2016/17 Tropical Cyclone Outlook

Regional Specialised Meteorological Centre, Nadi - Tropical Cyclone Centre (RSMC-TCC) Area of Responsibility

The Tropical Cyclone (TC) activity in the 2016/17TC 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 anticipated to be ***near average*** with ***high confidence***. The official 2016/17TC season begins on 01 November 2016 and ends on 30 April 2017.

Five to seven (5 to 7) tropical cyclones are expected to occur in the RSMC Nadi-TCC AoR during the 2016/17season. The average for all the 47 seasons from 1969-70 to 2015-16 is 7.3 cyclones. The average for El Niño, La Niña and neutral seasons are 8.7, 6.5 and 6.4 tropical cyclones, respectively. An analogue of six (6) seasons with similar atmospheric and oceanic condition is used for this outlook (Table 1). The analogue season average is 6.2 with a median of 6 cyclones.

Tropical cyclone genesis trough is expected to be shifted to the west of the Dateline during the 2016/17season. This outlook is based on the status of the El Niño Southern Oscillation (ENSO) over the preceding July to September period. During this period in 2016, neutral to weak La Niña conditions were present and the International Climate Model Guidance indicates that the most likely outcome for the 2016/17 season is for neutral conditions to prevail. Therefore the seasonal outlook is based on weak La Niña to neutral conditions. Historically, these conditions have favored a westward shift in tropical cyclone activity in the Southwest Pacific.

TC activity for Cook Islands, New Caledonia, Niue, Samoa, Solomon Islands, Tokelau, Vanuatu and Wallis & Futuna is predicted to be ***normal*** for this season, while there is ***reduced*** TC risk for Tuvalu and French Polynesia.

Elevated TC activity is anticipated for Fiji and Tonga (Table 2). The risk for TC activity in the Kiribati area is ***low***.

There is ***elevated*** risk for severe TC's (category 3 or above) to affect Solomon Islands this season. There is ***normal*** risk of severe TC's for Cook Islands, Fiji, New Caledonia, Niue, Samoa, Tokelau, Tonga, Vanuatu and Wallis & Futuna (Table 3). While the risk for severe TC's is ***low*** for Kiribati and ***reduced*** for French Polynesia and Tuvalu, the long-term historical data suggest that severe TC's are still possible. Therefore, all communities should remain vigilant throughout the coming tropical cyclone season.

For Fiji, as many as two to three (2-3) cyclones can be expected to pass through Fiji Waters this season with one (1) anticipated to reach or exceed category 3 status. With the expectation of tropical cyclone genesis to lie mainly in the Coral Sea area, there is high chance of TC's to approach Fiji from the Western and Northern sectors. For those tropical cyclones passing close to the country, associated active cloud and rain bands may occasionally affect Fiji with marked rainfall and possible flooding, including sea flooding of low-lying coastal areas. All communities living in the low lying areas that are prone to flooding to remain prepared throughout the season.

Historical records show that TCs have at times formed outside of official TC season. Because of this, it is critical that all communities remain alert and prepared throughout the 2016/17TC season and beyond.

Table 1: Analogue Years for 2016/17Season

Seasons	TC Occurrence (RSMC-TCC Nadi AoR)	Severe TCs (Cat 3-5) (RSMC-TCC Nadi AoR)
1978/79	6	3
1981/82	6	5
1985/86	7	3
1989/90	7	3
2008/09	5	0
2013/14	6	2
Average (Median)	6.2 (6)	2.7 (3)

Table 2: Tropical Cyclone Occurrence Risks in 2016/17Season

Country	Risk
Kiribati	Low
French Polynesia	Reduced
Tuvalu	Reduced
New Caledonia	Normal
Niue	Normal
Samoa	Normal
Solomon Islands	Normal
Tokelau	Normal
Vanuatu	Normal
Wallis & Futuna	Normal
Fiji	Elevated
Tonga	Elevated

Table 3: Severe TC (Cat 3-5) Risks in 2016/17Season

Country	Risk
Kiribati	Low
French Polynesia	Reduced
Tuvalu	Reduced
Cook Islands	Normal
Fiji	Normal
New Caledonia	Normal
Niue	Normal
Samoa	Normal
Tonga	Normal
Tokelau	Normal
Vanuatu	Normal
Wallis & Futuna	Normal
Solomon Islands	Elevated

In summary, based on the historical tropical cyclone data, the predictions for the upcoming 2016/17tropical cyclone season are as follows:

- ***Near Average*** TC occurrence in the RSMC-Nadi TCC AoR in the 2016/17season is anticipated;
- Five to seven (5 to 7) TCs are expected to occur in the RSMC-Nadi TCC AoR;
- Three to five (3-5) TCs may reach category 3 status, with one to two possibly attaining category 4 or 5;
- ***Elevated*** TC risk anticipated for Fiji and Tonga;
- ***Normal*** TC activity is expected for Cook Islands, New Caledonia, Niue, Samoa, Solomon Islands, Tokelau, Vanuatu and Wallis & Futuna;
- ***Reduced*** TC risk likely for French Polynesia and Tuvalu;
- There is ***elevated*** risk of severe TC's for Solomon Islands this season;
- ***Normal*** risk for severe TC's is expected for Cook Islands, Fiji, New Caledonia, Niue, Samoa, Tokelau, Tonga, Vanuatu and Wallis & Futuna regions;

- While the risk for severe TC is low to reduced for French Polynesia, Kiribati and Tuvalu, long-term historical data suggest it is still possible;

- For Fiji, 2 to 3 tropical cyclones can be expected to pass through the Fiji waters this season with 1 anticipated to reach category three (3) or above;

- There is high probability for TCs to approach Fiji from the Northern and Western sectors;

- Active cloud and rain bands associated with tropical disturbance, depressions and TCs may occasionally affect Fiji with marked rainfall and possible flooding, including sea flooding of low-lying coastal areas;

- Active troughs and Tropical Depressions have, and can still cause loss of lives and severe damages to property.

- All communities are to remain alert throughout the 2016/17 tropical season and take alerts, warnings and advisories seriously.

It should be noted that the information provided is only to be used as guidance and the given range 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. Fiji Meteorological Service will continuously monitor weather systems and provide timely advisories of any changes in weather pattern.

All communities should remain alert and prepared throughout the 2016/17 TC season. We must take heed of warnings and advisories and take necessary precautions to mitigate the effects and save life and property.

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The Director
Fiji Meteorological Service
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