



NWS Climate Services

July PEAC Audio Conference Call Summary

12 July, 1430 HST (13 July 2018, 0030 GMT)



University of
Hawai'i
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UH/SOEST

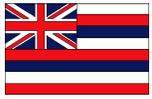


June rainfall totals reported (Joe)

% Normal: **blue** above normal & **red** below normal. Departure from normal: **blue**-above & **red**-below (same for 3 mon %)

	Rainfall	% Norm	Median	Departure	3 Month Total
	Inches	June	Inches	Inches	AMJ
Koror	11.60	66	17.48	-5.88	30.76
Yap	11.67	97	12.04	-0.37	22.88
Chuuk	16.67	143	11.66	5.01	36.28
Pohnpei	13.58	92	14.81	-1.23	49.29
Kosrae	10.77	74	14.64	-3.87	53.38
Kwajalein	15.75	227	6.93	8.82	50.13
Majuro	16.62	151	11.01	5.61	56.22
Guam NAS	5.42	88	6.18	-0.76	21.56
Saipan	5.83	161	3.62	2.21	23.69
Pago Pago	3.24	61	5.33	-2.09	30.26
Lihue	1.37	107	1.28	0.09	8.69
Honolulu	0.15	83	0.18	-0.03	1.59
Kahului	0.01	11	0.09	-0.08	5.66
Hilo	9.13	144	6.33	2.80	33.12

Reports from around the Region



Hawaii (Kevin)

Kauai

Rainfall totals were near to above average at most of the gages on Kauai for the month of June. The U.S. Geological Survey's (USGS) gage on Mount Waialeale had the highest monthly total of 44.33 inches (135 percent of average) and the highest daily total of 6.01 inches on June 2. This monthly total also made it Mount Waialeale's wettest June since 2005. Most of the leeward gages had totals from 1 to 2 inches, which is significant for June.

Most of the rain gages on Kauai had above average rainfall totals for 2018 through the end of June. Mount Waialeale had the highest year-to-date total of 278.13 inches (148 percent of average).

Oahu

Along the Koolau Range, upper slope and interior gages had near to above average June rainfall totals. Lower elevation sites, even on the windward side, had mainly below average totals. Conditions were drier over the Waianae Range, especially along the leeward slopes where many June totals came in at less than 50 percent of average. The Manoa Lyon Arboretum gage had the highest monthly total of 14.44 inches (122 percent of average). The highest daily total was 2.72 inches on June 9 recorded by the USGS' Poamoho Rain Gage No. 1. The Lualualei gage recorded its lowest June total since 2006.

Oahu rainfall totals for 2018 through the end of June were near to above average at most of the gages. A few of the gages along the lower leeward slopes of the Waianae Range had below average totals. The Poamoho Rain Gage No. 1 had the highest year-to-date total of 128.56 inches (116 percent of average).

Maui

Gages across Maui County showed a wide range of conditions with near to above average rainfall at sites exposed to trade wind showers, and below average rainfall at leeward sites. The USGS' Puu Kukui gage had the highest monthly total of 25.23 inches (86 percent of average) and the highest daily total of 4.32 inches on June 3. Lower leeward Maui gages from Maalaea to Kihei all showed no measurable rainfall for the entire month. Kahului Airport was also very dry with its monthly total of 0.01 inches registering as the lowest June total since 2002.

Rainfall totals for 2018 through the end of June were near to above average at most of the gages across Maui County. The West Wailuaiki gage had the highest year-to-date total of 157.86 inches (131 percent of average).

Big Island

Most of the windward areas of the Big Island had near to above average rainfall for the month of June. Leeward areas generally had below average totals with many at less than 50 percent of average. Even the Kona slopes region, which is the only leeward area in the state with a summer wet season, had below average rainfall. The USGS' rain gage at Kawainui Stream had the highest monthly total of 24.58 inches (249 percent of average). Their gage at Saddle Road Quarry had the highest daily total of 3.56 inches on June 27. The Pahoia gage posted its highest June total since 2005. In contrast, the Kealakekua gage had its lowest June total since 2004.

Big Island rainfall totals were mostly near to above average for 2018 through the end of June. The Saddle Road Quarry gage had the highest year-to-date total of 197.04 inches (284 percent of average).



American Samoa (Taylor, Jene):

American Samoa was a bit drier in June, but it is trending towards wet now. The month of June recorded 61% of normal (% of normal and % are synonymously used throughout this call-note) rainfall. The island is bit dry now with a few flooded areas due to coastal inundations. Trades winds are picking up! There is no report of any significant damage, but there were several surf advisories. Sea level stays elevated with big waves. Model-based PEAC's seasonal climate outlook is now indicating above average rainfall for JAS with moderate confidence. The sea level is staying above but stable now. Forecasts indicate that it will stay marginally elevated over the next three months (JAS).



Kwajalein (Jason):

The weather in Kwajalein is typical for this time of year. The atoll experienced a relatively dry windy season from mid-December to mid-May and a relatively wet calm (wind) season from mid-May to mid-November. The month of May and June recorded 332% and 227% of normal rainfall (4 inches rainfall in one day on June 5). The atoll is currently very wet with strong trade winds. The sea level has gone down and currently stays marginally elevated (reading +1.5 inches). PEAC-model forecasts have trended to show above-average rainfall and normal sea level over the next 3 months, and there is no active TC warning now.

Reports from around the Region (CON'T)



Majuro (Chip):

Majuro has been receiving good rainfall since January 2018. The rainfall in May and June were 216% and 151% of normal. This downpour has sufficiently improved Majuro's drought situation and made the island wet again. The water reservoirs capacity in Majuro now is 36 million gallons. As of June 14th, 2018 the water reservoirs reached around 35 million gallons. PEAC-model forecasts have trended above average rainfall and normal sea level over the next 3 months, and there is no active TC warning now.



Pohnpei (Eden):

Currently, Pohnpei is "fairly" wet. The trade-winds and active sea level have gone down (reading 0 now). There were flood statements issued in the month. The Island is very hot now (*PEAC call it a diagnostic signal of forthcoming El Niño*), especially, starting from the 1st week of May. PEAC-model forecasts have trended average above rainfall and normal sea level over the next 3 months.



Kosrae (Eden):

Kosrae received 136% and 74% of normal rainfall in May and June. After prolonged dry periods, the situation has improved in Kosrae. Currently, the island is fairly wet. The trade-winds have been strong and the sea level has gone down too. PEAC forecasts have trended to show average rainfall for the next three months.



Chuuk (Joe Berdon):

Chuuk recorded 143% of normal rainfall in June. The island is bit dry now and there was a shortage of water. The island **Lukangaw** is dry now—the rainfall there is well below normal. PEAC forecasts are favoring above-average rainfall and normal sea level in the next season.



Yap (Throng, Chip):

Yap is having their monsoon now. It received only 94% and 97% of normal rainfall in May and June. There were some convergences, but it produced some rainfall to the northern side of Yap. Everything looks normal in Yap—reservoirs are full and streams are flowing well. The overall climate was feeling cold, which was caused partly due to the flow of trade winds. The island is relatively high and the south-west part of the island is protected by mangrove forest, so it is protected from any minor inundation problem. PEAC forecasts are favoring above-average rainfall and normal to slightly below normal sea level in the next three months.



Palau (Rick):

Palau has been dry with few showers. It is currently a bit drier than normal. It received 66% of normal rainfall in June. The rainfall at Palau tracks ENSO so well that it makes a good ENSO index in its own right! Sea level has already gone below normal (currently reading -4 inches below!). The island is bit cold now. The normal sea level and drier than normal atmospheric climate is a precursor of forthcoming El Niño. PEAC forecast favors average-above rainfall and below normal sea level in the next season.



Guam and CNMI (Mark, Chip):

After prolonged dry conditions, Guam and Saipan are moderately wet now—particularly in the month of April and May. The 240% and 384% of rainfall in Guam and Saipan have significantly improved the dry conditions and changed these two islands to wet and green. During April, beneficial heavy rainfall occurred on Guam, Tinian, Saipan and Rota. The April rainfall was heavy enough to ease drought conditions and allow for all islands to be moved from the D2 drought category into the D0 (abnormally dry) drought category. PEAC forecasts are now indicating above average rainfall for both Guam and Saipan over the next three months and slightly elevated sea level.

Reports from around the Region (CON'T)



Tropical Cyclones (Chip, Mark L)

The statistical forecast released by WFO Guam (Mr. Paul Stanko) foresees a near-average season for the western North Pacific basin, but enhanced activity throughout Micronesia with 6 (± 1) major typhoons somewhere within the bounds of the region; this is far more active than during 2016 and 2017. Using this guidance, and considering current weather patterns and the evolution of ENSO, the PEAC will adopt the press-release forecast by the WFO Guam, wherein the odds for a severe tropical storm at each location is given as 50% (about average); the odds of a CAT 1 typhoon is set at 25% (above average); and the odds for a major typhoon (CAT 3 or higher) is set at 15% (slightly above average).

Elsewhere in Micronesia, the odds for damaging TC strikes are set to slightly above average (for example, the average annual number of named tropical cyclones passing within 180 n mi of Yap or Palau is four, with a 10-15% chance of a damaging strike). Eastward of Chuuk State, the risk of a tropical storm or typhoon is much lower than at locations farther to the west, except during strong or some moderate El Niño events.

During 2016 and 2017, the PEAC set very low odds ($< 10\%$) for TC activity eastward of Chuuk State. This year, the PEAC anticipates an enhancement of TC development at locations to the east of Chuuk State, with the odds of some damaging effects from a TC (high surf; gale-force or stronger wind; and extreme rainfall > 10 inches in 24 hours) set at 25% (1-in-4) for all locations. This is an above average risk, and is well above the level of activity seen throughout Micronesia in both 2016 and 2017.

The 2017-18 South Pacific cyclone season soon ends (June 30, 2018), with no further activity ($< 10\%$ risk of damaging impacts) anticipated to occur near American Samoa through September.

Sea Level Discussion Remarks (Rashed) All values are in inches (1 inch=25.4 mm); Seasonal cycle removed.

Tide Gauge stations	Seasonal Forecasts JAS (mean ¹) (ano)	SD of AMJ (mean)	Monthly mean ¹ anomaly			Current State/ Trend	Seasonal Forecasts JAS (max ²) (ano.)	SD of AMJ (max)	Monthly max ² anomaly		
			Observed rise/fall						Observed rise/fall		
			Apr/ 2018	May/ 2018	June/ 2018	AMJ 2018			Apr/ 2018	May/ 2018	June/ 2018
Marianas, Guam	+1	3.6	+6	+4	+3	Falling	+19	4.0	+20	+18	+19
Malakal, Palau	-3	4.3	0	-4	-4	Falling	+35	4.3	+37	+31	+31
Yap, FSM	-1	4.2	+6	+4.5	+1	Falling	+27	4.6	+32	+29	+29
Chuuk, FSM***	+1		+2.8	+0.75	0	Falling	+29				
Pohnpei, FSM	0	2.7	+4.6	0	0	Falling	+28	3.1	+32	+29	+30
Kapingamarangi	0		+6.6	+6.6	+6	Falling	+28	**	+28	+31	
Majuro, RMI	0	2.2	+5	+3	+1	Falling	+40	3.0	+43	+40	+43
Kwajalein, RMI	0	2.7	+1.7	0	+1.5	Falling	+37	3.0	+36	+36	+37
Pago Pago*	+7 (+2)	4.5	+10.5 [+5.5]	+11 [+6]	+12 [+7]	Above Stable	+33 (+28)	4.9	+31	+31	+37
Honolulu	+2	2.0	+2	+1.5	+3	Stable	+21	2.5	+16	+20	+25
Hilo	+2	2.2	+3.5	+5	+5	Stable	+24	2.6	+23	+26	+28

+/- indicate positive anomaly (rise) and negative anomaly (fall) respectively. Note that any changes between (0~±1) inch is considered to be negligible. Also note that changes within the range of (+/-) 2 inches are unlikely to cause any adverse climatic impact. *** (Experimental) Satellite Aviso Altimetry data, ** Data currently unavailable; *Figures in parenthesis for monthly-max anomaly indicates difference between the maximum anomaly for the given month and the long-term monthly average anomaly.*

1: Difference between the mean sea level for the given month and the 1983 through 2001 monthly mean sea level value at each station (seasonal cycle removed); 2: Same as 1 except for maxima; SD stands for standard deviations.

* **In Pago Pago**, There was a level shift (approximately 5 inches) in American Samoa at the time of September 2009 earthquake. So, -5 inches has been adjusted (shown in parenthesis) to the current tide-gauge values of Pago Pago.

Current Conditions: Consistent to ENSO-neutral or forthcoming El Niño, all north Pacific stations displayed considerable fall in June. This is an abrupt transition from elevated sea level (during JFMA) to normal or even below normal stage. Some of the stations may still remain marginally elevated (e.g., Guam, Kapingamarangi) in June-July, but likely to fall below normal in August or September 2018. Hawaii sea levels also returned to normal, but Hilo recorded some considerable rise in May and currently stays elevated. Note that the south Pacific station (i.e., Pago Pago) is elevated (+7). This station maintains 4-6 months' time-lag w.r.t north Pacific stations (i.e., Guam and the Marshalls).

Impacts: While the MSL is falling, *tides have been very high with high waves for some of the islands (e.g., Majuro, Pago Pago). There might have been minor-to-moderate inundations in low-lying atolls and Pohnpei, Kosrae, and Chuuk reported road damage during this quarter.*

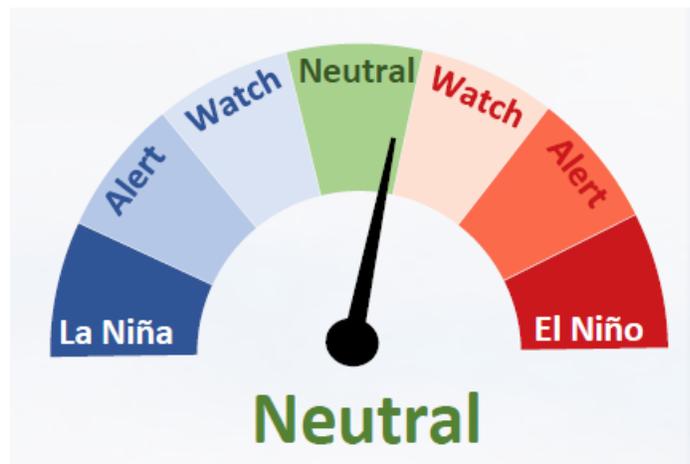
Forecasts for JJA: PEAC-CCA Statistical model is predicting normal to marginally below-normal in the forthcoming JJA-ASO seasons. If El Niño develops as per projections, then the lowest anomalies of sea level may likely to occur at the later part of 2018. In Hawaii, both Honolulu and Hilo are likely to be slightly elevated, but still close to normal. Note that the south Pacific station (i.e., Pago Pago) maintains a 4-6 months' time-lag to change fall/rise when compared to north Pacific stations (i.e., Guam and the Marshalls).

5. Current State of ENSO and predictions: (Rashed) ENSO Alert System Status: **El Niño Watch**

Synopsis: ENSO-neutral is favored through Northern Hemisphere summer 2018, with the chance for El Niño increasing to about 65% during fall, and to about 70% during winter 2018-19

ENSO-neutral continued during June, as indicated by slightly above-average sea surface temperatures (SSTs) across the central and eastern equatorial Pacific. The latest weekly Niño indices were between +0.3°C and +0.6°C, except for the Niño-1+2 index, which was -0.2°C. Positive subsurface temperature anomalies (averaged across 180°-100°W) continued over the past month, and the volume of anomalous warmth now extends to the surface in the eastern part of the basin. Convection remained suppressed near the Date Line and was near-average over Indonesia. Low-level wind anomalies were near average across the equatorial Pacific Ocean, except in the east-central Pacific, where anomalies were westerly. At upper-levels, winds were easterly over the east-central Pacific and near the International Date Line. Overall, the oceanic and atmospheric conditions reflected ENSO-neutral.

The majority of models in the IRI/CPC plume predict ENSO-neutral to continue through the Northern Hemisphere summer 2018, with El Niño most likely thereafter. The forecaster consensus favors the onset of El Niño during the Northern Hemisphere fall, which would then continue through winter. These forecasts are supported by the anomalous subsurface warmth across the eastern half of the tropical Pacific Ocean. In summary, ENSO-neutral is favored through Northern Hemisphere summer 2018, with the chance for El Niño increasing to about 65% during fall, and to about 70% during winter 2018-19.



Source: NIWA , The Island Climate Update Bulletin

In summary:

- The ENSO neutral conditions persisted in the tropical Pacific during June 2018;
- Model predictions and expert opinion indicate that ENSO conditions are about 75% likely to remain neutral through August of 2018;
- While more than half of the models surveyed predict the development of weak El Niño later in 2018, the uncertainty of long-lead forecasts made at this time of year is still large, and therefore the probability of El Niño development is considered only at about 55-65% at this time.

6. Rainfall Outlooks for JAS (Joe)

The verification result of AMJ rainfall forecasts has been found to be encouraging with 7 hits and 7 misses (Heidke score: 0.3716). The stations that hit the forecasts were: Kosrae, Kwajalein, Majuro, Pago Pago, Lihue, Kahului, and Hilo. The 7 missed stations were Koror, Yap, Chuck, Pohnpei, Guam, Saipan, an Honolulu. PEAC forecasts are based on six GCMs and two statistical models.

Location	Rainfall Outlook	Final Probs	3 mo Verification		
			% norm	Total (in)	Tercile
Palau					
Koror 7° 22' N, 134° 32' E	Avg-above	30:35:35	84	30.76	Below
FSM					
Yap 9° 29' N, 138° 05' E	Above	25:35:40	90	22.88	Avg.
Chuuk 7° 28' N, 151° 51' E	Above	25:35:40	102	36.28	Avg.
Pohnpei 6° 59' N, 158° 12' E	Above	30:30:40	93	49.29	Below
Kosrae 5° 21' N, 162° 57' E	Avg-above	30:35:35	107	53.38	Above
RMI					
Kwajalein 8° 43' N, 167° 44' E	Above	20:35:45	265	50.13	Above
Majuro 7° 04' N, 171° 17' E	Avg-above	30:35:35	184	56.22	Above
Guam and CNMI					
Guam 13° 29' N, 144° 48' E	Avg.	30:40:30	178	21.56	Above
Saipan 15° 06' N, 145° 48' E	Avg.	30:40:30	275	23.69	Above
American Samoa					
Pago Pago 14° 20' S, 170° 43' W	Avg-below	35:35:30	124	30.26	Avg.
State of Hawaii					
19.7° - 21.0° N, 155.0° - 159.5° W					
Lihue	Above	30:30:40	185	8.69	Above
Honolulu	Above	25:35:40	145	1.59	Avg.
Kahului	Above	20:35:45	385	5.66	Above
Hilo	Above	20:35:45	140	31.72	Above

Hit
Miss

Heidke: 0.3716
 RPSS: 0.0107

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%	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
4.74	1.23	1.25	21.42	22.42	47.62
5.97	1.77	2.17	29.01	33.53	51.87

Rainfall in inches

6. Rainfall Outlooks for JAS (Con't)

<i>Location</i>	<i>Rainfall Outlook</i>	<i>Final Probabilities</i>
Palau		
Koror	Avg-above	30:35:35
FSM		
Yap	Avg-above	30:35:35
Chuuk	Avg-above	30:35:35
Pohnpei	Above	25:35:40
Kosrae	Average	30:40:30
RMI		
Kwajalein	Avg-above	30:35:35
Majuro	Above	25:35:40
Guam and CNMI		
Guam	Above	25:35:40
Saipan	Above	25:35:40
American Samoa		
Pago Pago	Above	25:35:40
State of Hawaii		
Lihue	Avg-above	30:35:35
Honolulu	Avg-above	30:35:35
Kahului	Avg-above	30:35:35
Hilo	Avg-above	30:35:35

Note

Interpretation of tercile probability: The *Avg-above* probability, **30:35:35** forecasts in *JAS* season means there is a **35%** chance (probability) for occurrence of excess rainfall during the *JAS* season, **35%** chance for occurrence of rainfall within a pattern considered normal during the *JAS* season, and **30%** chance for occurrence of deficit rainfall during the *JAS* season. *Also note that excess and deficit limit for each of the stations are different*

7. Drought monitoring updates (Richard Heim).

A. End-of-June Monthly Drought Assessment:

- i. With WxCoder III data, we have 23 stations in the monthly analysis.
- ii. June was dry (less than the monthly minimum required to meet most water needs) at Lukonor & Nukuoro (in FSM), Ailinglapalap (RMI), and Pago Pago (American Samoa). It was wet at the rest of the USAPI stations. Pingelap & Wotje could not be analyzed due to missing data (completely missing) and Jaluit could not be analyzed because 10 days were missing this month. The June monthly analysis (June 30) is consistent with the weekly analyses for June 26 and July 7. Compared to the end-of-May analysis, abnormally dry conditions in western Yap State ended at the end of June, continued in Chuuk State (Lukonor), and developed in the RMI (Ailinglapalap):
 - a. D0-S ended at Ulithi & Yap.
 - b. D0-S continued at Lukonor.
 - c. D0-S developed at Ailinglapalap.
 - d. Pingelap & Wotje were completely missing in June, and Jaluit was missing too many days in June, so they could not be analyzed.
 - e. All other stations continued at a D-Nothing classification.

B. Current (Weekly) Drought Conditions: The discussion above is the monthly (end of June) analysis. The latest weekly USAPI USDM assessment may show different USDM classifications. The latest weekly USAPI USDM assessment is for July 10 and shows the same classifications as for June 30, except Jaluit isn't missing (is D-Nothing) and Kwajalein is missing.

C. June NCEI State of the Climate Drought Report: I included a discussion of USAPI drought and climate conditions in my June 2018 NCEI SotC Drought & Synoptic reports (which went online today).

- i. The web page url's are:

<https://www.ncdc.noaa.gov/sotc/drought/201806#det-reg-pacis-usapi>

<https://www.ncdc.noaa.gov/sotc/synoptic/201806>

D. Automated Ingest of Daily Rainfall Data: We are working with NWS, WRCC, and HPRCC personnel to have the WxCoder III daily data transmitted near-real time every day so we can incorporate it into our GHCN-Daily data base here at NCEI. This will enable us to automate the processing, which is a required step before we can make the USAPI USDM weekly analyses official and release them publicly (they are considered experimental now). – **Status:**

i. **A web interface has been created where the automated data is summarized and can be viewed. The url is:**

- a. <https://www.ncdc.noaa.gov/temp-and-precip/drought/usapi-pcp/>
- b. The "All Indicators" tab will be the most used tab by USDM authors:
- c. <https://www.ncdc.noaa.gov/temp-and-precip/drought/usapi-pcp/all>
- d. The "Weekly", "Monthly", and "Seasonal" tabs have data tables as well as maps plotting the values.
- e. 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.
- f. **It is crucial that daily rainfall data for all stations be entered into WxCoder III every day**, so that it can be incorporated into this automated system. Otherwise, if too many days are missing, then drought will not be analyzed for the station.
- g. 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).
- h. 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).

ii. The data for 4 stations (Kwajalein, Pago Pago, Jaluit, & Woleai) aren't getting into our system for some reason (am checking out solutions). **Kwajalein and Pago Pago need to be entered into the WxCoder III system.**

iii. The data for some stations in the Marianas (Agat, Dededo, Tinian) and Yap State (North Fanif & Rumung) are included (but drought is not analyzed) to give us a better idea of rainfall distributions. North Fanif or Rumung (whichever one has more complete data) is ana-

lyzed and plotted as a backup if Yap isn't available. More stations could be added for rainfall analysis if their data are reliably entered into WxCoder III every day.

Drought monitoring updates (CON'T)

E. Weekly USAPI Drought Assessment:

- i. I assessed drought conditions for each week from December 9, 2014 through July 12, 2018.
- ii. Stations that don't have data (or enough data) for the week in question are designated as having No Data for that weekly assessment.
- iii. Source of the daily data for the weekly assessments: Guam and Pago Pago NWS web sites; Kwajalein PLCD web site; WRCC web sites for the automated stations; WxCoder III for most of the stations. **We will be going exclusively to the automated system soon.**
- iv. **I will continue this on a weekly basis (Monday afternoons EST) until the USAPI analysis becomes an official part of the USDM, at which time other USDM authors will rotate each week to do the USAPI analysis.**

Preferred process: I can do the weekly rainfall analysis, send my drought classification recommendation to the USAPI folks (either just Guam or Guam and all WSOs) for confirmation and local impacts, then send it after any modification to the USDM author.

Discussion: Can we get Pago Pago and Kwajalein data entered into WxCoder III ?? Also, can anyone tell me how the rainfall data is reported from the RMI stations? Is it sent to the NWS office (Majuro?) every day? Chip: For RMI: Problem with reliable radio, communications every day; the stations radio the daily rainfall data to Majuro who enters it into WxCoder III. Capital Hill station on Saipan could be added to rainfall analysis. Guam computes SPI for a couple additional stations besides what Kevin Kodama computes. Chip: NWS plans may have USAPI drought become elevated and part of Hawaii operations. ME: check to see if I get Anderson AFB, Marianas in the near-real time data and GHCN-D historical data.

Participants:

NWS Climate Services Program Managers (CSPMs): Joe Brinkley

WSO Climate Service Focal Points (CSFPs):

**Nover (Majuro)
(Kosrae)
Rick (Palau)**

**Lucas (Chuuk)
Throng (Yap)
son (Kwajalein)**

**Kenley, Eden (Pohnpei)
Jane, Taylor (Pago Pago)
Mark, Chip (Guam & CNMI)**

PEAC Principal Research Scientist: Rashed Chowdhury

WERI Scientist: Mark Lander

CPC Forecaster:

WFO Guam : Chip Guard, Clint Simpson

NWS MIC, Honolulu: Christopher Brenchley

NCEI: Richard Heim

Pacific RISA: Krista Jaspers

NWS Hydrologist: Kevin Kodama

Additional Attendees:

**** Next Call– 9 August 2018, 1430 HST (10 August 2018, 0030 GMT)****