



## NATIONAL STATEMENT FOR TROPICAL CYCLONE SEASON 2018 – 2019

### KEY MESSAGES

#### Climate Review of 2017-2018

- Weak La Nina established in December 2017 remained until mid-March 2018 followed by El Nino Southern Oscillation (ENSO) Neutral which lasted into October 2018. In early October 2018, ENSO status updated to El Nino Alert.
- 1 Tropical cyclone named TC Gita formed in the November to April 2017-18 and cross the 400km vicinity of Samoa which is consistent with the outlook issued (1-2 TC) for the same period.

#### Climate, Ocean and Tropical Cyclone Outlooks October to December 2018

- ENSO Status upgraded to El Nino Alert stating 70 % chance for El Nino to develop in late 2018.
- 'Average to above average' rainfall is expected for Samoa in October to December 2018 period with low model confidence.
- Sea surface temperatures anticipated to increase in further warming for this season.
- Elevated risk of Tropical Cyclone for South West Pacific. Two (2) or three (3) tropical cyclones favorable for Samoa with at least 1 tropical cyclone reaching Category 3 or greater.

#### El Nino Southern Oscillation (ENSO) Evolution

The climate models suggested a development of a La Nina phase in late 2017 which eventuated in December of the same year and die out in mid-March 2018. The rainfall observed over Samoa was generally 'average to below average'. Additionally, there were no records of impacts identified as it was a weak event.



## **ENSO Outlook**

The El Nino Southern Oscillation (ENSO) has upgraded to El Nino Alert in October 2018 stating a 70% likelihood El Nino will eventuate in late 2018.

An increase in warming of the tropical Pacific Ocean's sea surface and sub surface temperature is evident due to the weakening of the trade winds. The atmospheric indicators; Southern Oscillation Index also is within thresholds of a typical El Nino. It is anticipated by climate models that further warming of the tropical Pacific Ocean is most likely in the upcoming months. Additionally, the El Nino is expected to peak between December and February with anticipation to end in March 2019.

The associated potential impacts if El Nino develops are below normal rainfall across Samoa which leads to drought, water shortage, outbreak of diseases and forest fires.

### **Climate & Ocean Outlooks for October to December 2018 period.**

According to models guidance, the outlook for Samoa favours 'average to above average' rainfall for this season with low model confidence.

The sea surface temperature are predicted to be near normal around the Samoan region posing no threat or stress for coral bleaching. On the other hand, air and sea level are predicted to be below normal around Samoa waters.

### **Tropical Cyclone Outlook**

This season 2018 – 2019, the Tropical Cyclone activity for Samoan region is expected to be above normal (elevated) risk with 2-3 cyclones that can pass within 400km radius of the country, with at least 1 tropical cyclone to reach Category 3 or greater.

The tropical cyclones are associated with high winds, storm surges, water spouts and extreme rainfall. If conditions change over the coming months then the tropical cyclone outlook will be updated. All communities are urged to remain vigilant, be alert and foremost advance preparedness when a warning is officially announced of an impending tropical cyclone.



**Table 1: Severity of TCs in analogue seasons**

**Seven analogue TC seasons (1986/87; 1990/91; 2003/04; 2004/05; 2006/07; 2009/10; 2014/15)**

Season	Regional: # of named TC	Samoa: 400KM vicinity of Apia	Regional Tropical Cyclones				
			Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
1986/87	15	3	2	6	3	4	0
1990/91	3	0	0	1	1	1	0
2003/04	6	1	2	2	0	1	1
2004/05	12	6	5	0	1	2	4
2006/07	7	1	1	5	1	0	0
2009/10	11	4	3	3	1	2	2
2014/15	8	0	1	2	1	3	1
Mean total	8.9	2.1	2.0	2.7	1.1	1.9	1.1
Rounded mean totals	9	2	2	3	1	2	1

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