

## **Tropical Cyclone Outlook 2018-19**

### **Regional Specialized Meteorological Centre, Nadi**

### **Tropical Cyclone Centre Area of Responsibility**

The Tropical Cyclone (TC) activity in the 2018-19 TC season within the Regional Specialized Meteorological Center Nadi – Tropical Cyclone Centre (RSMC Nadi-TCC) Area of Responsibility (AoR) (Equator to 25° South between 160° East and 120° West) is predicted to be **normal** or **above normal** with **moderate to high confidence**. In the Southern Hemisphere, the official 2018-19 TC season begins on 1<sup>st</sup> November 2018 and ends on 30<sup>th</sup> April 2019. However, the 2018-19 TC season has started earlier than anticipated with the first TC to form near Solomon Islands and named “Liua” on 27 September 2018.

Seven to nine TCs are expected to occur in the RSMC Nadi-TCC AoR during the 2018-19 season. The average for all the 49 seasons from 1969-70 to 2017-18 is 7.1 TCs. The average for El Niño, La Niña and neutral seasons are 8.6, 6.1 and 6.3 TCs, respectively. Analogues of eight seasons with similar atmospheric and oceanic conditions to present were used for this outlook (Table 1).

TC activity in the South Pacific region is likely to be shifted eastward during the 2018-19 season. This outlook is based upon the status of the El Niño Southern Oscillation (ENSO) over the preceding July to September period. During this period in 2018, neutral conditions were present in the tropical Pacific, but Pacific Ocean was warming towards weak El Niño. The analogue seasons were further narrowed based on international guidance forecast for weak to marginally moderate El Niño conditions during most of the coming TC season. Historically, these conditions have favoured an eastward shift in TC activity in the South Pacific.

TC activity in Solomon Islands, Vanuatu, Fiji, Tonga, Pitcairn Islands and Tuamotu Archipelago/Gambier Islands is likely to be **normal** this season, while there is **reduced** risk for New Caledonia. In contrast, **increased** risk of TC activity is anticipated for Tuvalu, Wallis & Futuna, Tokelau, Samoa, Niue, Cook Islands, Society Islands and Austral Islands. TC activity in the Kiribati and Marquesas area is unlikely (refer to Table 2 for climatological numbers of TCs).

There is **normal** risk of **severe** TCs for Fiji, Tuvalu, Tokelau, Samoa, Tonga, Niue, and Tuamotu Archipelago/Gambier Islands, while there is **reduced** risk of **severe** TCs for Solomon Islands, Vanuatu and New Caledonia. The risk of **severe** TC is **increased** for Wallis & Futuna, Cook Islands, Society Islands and Austral Islands. Severe TC is unlikely in the Marquesas, Pitcairn Islands and Kiribati regions (refer to Table 3 for climatological numbers of **severe** TCs).

For Fiji, one to two TCs could be expected this season of which one may reach or exceed category three status. For those TCs passing close to the country, associated active cloud and rain bands may occasionally affect Fiji with heavy rainfall and possible flooding, including sea flooding of low-lying coastal

areas. With the expectation of TC genesis to be shifted eastwards, there is an elevated risk of TCs for the Northern and Eastern Divisions of Fiji this season.

Historical records show that TCs have occasionally formed outside the official TC Season. Because of this, it is critical that all communities remain alert and prepared throughout the 2018-19 TC season and beyond.

Seasons	TC Occurrence (RSMC Nadi-TCC AoR)	Severe TCs (Cat 3-5) (RSMC Nadi-TCC AoR)
1969-70	7	2
1976-77	9	2
1977-78	7	3
1979-80	7	2
1986-87	12	6
2004-05	9	5
2006-07	6	2
2009-10	8	5
<b>Average (Median)</b>	<b>8.1 (7.5)</b>	<b>3.4 (2.5)</b>

Table 1: Analogue Years for 2018-19 Seasons

Country	Climatology	Analogue Seasons	Risk
Solomon Islands	1.7	2.1	Normal
Vanuatu	2.0	1.6	Normal
New Caledonia	2.9	2.0	Reduced
Fiji	2.1	2.4	Normal
Tuvalu	0.4	0.8	Increased
Wallis & Futuna	0.5	0.9	Increased
Tokelau	0.1	0.3	Increased
Samoa	0.3	0.5	Increased
Tonga	1.7	1.8	Normal
Niue	0.6	0.9	Increased
Northern Cook Islands	0.5	1.4	Increased
Southern Cook Islands	1.1	2.5	Increased
Society Islands	0.5	0.9	Increased
Austral Islands	0.7	1.4	Increased
Tuamotu Archipelago/Gambier Islands	0.4	0.3	Normal
Pitcairn Islands	0.1	0.0	Normal
Marquesas	0.0	0.0	Unlikely
Kiribati	0.0	0.0	Unlikely

Table 2: TC occurrence risks during 2018-19 season in comparison to climatology

Country	Climatology	Analogue Seasons	Risk
Solomon Islands	0.6	0.4	Reduced
Vanuatu	0.9	0.6	Reduced
New Caledonia	1.3	0.4	Reduced
Fiji	0.8	0.6	Normal
Tuvalu	0.1	0.1	Normal
Wallis & Futuna	0.2	0.4	Increased
Tokelau	0.1	0.1	Normal
Samoa	0.1	0.1	Normal
Tonga	0.5	0.4	Normal
Niue	0.2	0.1	Normal
Northern Cook Islands	0.2	0.6	Increased
Southern Cook Islands	0.4	1.1	Increased
Society Islands	0.2	0.4	Increased
Austral Islands	0.2	0.5	Increased
Tuamotu Archipelago/Gambier Islands	0.1	0.1	Normal
Marquesas	0.0	0.0	Unlikely
Pitcairn Islands	0.0	0.0	Unlikely
Kiribati	0.0	0.0	Unlikely

**Table 3: Severe TC (Cat 3-5) risks during 2018-19 season in comparison to climatology**

In summary, based on the historical TC data, the predictions for the 2018-19 TC season are as follows:

- ▶ **Normal** or **above normal** TC occurrence in the RSMC Nadi-TCC AoR in the 2018-19 season is anticipated;
- ▶ Seven to nine TCs are expected to occur in the RSMC Nadi-TCC AoR;
- ▶ Two to four TCs may reach category three status or above;
- ▶ **Normal** TC activity is expected for Solomon Islands, Vanuatu, Fiji, Tonga, Pitcairn Islands and Tuamotu Archipelago/Gambier Islands;
- ▶ **Increased** TC risk likely for Tuvalu, Wallis & Futuna, Tokelau, Samoa, Niue, Cook Islands, Society Islands and Austral Islands;
- ▶ There is **reduced** risk for TC activity in the New Caledonia region;
- ▶ TC activity in the Kiribati and Marquesas area is unlikely;

- ▶ There is **normal** risk of severe TCs for Fiji Tuvalu, Tokelau, Samoa, Tonga, Niue, and Tuamotu Archipelago/Gambier Islands;
- ▶ **Reduced** risk of severe TCs is anticipated for Solomon Islands, Vanuatu and New Caledonia;
- ▶ There is **increased** risk of severe TCs for Wallis & Futuna, Cook Islands, Society Islands and Austral Islands;
- ▶ Severe TC unlikely in the Marquesas, Pitcairn Islands and Kiribati regions;
- ▶ Active cloud and rain bands associated with TCs may occasionally affect Fiji with marked rainfall and possible flooding, including sea flooding of low-lying coastal areas;
- ▶ Non-TCs or Tropical Depressions have and can still cause loss of lives and severe damages to properties.

It should be noted that the information provided is only to be used as guidance and the given range of TC numbers is indicative only. It is expected that the total number of TCs could be in the vicinity of the listed values, and not necessarily within the given range. The values are the most likely number of TCs based on statistical and scientific evidence, including the influences by regional and global weather and climate variability drivers and indices.

All communities should remain alert and prepared throughout the 2018-19 TC season and take heed of TC alerts, warnings and advisories seriously whenever it is issued to reduce the effects on life and property.

***Issued by:***

***The Director***

***Fiji Meteorological Service & Regional Specialized Meteorological Centre***

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