

# 2012/13 Tropical Cyclone Season Outlook in the Regional Specialised Meteorological Centre Nadi – Tropical Cyclone Centre Area of Responsibility

Tropical Cyclone (TC) activity in the 2012/13 TC Season within the Regional Specialised Meteorological Centre 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 *average* to *slightly above average* with *moderate to low* confidence. The official 2012/13 TC Season begins on the 1<sup>st</sup> of November 2012, and ends on April 30<sup>th</sup>, 2013.

7 to 10 TCs are expected to occur in the RSMC Nadi AOR during the 2012/13 season. On average, for all the 43 seasons from 1969/70 to 2011/12, 7.4 cyclones usually occur, 6.6 during La Niña and neutral seasons, and 8.7 in El Niño seasons. An analogue of twelve (12) seasons with similar atmospheric and oceanic conditions was used for this outlook (**Table 1**).

For the 2012/13 season, the TC genesis trough is expected to be located near the Dateline, supported by the current and expected ENSO characteristics, and the existence of the warm pool of sea surface and sub-surface temperature anomalies in this region. Thus, for countries to the east of the Dateline, there is a **higher** chance of the number of cyclones exceeding the *average*, while *average* for countries near and west of the Dateline.

Subsequently, *average* tropical cyclone activity is anticipated for New Caledonia, Southern Tonga, Tokelau, Tuvalu, Solomon Islands, Fiji and Vanuatu, while *slightly above average* for Wallis and Futuna, Samoa, Northern Tonga, Niue, Cook Islands and French Polynesia (**Table 2**). However, historical TC statistics suggest that tropical cyclones can affect any country, irrespective of the prevailing ENSO phase. Additionally, these records show that TCs have formed outside of the official TC season. Because of these, it is critical that all communities remain alert and prepared throughout the 2012/13 TC season.

Furthermore, there is a potential risk for an increase in severe TCs affecting the region this season, compared to last. There is a **high** risk for severe tropical cyclones affecting Tokelau, followed by **moderate to high** risks for New Caledonia, Cook Islands, Solomon Islands and Samoa. **Moderate** risk is likely for Wallis and Futuna, Tuvalu, Niue and Vanuatu. For Fiji and Tonga, a **low to moderate** risk of severe tropical cyclone is anticipated (**Table 3**).

For Fiji, one to two (1-2) TCs could be expected this season, of which one (1) may reach or exceed Category 3 status. With the genesis area near the Dateline, there is a high probability that TCs will approach Fiji from between the northeast and northwest. For those TCs passing close to the country, associated active cloud and rain bands may affect Fiji and cause heavy rain and possible flooding, including sea flooding of low-lying coastal areas.

It should be noted that non TCs or Tropical Depressions, have caused loss of lives and severe damages to communities in the past. For this reason, it is critical that all communities take heed of warnings and act responsibly, to save lives and property.

Table 1 : Analogue Years for 2012/13 Season

Years	TC Occurrence (RSMC Nadi AoR)	TC Formation (RSMC Nadi AoR)	Severe TC's (Cat3-5) (RSMC Nadi AoR)
1969/70	7	5	2
1977/78	8	7	3
1979/80	7	6	1
1986/87	12	11	6
1987/88	5	4	3
1991/92	12	12	7
1992/93	10	7	4
1993/94	5	4	3
1994/95	2	2	0
2002/03	10	9	6
2004/05	9	9	5
2009/10	8	8	5
<b>Average</b>	<b>7.9 (Median – 8)</b>	<b>7.0 (Median - 7.0)</b>	<b>3.5 (Median – 3.8)</b>

Table 2: Tropical Cyclone Occurrence Risks

Countries	TC Risks 2012/13 Season
New Caledonia	High (89%)
Tonga	High (93%)
Tokelau	High (100%)
Tuvalu	High (100%)
Solomon Islands	High (100%)
Fiji	High (100%)
Vanuatu	High (110%)
Niue	High (120%)
Samoa	Very High (140%)
Cook Islands	Very High (144%)
Wallis & Futuna	Very High (160%)

Table 3: Severe Tropical Cyclone Risks

Countries	Hurricane Risks	2012/13 Season
Fiji	Low to Moderate	(38%)
Tonga	Low to Moderate	(39%)
Vanuatu	Moderate	(47%)
Niue	Moderate	(50%)
Tuvalu	Moderate	(50%)
Wallis & Futuna	Moderate	(50%)
New Caledonia	Moderate to high	(65%)
Cook Islands	Moderate to high	(69%)
Solomon Islands	Moderate to high	(73%)
Samoa	Moderate to high	(75%)
Tokelau	High	(100%)

In summary:

- ▶ *Average* to *slightly above average* TC occurrence in the RSMC Nadi AOR in the 2012/13 season;
- ▶ 7 to 10 TCs are expected in the RSMC Nadi AOR;
- ▶ 4 to 6 of these cyclones are expected to reach category 3 status and 2 to 3 may reach category 4 or 5;
- ▶ *Average* TC activity is likely for New Caledonia, Southern Tonga, Tokelau, Tuvalu, Solomon Islands, Fiji and Vanuatu;
- ▶ *Slightly above average* TC activity is anticipated for Wallis and Futuna, Samoa, Northern Tonga, Niue, Cook Islands and French Polynesia;
- ▶ High risk of severe TCs expected for Tokelau;
- ▶ Moderate to high risk for severe TCs for New Caledonia, Cook Islands, Solomon Islands and Samoa;
- ▶ Moderate risk for severe TCs for Wallis and Futuna, Tuvalu, Niue and Vanuatu;
- ▶ Low to moderate risk for severe TCs anticipated for Fiji and Tonga;
- ▶ For Fiji, 1 to 2 tropical cyclones could affect some part of the country, with 1 expected to reach category three (3) or above;

- ▶ High probability for tropical cyclones to approach Fiji from between the northeast and northwest.
- ▶ Non TCs or Tropical Depressions have, and can cause loss of lives and severe damages to property.

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 values listed, 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 indices.

All communities should remain alert and prepared throughout the 2012/13 TC season and take heed of TC warnings and advisories, to mitigate the impact on life and property.

***Issued by:***

The Director  
Fiji Meteorological Service  
Private Mail Bag NAP0351  
Nadi Airport  
**Republic of Fiji**