

Seasonal Rainfall Outlook: July to September 2019

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Summary Statements

Issued : June 2019

Table 1: Three (3) months rainfall outlook : July to September 2019 period

*These outlooks are generated from the statistical model-SCOPIIC. International guidance from climate models such as IRI, METPI, ECMWF, APCC, POAMA, and others were also incorporated in these forecasts. Note : stations with * used POAMA to generate their rainfall predictions.*

“Average to Below Average” rainfall is anticipated for the next three months.

Location	Rainfall Prediction	Below Average (mm)	Average (mm)	Above Average (mm)
Afiamalu	Average to Below Average	<504	504 - 669	>699
Afulilo*	Below Average	<267	267 - 430	>430
Alafua	Below Average	<155	155 - 475	>475
Aopo*	Below Average	<267	267 - 430	>430
Apia	Below Average	<252	252 - 423	>423
Faleolo	Below Average	<203	203 - 335	>335
Fasitoo*	Below Average	<267	267 - 430	>430
Fiaga*	Below Average	<267	267 - 430	>430
Laulii	Below Average	<305	305 - 597	>597
Leauvaa*	Below Average	<267	267 - 430	>430
Letui*	Below Average	<267	267 - 430	>430
Lepa*	Average to Below Average	<267	267 - 430	>430
Lotofaga	Below Average	<713	713 - 1018	>1018
Maota*	Below Average	<267	267 - 430	>430
Nafanua	Below Average	<335	335 - 478	>478
Neiafu*	Below Average	<267	267 - 430	>430
Nuusuatia*	Average to Below Average	<267	267 - 430	>430
Salailua*	Below Average	<290	290 - 539	>539
Salani*	Below Average	<267	267 - 430	>430
Saleilua*	Average to Below Average	<267	267 - 430	>430
Saoluafata*	Below Average	<267	267 - 430	>430
Savalalo*	Below Average	<267	267 - 430	>430
Togitogiga	Average to Below Average	<849	849 - 1271	>1271
Tuasivi*	Below Average	<267	267 - 430	>430
Vaiaata*	Below Average	<267	267 - 430	>430

◆ The immediate likelihood of an El Nino to develop has passed however, it has not ruled out completely for the year 2019. The current status of the ENSO remains in Neutral. (Pg 2)

◆ Generally “Average to below average” precipitation is anticipated for July to September 2019 period. (Pg 1)

◆ The next 6 months accumulated rainfall is expected to be “Average”. (Pg 2)

◆ Rainfall in March to May 2019 was generally below average. (pg 3)

Table 2: 6 months Rainfall Outlook— October to December 2019 period

These outlooks are based upon the period April to May 2019 (Southern Oscillation Index (SOI) values)

“Average” rainfall is anticipated for the six monthly period.

Region	Rainfall Prediction	Below Average (mm)	Average (mm)	Above Average (mm)
Afiamalu	Average	<1165	1165 - 1487	>1487
Alafua	Average	<520	520 - 980	>980
Apia	Average	<723	723 - 910	>910
Faleolo	Average	<564	564 - 717	>717
Laulii	Average	<888	888 - 1085	>1085
Nafanua	Average	<789	789 - 1044	>1044
Togitogiga	Average	<1191	1191 - 1664	>1664

El Nino Southern Oscillation (ENSO) Outlook

CURRENT STATUS & OUTLOOK FOR ENSO

The ENSO has returned to ‘inactive’ meaning that the chance of an El Nino to develop has passed however, not ruled out completely for 2019. In May, the sea surface temperatures were warmer than average across most of the tropical Pacific Ocean where anomalies in some areas decreased slightly from April. The May values for NINO3 were +0.7 °C, NINO3.4 +0.7 °C, and NINO4 +0.6 °C, with values holding steady compared to April. On the other hand, the Southern Oscillation Index (SOI) has fluctuated around the El Nino threshold values over the past month with cloudiness near the date line and the trade winds have been close to neutral over the recent weeks.

All the Nino indices region cooled in the latest weekly update. Majority of the climate models forecast the tropical Pacific Ocean will sustain this cool anomalies with all eight surveyed climate models anticipating ENSO-neutral values during the upcoming season.

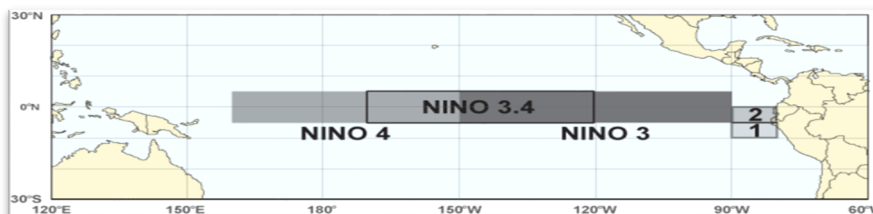


Table 3: Issued Forecast Verification for Three Monthly Rainfall (March to May 2019)

This table shows the verification of the forecast for the last 3 months. This was the rainfall forecast that was issued in February 2019 for the period of March to May 2019. These outlooks were generated using SOI values of December 2018 to January 2019.

(N.B : The stations with complete set of data throughout the three monthly period are used for this analysis).

Climate Stations	Three Monthly Total Rainfall (mm)	Long Term Average (mm)	Three Monthly Rainfall Status	Rainfall Prediction for March to May 2019	Verification of Forecast
Afiamalu	857.9	1136	Below Average	Average to Above Average	Near Consistent
Alafua	504.3	715	Below Average	Average to Above Average	Near Consistent
Apia	490.7	758	Below Average	Average to Above Average	Near Consistent
Falelima	659.2	400	Below Average	Average	Near Consistent
Faleolo	446.3	488	Average	Average to Above Average	Consistent
Laulii	659.2	887	Below Average	Average to Above Average	Near Consistent
Lepa	1093.0	873	Average	Average	Consistent
Nafanua	502.6	872	Below Average	Average to Above Average	Near Consistent
Nuusuatia	1400.4	508	Well Above Average	Average	Near Consistent
Saleilua	1686.4	1121	Average	Average	Consistent
Saletele	483.2	1050	Below Average	Average to Above Average	Near Consistent
Saoluafata	468.0	1095	Below Average	Average to Above Average	Near Consistent
Ti'avea Uta	1002.8	789	Average	Average to Above Average	Consistent
Vailoa.A	682.6	875	Below Average	Average to Above Average	Near Consistent

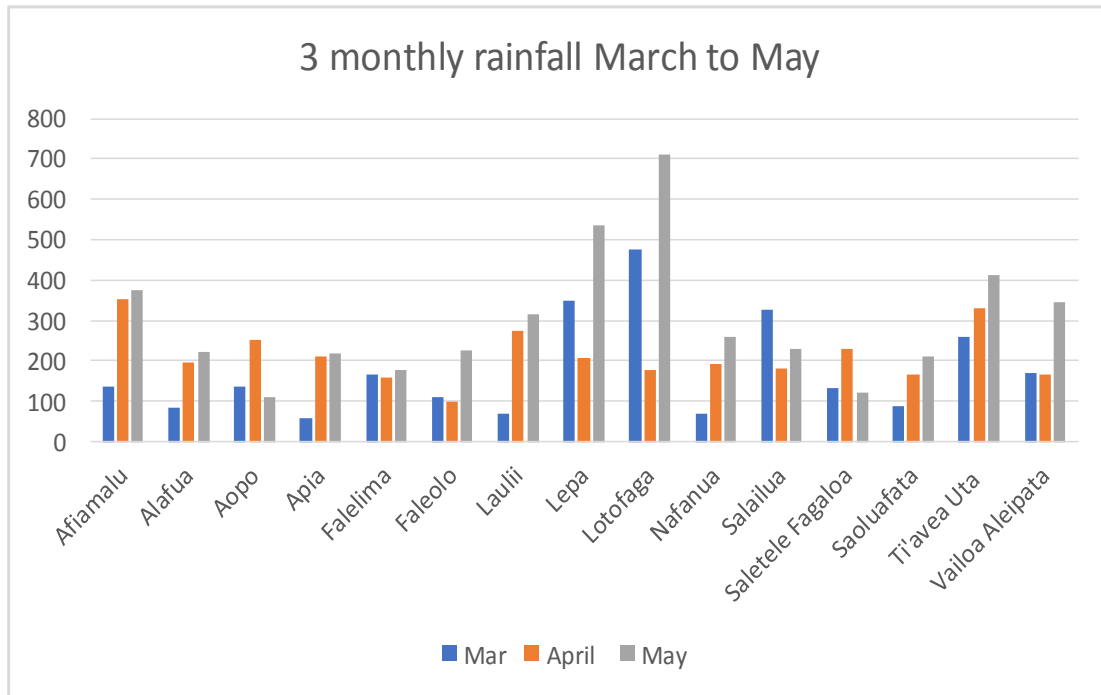
Rainfall statuses are defined as they deviate from normal (in percentage) as shown in this key :

Well Below Average < 40%	Below Average 40% - 80%	Average 80% - 120%	Above Average 120% - 160%	Well Above Average > 160%
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Generally below average rainfall was received for most station in the last three months. According to the data available by the time of this reports compilation, Saleilua recorded the highest rainfall of 1686.4mm followed by 1400.4mm. In contrast, the lowest rainfall was registered at Saoluafata with 468.0mm followed by Saletele with 483.2mm. Average to above average rainfall was issued as the forecast for this season and the verification concludes that it was mostly near consistent for most stations. March became the driest month in the last three months due to the inactive of the South Pacific Convergence Zone (SPCZ) over the region which brought less rainfall that was expected for the three months hence the near-consistent of the forecast.

APPENDIX

Figure 1: Accumulated Total Rainfall from March to May 2019 period.



March 2019 recorded significant dryness in comparison to the latter two months of the three monthly period. It is also evident in this graph the typical dry season pattern where rainfall is abundant in the southern areas and the highlands, in comparison to the northern region of the island. It is the period where the topographic effect influence the distribution of the rainfall when the sub-tropical high pressure in the south of Samoa moved closer and intensified.