

2015/16 Tropical Cyclone Outlook

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

The Tropical Cyclone (TC) activity in the 2015/16 season within the Regional Specialized Meteorological Center Nadi – Tropical Cyclone Centre (RSMC-TCC) Area of Responsibility (AoR) (Equator to 25° South between 160° East and 120° West) is predicted to be **above average** with **high confidence**. The official 2015/16 TC season begins on 1st November, 2015 and ends on 30th April, 2016.

Ten to fourteen (10 to 14) tropical cyclones are expected to occur in the RSMC Nadi AoR during the 2015/16 season. On average, for all 46 seasons from 1969/70 to 2014/15, 7.3 cyclones usually occur, 8.7 for El Niño, 6.4 for neutral and 6.5 for La Niña seasons. An analogue of four (4) seasons with similar atmospheric and oceanic conditions is used for this outlook (Table 1).

For the 2015/16 season, TC genesis trough is expected to be displaced further east of its long term average position, supported by the current and expected El Niño Southern Oscillation (ENSO) characteristics, the existence of the Pacific Warm Pool and sub-surface warm temperature anomalies in this region. Thus for countries near and to the east of the International Dateline, there is higher chance of exceeding the climatological average.

TC risk is anticipated to be **highly elevated** for Solomon Islands, Wallis & Futuna, Tokelau, Samoa, Northern Cook Islands and French Polynesia, while **elevated** risk is expected for Vanuatu, Fiji, Niue and Southern Cook Islands (Table 2). TC activity for New Caledonia, Tuvalu and Tonga is likely to be **near normal**. TC activity in the Kiribati area is unlikely, however all coastal communities need to remain alert and prepared.

Furthermore, there is an increased risk of severe TC's to affect the region this season compared to 2014/15 season. There is **highly elevated** risk of severe TC's to affect Northern Cook Islands and French Polynesia, while **elevated** risk of severe TC's is anticipated for Vanuatu, Tuvalu, Fiji, Wallis & Futuna, Tokelau, Samoa, Tonga, Niue and Southern Cook Islands (Table 3). **Normal** risk of severe TC's expected for Solomon Islands and New Caledonia.

Additionally, historical records show that TC's have formed outside of official TC season. Because of this, it is critical that all communities remain alert and prepared throughout the 2015/16 TC season.

For Fiji, two to three (2-3) cyclones are predicted to affect some part of the country this season of which one (1) may reach or exceed category 3 status. With the expectation of tropical cyclone genesis to lie mainly to the east of the International Dateline, there is a high probability that any tropical cyclone affecting

or passing in the vicinity of the country to approach from the northern and eastern quadrants Whole of Fiji should remain alert and prepared at all times throughout the season.

For those tropical cyclones passing close to the country, associated active cloud and rain bands may occasionally affect Fiji with marked rainfall and potentially cause flooding, including sea flooding and flooding of low-lying coastal areas.

Table 1: Analogue Years for 2015/16 Season

Seasons	TC Occurrence (RSMC-TCC Nadi AoR)	Severe TC's (Cat 3-5) (RSMC-TCC Nadi AoR)
1972/73	8	2
1982/83	14	8
1986/87	12	6
1997/98	16	7
Average (Median)	12.5 (13)	5.8 (7)

Table 2: Tropical Cyclone Occurrence Risks in 2015/16 Season

Country	Climatology	Analogue Seasons	Risk
Kiribati	0.0	0.0	Unlikely
New Caledonia	2.9	2.5	Normal
Tuvalu	0.5	0.5	Normal
Tonga	1.7	1.5	Normal
Vanuatu	2.0	3.0	Elevated
Fiji	2.1	3.0	Elevated
Niue	0.6	1.0	Elevated
Southern Cook Islands	1.1	1.8	Elevated
Solomon Islands	1.9	4.3	Highly Elevated
Wallis and Futuna	0.5	1.3	Highly Elevated
Tokelau	0.3	1.0	Highly Elevated
Samoa	0.3	1.0	Highly Elevated
Northern Cook Islands	0.5	1.5	Highly Elevated
French Polynesia	1.1	4.3	Highly Elevated

Table 3: Severe TC (Cat 3-5) Risks in 2015/16 Season

Country	Climatology	Analogue Seasons	Risk
Kiribati	0.0	0.0	Unlikely
Solomon Islands	0.6	0.5	Normal
New Caledonia	1.2	0.8	Normal
Vanuatu	0.9	1.5	Elevated
Tuvalu	0.1	0.3	Elevated
Fiji	0.8	1.3	Elevated
Wallis and Futuna	0.2	0.5	Elevated
Tokelau	0.2	0.3	Elevated
Samoa	0.1	0.3	Elevated
Tonga	0.5	0.8	Elevated
Niue	0.1	0.5	Elevated
Southern Cook Islands	0.4	0.5	Elevated
Northern Cook Islands	0.2	0.8	Highly Elevated
French Polynesia	0.4	1.2	Highly Elevated

In summary, based on the historical tropical cyclone data, the predictions for the upcoming 2015/16 tropical cyclone season are as follows:

- ▶ **Above Average** TC occurrence in RSMC Nadi AoR in the 2015/16 season is predicted with high confidence;
- ▶ Ten to fourteen (10 to 14) TC's are expected to occur in the RSMC Nadi AoR with 4 to 8 are expected to reach category 3 and 3 to 7 of these may reach category 4 or 5 status;
- ▶ **Highly Elevated** TC risk anticipated for Solomon Islands, Wallis & Futuna, Tokelau, Samoa, Northern Cook Islands and French Polynesia;
- ▶ **Elevated** TC risk expected for Vanuatu, Fiji, Niue and Southern Cook Islands;
- ▶ **Near normal** TC activity likely for New Caledonia, Tuvalu and Tonga;
- ▶ There is **highly elevated** risk of severe TC's for Northern Cook Islands and French Polynesia;
- ▶ **Elevated** risk of severe TC's for Vanuatu, Tuvalu, Fiji, Wallis & Futuna, Tokelau, Samoa, Tonga, Niue and Southern Cook Islands;

- ▶ **Normal** risk for severe TC's in the Solomon Islands and New Caledonia regions;
- ▶ For Fiji, 2 to 3 tropical cyclones could pass through the Fiji waters this season, with 1 expected to reach category three (3) or above;
- ▶ High probability for TC's to approach Fiji from the northern and eastern quadrants;
- ▶ Active cloud and rain bands associated with TC's may occasionally affect Fiji with marked rainfall and potentially cause flooding, including sea flooding and flooding of low-lying coastal areas;
- ▶ Non TC's or Tropical Depressions have, and can still cause loss of lives and severe damages to property.

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

All communities should remain alert and prepared throughout the 2015/16 TC season and take heed of TC warnings and advisories to mitigate the effects on life and property.

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