



Seasonal Rainfall Outlook: October to December 2018

Samoa Meteorology Division (SMD)

Ministry of Natural Resources and Environment

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Summary Statements

- According to Climate models, the warming of Sea Surface Temperatures will continue throughout the year, where an El Nino event is likely (50%) to occur later on in 2018.. Pg 2
- Generally 'Average to Above Average' precipitation is expected for the upcoming three monthly season (ie : October to December).
- 'Average' rainfall is anticipated for the six monthly rainfall outlook for January to March 2019 period. (Table 2) Pg 2
- Generally "Below Average" rainfall was received across all stations for the past three months, with the verification at consistent with most of the forecast. Togitogiga station received the highest 3 monthly accumulated rainfall of 689.5mm . (Pg 3)

Table 1: Three (3) months rainfall outlook : October to December 2018 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.*

Generally, 'Average to Above Average' rainfall is to be expected in the upcoming season.

Region	Rainfall Prediction	Below Average	Average	Above Average
Afiamalu	Average	<1162mm	1162mm-1464mm	>1464mm
Afulilo*	Average to Above Average	<713mm	713mm-865mm	>865mm
Alafua	Average	<512mm	512mm-983mm	>983mm
Aopo*	Average to Above Average	<713mm	713mm-865mm	>865mm
Apia	Average	<718mm	718mm-914mm	>914mm
Faleolo	Average	<553mm	553mm-718mm	>718mm
Fasitoo*	Average to Above Average	<713mm	713mm-865mm	>865mm
Fiaga*	Average to Above Average	<713mm	713mm-865mm	>865mm
Laulii	Average	<887mm	887mm-1103mm	>1103mm
Leauvaa*	Average to Above Average	<713mm	713mm-865mm	>865mm
Letui*	Average to Above Average	<713mm	713mm-865mm	>865mm
Lepa*	Average to Above Average	<713mm	713mm-865mm	>865mm
Lotofaga	Average to Above Average	<919mm	919mm-1225mm	>1225mm
Maota*	Average to Above Average	<713mm	713mm-865mm	>865mm
Nafanua	Average	<787mm	787mm-1061mm	>1061mm
Neiafu*	Average to Above Average	<713mm	713mm-865mm	>865mm
Nuusuatia*	Average to Above Average	<713mm	713mm-865mm	>865mm
Salailua*	Average to Above Average	<713mm	713mm-865mm	>865mm
Salani*	Average to Above Average	<713mm	713mm-865mm	>865mm
Saleilua*	Average to Above Average	<713mm	713mm-865mm	>865mm
Saoluafata*	Average to Above Average	<713mm	713mm-865mm	>865mm
Savalalo*	Average to Above Average	<713mm	713mm-865mm	>865mm
Tiavea	Average to Above Average	<996mm	996mm-1202mm	>1202mm
Togitogiga	Average to Above Average	<1191mm	1191mm-1664mm	>1664mm
Tuasivi*	Average to Above Average	<713mm	713mm-865mm	>865mm
Vaiaata*	Average to Above Average	<713mm	713mm-865mm	>865mm

Table 2: 6 months Rainfall Outlook— January to March 2019 period

These outlooks are based upon the period July to August 2018 (Southern Oscillation Index (SOI) values)

Average rainfall is anticipated for the next six (6) months.

Region	Rainfall Prediction	Below Average	Average	Above Average
Afiamalu	Average	<1560mm	1560mm-1993mm	>1993mm
Alafua	Average	<927mm	927mm-1346mm	>1346mm
Apia	Average	<1003mm	1003mm-1254mm	>1254mm
Faleolo	Average	<688mm	688mm-889mm	>899mm
Nafanua	Average	<1095mm	1095mm-1616mm	>1616mm
Tiavea	Average	<1056mm	1056mm-1288mm	>1288mm

El Nino Southern Oscillation (ENSO) Outlook

CURRENT SITUATION OF ENSO

The ENSO is currently at neutral levels, with the models slightly leaning towards El Nino.

The equatorial Ocean Surface temperatures have warmed gradually this last quarter of the year, with a northward movement towards the Eastern part of America. Generally, the Pacific oceans are experiencing warmer than average anomalies, but within neutral range.

In addition, the latest values for Nino indices are sustaining, with Nino 3 at + 0.2°C, Nino 3.4 at +0.3°C and Nino 4 at +0.6°C.

ENSO OUTLOOK

Although the ENSO status is neutral, Climate models predict a warming of the Pacific Ocean to an extent of an El Nino developing around November 2018. Of the 8 models, 7 suggest EL Nino thresholds are likely to be reached later on this year, and is currently being monitored.

Figure 1. Nino SST Indices

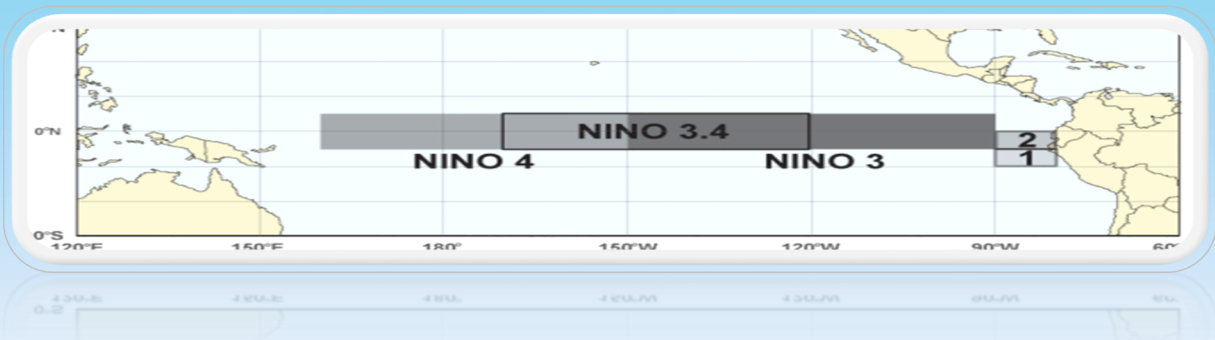


Table 3: Issued Forecast Verification for Three Monthly Rainfall (June to August 2018)

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

Climate Stations	Three Monthly Total Rainfall (mm)	Long Term Average (mm)	Three Monthly Rainfall Status	Rainfall Prediction for June to August 2018 period	Verification of Forecast
Afiamalu	544.1	560	Average	Average to Below Average	Consistent
Alafua	338.7	337	Average	Average to Below Average	Consistent
Apia	292.7	364	Average	Average to Below Average	Consistent
Faleolo	181.5	270	Below Average	Average to Below Average	Consistent
Lotofaga	687.6	809	Average	Average to Below Average	Consistent
Nafanua	369.1	604	Below Average	Average	Near Consistent
Salailua	509.8	466	Average	Below Average	Near Consistent
Savalalo	283.7	364	Below Average	Below Average	Consistent
Saoluafata	336.0	672	Below Average	Below Average	Consistent
Ti'avea Uta	679.8	973	Below Average	Average to Below Average	Consistent
Togitogiga	689.5	1056	Below Average	Below Average	Consistent
Vaiaata	671.0	1053	Below Average	Below Average	Consistent

Table 3 shows the accumulated rainfall from the past three months, where Togitogiga station received the highest amount of 689.5mm, and Lotofaga station registered the second highest of 687.6mm. In addition, 5 stations received "Average" while the other 7 stations received "Below Average" rainfall. Of the three months, July was observed to be the wettest month, which is shown by Figure 1, Page 4.

APPENDIX

Figure 1: Accumulated Total Rainfall from June to August 2018 period.

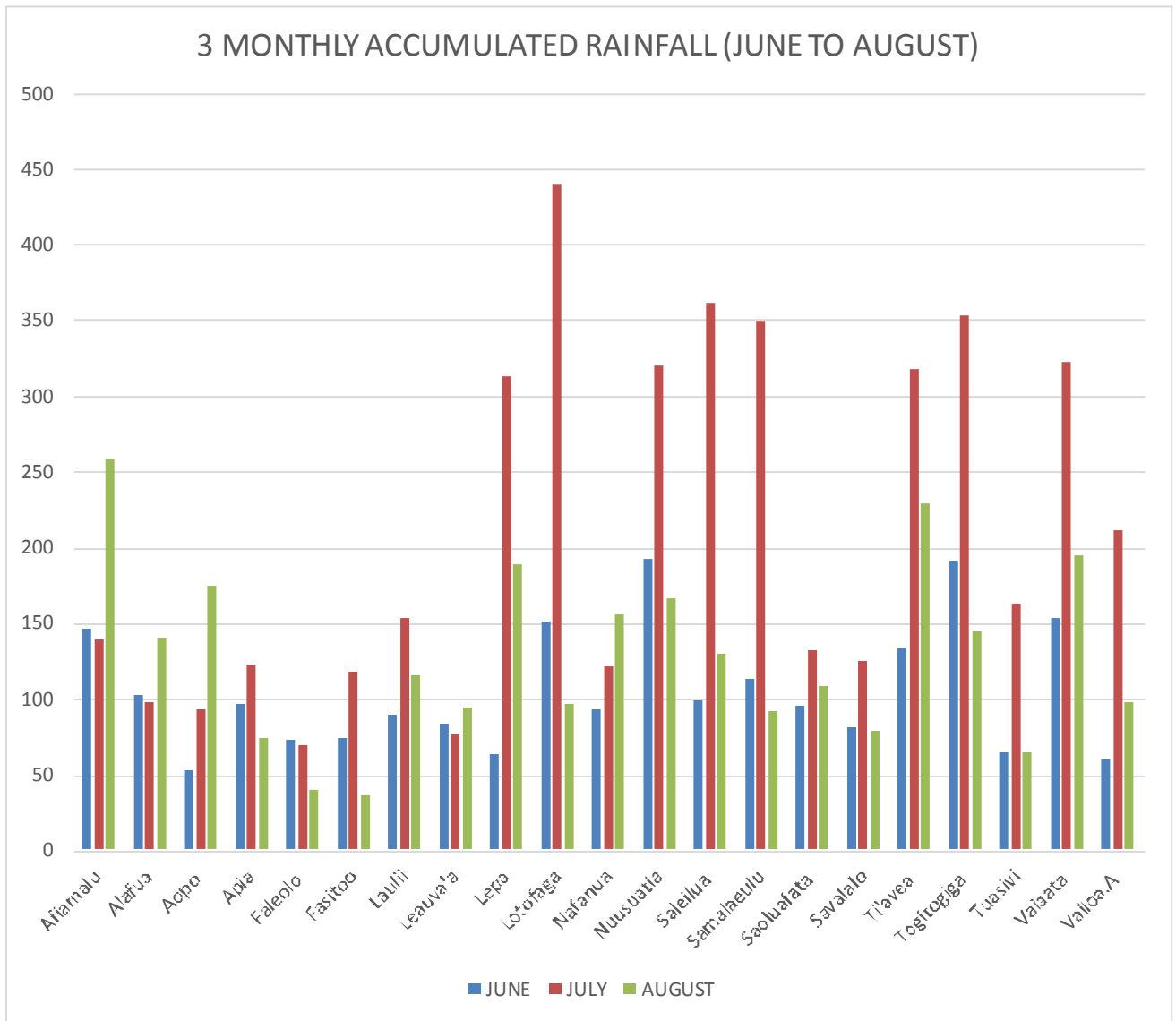


Figure 1 illustrates rainfall received in the last three months, where July was recorded as the wettest month.