and Koror below normal in both the climatological average and median. All stations, except for Peleliu, reached the average monthly threshold of 8 inches of rainfall needed to meet most water needs. In reference to Koror's temperature climatology and with exception to Peleliu state, all stations' average temperatures were below normal with departures ranging from -0.6 to -1.2.



### Guam and CNMI (Mark, Chip):

Guam has been relatively dry with a few small fires that were reported on island.

### Tropical Cyclones (Mark):

Quiet season.

## 6. Rainfall Verification NDJ– November, December, January (Sony)

The verification result of **NDJ** rainfall forecasts was 10 hits and 4 misses (Heidke score: 0.4104). The stations that missed: Airai, Kwajalein, Honolulu, and Kahului. The remaining stations were all hits.

NDJ Verification Location	Rainfall Outlook	Final Probs	3 month Verification		
			% norm	Total (in)	Tercile
<b>Palau</b>					
Airai 7° 22' N, 134° 32' E	Above	20:30:50	99	36.21	Avg.
<b>FSM</b>					
Yap 9° 29' N, 138° 05' E	Above	20:30:50	199	47.11	Above
Chuuk 7° 28' N, 151° 51' E	Above	30:30:40	142	45.48	Above
Pohnpei 6° 59' N, 158° 12' E	Avg-above	30:35:35	162	71.46	Above
Kosrae 5° 21' N, 162° 57' E	Avg-above	30:35:35	184	85.75	Above
<b>RMI</b>					
Kwajalein 8° 43' N, 167° 44' E	Avg-above	30:35:35	92	19.31	Below
Majuro 7° 04' N, 171° 17' E	Avg-above	30:35:35	133	43.28	Above
<b>Guam and CNMI</b>					
Guam 13° 29' N, 144° 48' E	Avg-above	30:35:35	136	22.46	Above
Saipan 15° 06' N, 145° 48' E	Avg-above	30:35:35	122	14.68	Avg.
<b>American Samoa</b>					
Pago Pago 14° 20' S, 170° 43' W	Avg-above	30:35:35	133	48.42	Above
<b>State of Hawaii</b>					
19.7° - 21.0° N, 155.0° - 159.5°					
Lihue	Avg-above	30:35:35	100	8.92	Avg.
Honolulu	Avg-above	30:35:35	97	3.70	Below
Kahului	Avg-above	30:35:35	61	4.15	Below
Hilo	Avg-above	30:35:35	167	50.99	Above

Heidke:	0.4104
RPSS:	0.0433

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

	Koror	Yap	Chuuk	Pohnpei	Guam	Saipan	Majuro	Kwai
below (<)								
33.33%	29.21	21.82	30.16	38.94	14.88	11.78	32.31	21.12
near								
66.66%	38.94	28.08	36.49	47.32	21.97	16.53	36.56	25.30
above (>)								

	Lihue	Honolulu	Kahului	Hilo	Pago Pago	Kosrae
below (<)						
33.33%	8.57	3.89	5.16	26.44	32.98	44.1
near						
66.66%	16.95	8.76	9.46	42.99	47.68	55.78
above (>)						

## 5. Current State of ENSO and predictions

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

**Synopsis:** There is a ~60% chance of a transition from La Niña to ENSO-Neutral during the Northern Hemisphere spring 2021 (April-June).

La Niña persisted in January, reflected by below-average sea surface temperatures (SST) anomalies extending from the western to east-central Pacific Ocean. SSTs returned to near average in the eastern Pacific Ocean by the end of the month, as indicated by the latest weekly Niño-3 and Niño-1+2 index values of -0.3°C and -0.2°C, respectively. However, the latest weekly Niño index values in the central (Niño-4) and east-central (Niño-3.4) Pacific Ocean were -1.1°C and -0.7°C. The below-average SSTs were supported by negative subsurface temperature anomalies, which extended from the surface to at least ~150m below the surface between 160°E and 130°W. Low-level wind anomalies remained easterly from the western to east-central (~140°W) tropical Pacific, with the largest amplitude near the Date Line. Upper-level wind anomalies were westerly across most of the tropical Pacific. Tropical convection continued to be suppressed over the western and central Pacific and enhanced around the Philippines and Indonesia, while both the Southern Oscillation and Equatorial Southern Oscillation remained positive. Overall, the coupled ocean-atmosphere system remains consistent with La Niña.

Most of the models in the IRI/CPC plume predict a transition to ENSO-neutral during the Northern Hemisphere spring 2021. The forecaster consensus is in agreement with this transition and then predicts a continuation of ENSO-neutral at least through the Northern Hemisphere summer. In part, due to the inherent uncertainty in predictions made at this time of year, the forecast for the fall remains split (~50%) between La Niña and the combination of the other two possibilities (El Niño and Neutral). In summary, there is a ~60% chance of a transition from La Niña to ENSO-Neutral during the Northern Hemisphere spring 2021

## 6. Rainfall Outlooks for FMA

FMA 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	Avg-above	30:35:35		
Pohnpei 6° 59' N, 158° 12' E	Avg-above	30:35:35		
Kosrae 5° 21' N, 162° 57' E	Avg-	30:40:30	Avg-above	30:35:35
<b>RMI</b>				
Kwajalein 8° 43' N, 167° 44' E	Avg-above	30:35:35		
Majuro 7° 04' N, 171° 17' E	Avg-above	30:35:35		
<b>Guam and CNMI</b>				
Guam 13° 29' N, 144° 48' E	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	Average	30:40:30
<b>State of Hawaii</b>				
19.7° - 21.0° N, 155.0° - 159.5° W				
Lihue	Avg-above	30:35:35		
Honolulu	Avg-above	30:35:35	Avg-below	35:35:30
Kahului	Avg-above	30:35:35	Avg-below	35:35:30
Hilo	Avg-above	30:35:35		

## 7. Drought monitoring updates (Richard Heim).

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

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

January was dry (less than the 4- or 8-inch monthly minimum needed to meet most water needs) and below normal in the southern FSM (Kapingamarangi) & parts of the northern FSM (Fananu, Ulithi, Woleai), northern Marianas (Rota, Saipan), and northern & southwestern RMI (Jaluit, Kwajalein & Wotje). It was wet (and above normal) across the rest of Micronesia and American Samoa. The end-of-January monthly analysis (January 31) is consistent with the weekly analyses for January 26 and February 2, and is the same as the February 2 analysis. Compared to the end-of-December monthly analysis:

- i The USDM status improved at Kapingamarangi (D4-SL to D3-SL).
- ii D0-S worsened to D1-S at Kwajalein & Wotje.
- iii D0-S developed at Rota & Saipan.
- iv The USDM status stayed the same at the other stations:
  - v D-Nothing everywhere else.
- vi Utirik was plotted as missing due to missing data for the month.

Some January 2021 precipitation ranks:

- A **Kapingamarangi:** 7<sup>th</sup> driest January in their 31-year record; **the seven time periods from February-January through August-January were the driest on record**, September-January through November-January were the 3<sup>rd</sup> driest, and December-January was 4<sup>th</sup> driest.
- B **Saipan:** 17<sup>th</sup> driest January, **but 2<sup>nd</sup> driest February-January.** March-January through June-January ranked third or fourth driest.
- C **Jaluit:** 6<sup>th</sup> driest January (38 yrs) & June-January (35 yrs).
- D **Kwajalein:** 7<sup>th</sup> driest December-January (69 yrs).
- E On wet side: 2<sup>nd</sup> wettest January at Kosrae; wettest Dec-Jan at Lukonor; wettest Oct-Jan & Nov-Jan at Pohnpei; wettest Oct-Jan & Nov-Jan & Dec-Jan at Pingelap; wettest Feb-Jan & May-Jan & Jun-Jan at Pago Pago; wettest May-January thru October-January at Ailinglaplap.

B. Current (Weekly) Drought Conditions: The discussion above is the monthly (end of January) analysis. The latest weekly USAPI USDM assessment may show different USDM classifications. The latest weekly USAPI USDM assessment is for February 9.

The February 9 analysis has D2-S at Kwajalein & Wotje and D0-S at Fananu & Jaluit; otherwise, it is the same as the end of January analysis.

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

The web page url is:

**B. Use of SPI and Percent of Normal Precipitation in USAPI Drought Monitoring: -- NO CHANGE IN STATUS**

The SPI is used to determine Dx levels for the Mainland US.

- i D0: SPI between -0.5 & -0.8
- ii D1: SPI between -0.8 & -1.3
- iii D2: SPI between -1.3 & -1.6
- iv D3: SPI between -1.6 & -2.0
- v D4: SPI -2.0 or less

ii. Percent of Normal Precipitation is also used to identify areas to look at. If below normal, location is a candidate for drought.

It's not that straightforward for the USAPI.

- A The monthly normal precipitation amount can vary significantly from month to month due to the strong seasonality of equatorial Pacific precipitation resulting from the seasonal migration of the Inter-Tropical Convergence Zone (ITCZ) and occurrence of tropical cyclones.
- B During the wet season, the monthly normal can be well above the monthly minimum precipitation needed to meet most water needs.
  - C In these cases, the station can be below normal and have a negative SPI, yet still have plenty of rain and not be in any danger of being in drought.
  - D This is one reason why the monthly and weekly minimum rainfall criteria are so important.

**C. Automated Ingest of Daily Rainfall Data: -- NO CHANGE IN STATUS**

i. Automated Program: -- NCEI changed servers in June 2020, so the automated program is now running on climon-prod instead of cmb-us. It is also running in parallel on climon-dev. The automated program that ingests the USAPI station daily data has been modified to send out a master file of the current data to the authors, in case NCEI's web pages go down because of a future government shut down or for other reasons.

**Updates and Fixes**

- i **Kwajalein is getting into the automated data system now, but Pago Pago still is not getting in on a regular basis. Efforts are being made to get Pago Pago in there.**
- ii *Find out why Saipan's ASOS data are being transmitted and getting into our automated process instead of the manual gauge WxCoder III data.*
- iii *Add new stations to the automated process (Capital Hill 1, Nimitz Hill, Koror COOP, Mwoakilloa). I need to identify the WxCoder I.D. call sign and the COOP station numbers for these stations, then find them in our (NCEI) metadata base, then determine if they are being captured from the NOAAPort feed.*

Web interface: url is:

<https://www.ncdc.noaa.gov/temp-and-precip/drought/usapi-pcp/>

The “All Indicators” tab is the most used tab by USDM authors:

<https://www.ncdc.noaa.gov/temp-and-precip/drought/usapi-pcp/all>

The “Weekly”, “Monthly”, and “Seasonal” tabs have data tables as well as maps plotting the values.

The web page is updated automatically every day by a computer program that automates the ingest and processing of the data. The program runs every morning at 10 a.m. EST; it also sends out an email every day containing daily and weekly rainfall totals for several USAPI stations.

Some data on the web page are color coded to indicate wet or dry conditions (weekly and monthly precipitation totals), missing days (grey), and USDM categories (monthly and seasonal rank percentiles).

The web page is for internal use by NWS Pacific Island personnel and USDM author personnel. It is not for public release (NCEI does not have the staff to answer questions from the public and media and other users about why there is missing data).

## B. USAPI USDM Authors: -- NO CHANGE IN STATUS

i. The OCONUS (USAPI) USDM became an operational product at the beginning of March, with authorship rotating amongst the NCEI, NDMC, USDA, & CPC authors.

There are 7 USAPI USDM (OCONUS) authors: Ahira Sanchez-Lugo and myself (Richard Heim) from NCEI; Curtis Riganti, Claire Shield, and Deb Bathke from NDMC; Brad Rippey (from USDA); Anthony Artusa (from CPC).

i Claire, Curtis, & Brad have authored besides Ahira & me.

With the June 4, 2019 map, the U.S. Virgin Islands have been added to the USDM product suite. The USDM web site (<https://droughtmonitor.unl.edu/>) has been revised so that two USDM products (sets of maps) are produced each week: a CONUS USDM and an OCONUS USDM. The OCONUS USDM includes the USAPI and the US Virgin Islands (dots), while the CONUS USDM is what has been done for years (50 States & Puerto Rico) (polygon shapefiles).

## C. USAPI Listserv: -- NO CHANGE IN STATUS

i. NDMC (National Drought Mitigation Center) set up a listserv for communication of the USAPI USDM analyses and discussion, similar to the listservs that were set up for the Mainland and for the U.S. Virgin Islands. **We have been using this for communications, both for sending out the USAPI USDM analyses and it is also for NWS offices to report drought impacts to the authors and rest of the group.**

ii. If others want to be added to the listserv, let me (Richard Heim) or Brian Fuchs know and Brian will get them added.

There is also a DMUpdate Listserver for those who just want to know when the new USDM maps are released.

**Participants:**

**NWS Climate Services Program Managers (CSPMs): Sony Vang**

**WSO Climate Service Focal Points (CSFPs):**

Lee(Majuro)

Sanchez (Chuuk)

Wallace(Pohnpei)

Wolfred (Kosrae)

(Yap)

(Pago Pago)

(Palau)

Jason (Kwajalein)

Chip & Clint (Guam)

**PEAC Principal Research Scientist: Rashed Chowdhury**

**WERI Scientist: Mark Lander**

**CPC Forecaster:**

**WFO Guam : Chip Guard, Clint Simpson**

**UH Sea Level/JIMAR Director: Mark Merrifield**

**PEAC GRA:**

**NWS MIC, Honolulu: Christopher Brenchley**

**NCEI: Richard Heim**

**Pacific RISA: Krista Jaspers**

**NWS Hydrologist: Kevin Kodama**

**Additional Attendees:**

***\* Next Call– 11 March 2021, 1430 HST (12 March 2021, 0030 GMT)\*\****