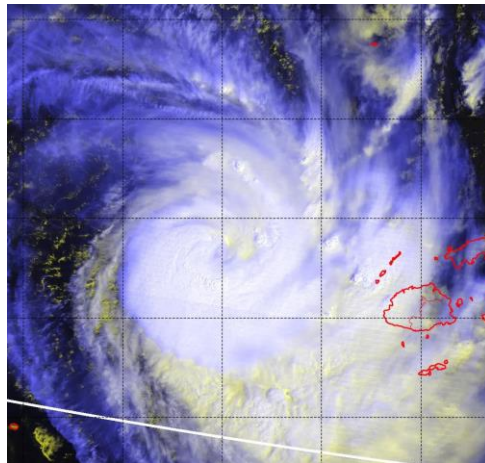




Fiji Meteorological Service

Tropical Cyclone Seasonal Summary



2025/2026 Season

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Introduction

The RSMC Nadi Tropical Cyclone Center is a Regional Specialized Meteorological Centre (RSMC) that carries out specialized activities in analysis, tracking and forecasting of all Southwest Pacific tropical cyclones (TCs) within the framework of the World Weather Watch (WWW) Program of the World Meteorological Organization (WMO).

RSMC Nadi conducts the following operations on a routine basis:

- i. Preparation of information on the formation, movement and development of TCs and associated meteorological phenomena.
- ii. Preparation of information on synoptic scale atmospheric situations that affect the behavior of TCs.
- iii. Provision of the above information to National Meteorological Services (NMHSs) and in particular to WMO Tropical Cyclone Committee Members, in appropriate formats for operational processing.

This report summarizes the operational activities of RSMC Nadi and reviews the tropical cyclone activity within its area of responsibility during the 2025/2026 season. Over the course of the season, RSMC Nadi monitored and analyzed a total of 11 tropical disturbances (TDs). Of these systems, 7 intensified into tropical depressions, and 2 ultimately developed into named tropical cyclones that went on to impact Vanuatu and Fiji. Additionally, two significant depressions formed but did not meet the criteria for naming, as they were not anticipated to sustain as a tropical cyclone.

The next section outlines routine operations performed at RSMC Nadi and its operational products while Section 2 describes atmospheric and oceanic conditions across the tropics, highlighting notable Tropical Cyclone activity during the 2025/2026 cyclone season. Section 3 presents verification statistics relating to operational forecasts and other guidance models. Supplementary data, including best track data and overall forecast performance, are presented in tables and charts within the appendices to offer a comprehensive review of seasonal cyclone behavior and forecasting effectiveness.

1.0: Operations at RSMC Nadi during the 2025/2026 Tropical Cyclone Season

RSMC Nadi's area of responsibility (AoR) covers the Southwest Pacific region between equator to 25°S, and 160°E to 120°W as shown in figure 1.1. In its capacity for International Civil Aviation, RSMC Nadi also functions as a Tropical Cyclone Advisory Centre (TCAC) with an extended area of coverage from the equator to 40°S, and 160°E to 120°W (figure 1.2). RSMC Nadi carries out analysis and forecasting in relation to tropical cyclones (TCs) in the area and also provides the relevant National Meteorological and Hydrological Services (NMHSs) with RSMC products via the Global Telecommunication System (GTS), the Aeronautical Fixed Telecommunication Network (AFTN) and emails. The products are also available on the Fiji Meteorological Service (FMS) website, the internet and other media including social media for public consumption during the tropical disturbance and cyclone development period and existence in the Nadi AoR.

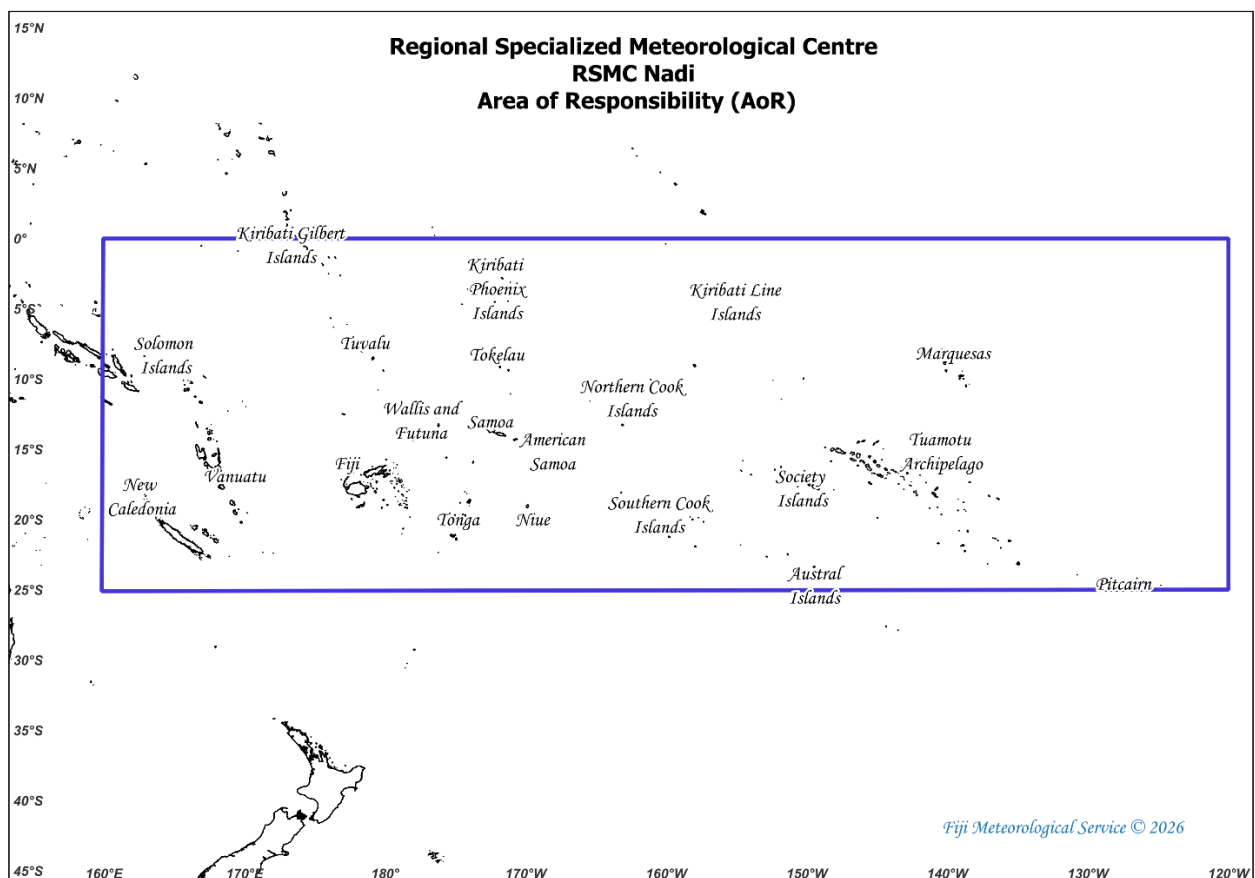


Figure 1.1: RSMC Nadi Area of Responsibility

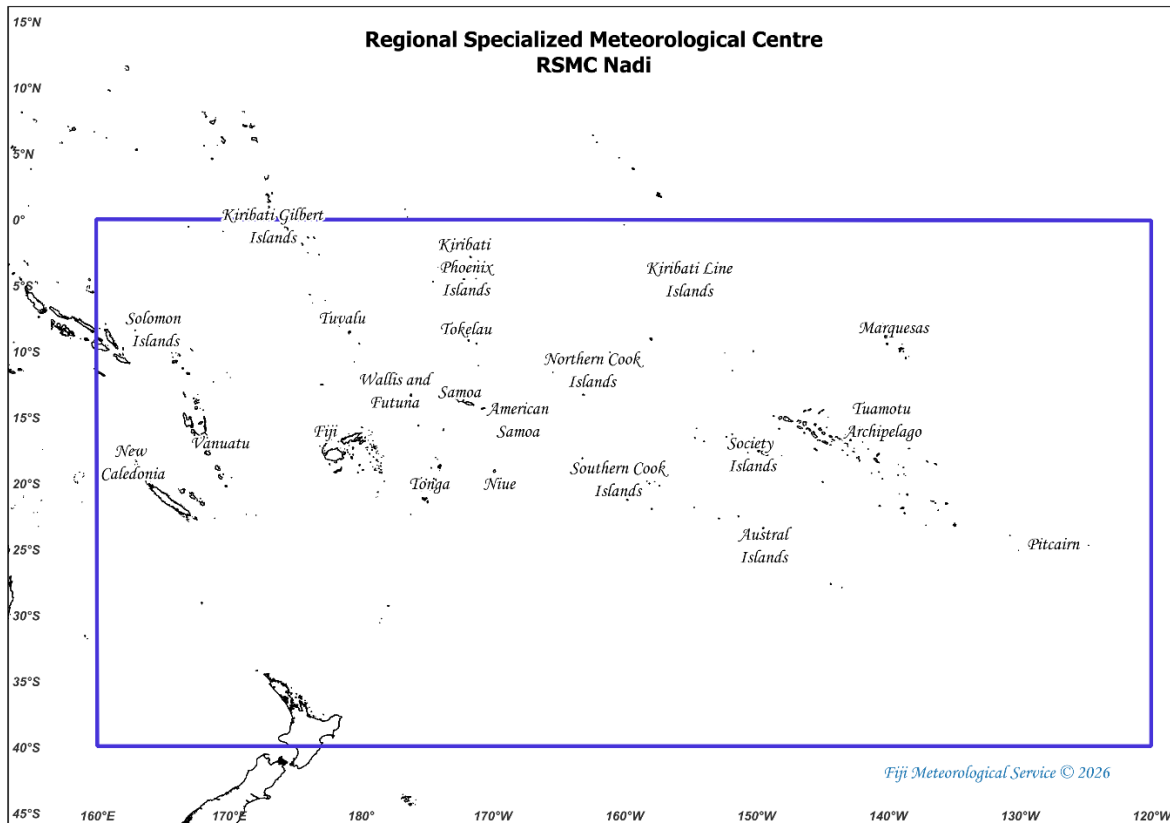


Figure 1.2: Nadi Tropical Cyclone Warning Center area.

1.1 Analysis

TC analysis is performed at least four times a day for 00, 06, 12 and 18UTC fix for RSMC Nadi TC Products. It begins with the determination of the TC's center position and the Dvorak analysis to determine the estimated intensity of the TC. However, it is done as well for 03, 09, 15 and 21UTC merely for position and to monitor the Dvorak Intensity trends as well as for Special Weather Bulletin update. The Dvorak analysis for these times are carried out but are not distributed, however the corresponding Special Weather Bulletins (SWB) are sent for distribution. Cloud and Himawari Cast images of TCs from the Himawari-9 are the principal source for the determination of TC center position and intensity through Dvorak analysis for the 2025/2026 cyclone season. Information on the TC's direction and speed of movement is extracted primarily from 6, 12 or 24 hourly displacement vectors of the center position. The maximum sustained wind speed in the vicinity of the TC's center is determined mainly from the CI number, which is derived

from satellite imagery using the Dvorak method. The central pressure of the TC is then determined from the maximum sustained wind speed with the assumption of a certain pressure profile around the TC, that is the radius of the outermost closed isobar and 1000hPa isobar which is automatically derived in TC Module which is the Bureau of Meteorology tropical cyclone program used operationally in RSMC Nadi. The radii of circles representing winds with speeds exceeding 35, 50 and 65 knots are determined mainly from surface observation, scatterometer data and Atmospheric Motion Vector (AMV) based Sea surface Wind (ASWind) data derived from satellite images in the vicinity of the TC, Cooperative Institute of Research in the Atmosphere (CIRA) TC Page or TC model used operationally. The size of the central dense overcast area of the TC as observed in satellite imagery is also referenced to determine the radius of 35-45 knot wind speed radii.

1.2 Forecasts

RSMC Nadi issues TC track (position) and intensity forecasts up to 72 hours ahead. In addition to this, a 120 hour forecast is issued to United Nations Office for the Coordination of Humanitarian Affairs (OCHA). As a primary basis for TC track forecasts, RSMC Nadi mainly uses the consensus track for TC track forecasts. This approach involves taking the mean of predicted TC positions after eliminating outliers with bias towards ECMWF and GFS prediction. The intensity forecast is determined from considering multiple deterministic models and other forecast center predictions but most importantly the environment the system is expected to encounter in the forecast period. Further, TC intensity central pressure forecasts are derived automatically from TC Module once the maximum sustained wind speeds are filled in.

1.3 Provisions of RSMC Nadi Products

RSMC Nadi prepares and distributes part of or all the RSMC bulletins via the GTS or the AFTN when:

- a tropical cyclone exists in RSMC Nadi area of responsibility,
- a depression has a high chance to reach or exceed cyclone intensity in the area within 24 to 48 hours.

- Or a system expected to remain as a TC, south of 25S into the NZ Met Service AOR (eg. TC Urmil).

RSMC products are continually issued while any tropical cyclone (or severe tropical cyclone) is in the RSMC Nadi area of responsibility and few products are issued daily during the tropical cyclone season (November to April).

2.0: Summary of 2025/2026 Tropical Cyclone Season

In the 2025/2026 Tropical Cyclone, two Tropical Cyclones; Urmil and Vaianu, developed within the RSMC Nadi Area of Responsibility.

- RSMC monitored a total of 11 Tropical Disturbances over the course of the season. Of these systems, 7 intensified into Tropical Depressions, and 2 ultimately developed into Tropical Cyclones.
- Both the TCs Urmil and Vaianu for the season originated over the Western Region of the RSMC Nadi AOR, while none formed to the east of the International Dateline (Figure 2.1).
- Tropical Cyclone Vaianu attained a category 3 status with winds exceeding 63 knots near the center, whereas Tropical Cyclone Urmil reached a category 2 status with winds more than 47 knots near the center.

The 2025/2026 Tropical Cyclone season recorded a fewer cyclones than predicted, with only two named systems compared to the anticipated four to five expected between November 2025 and April 2026.

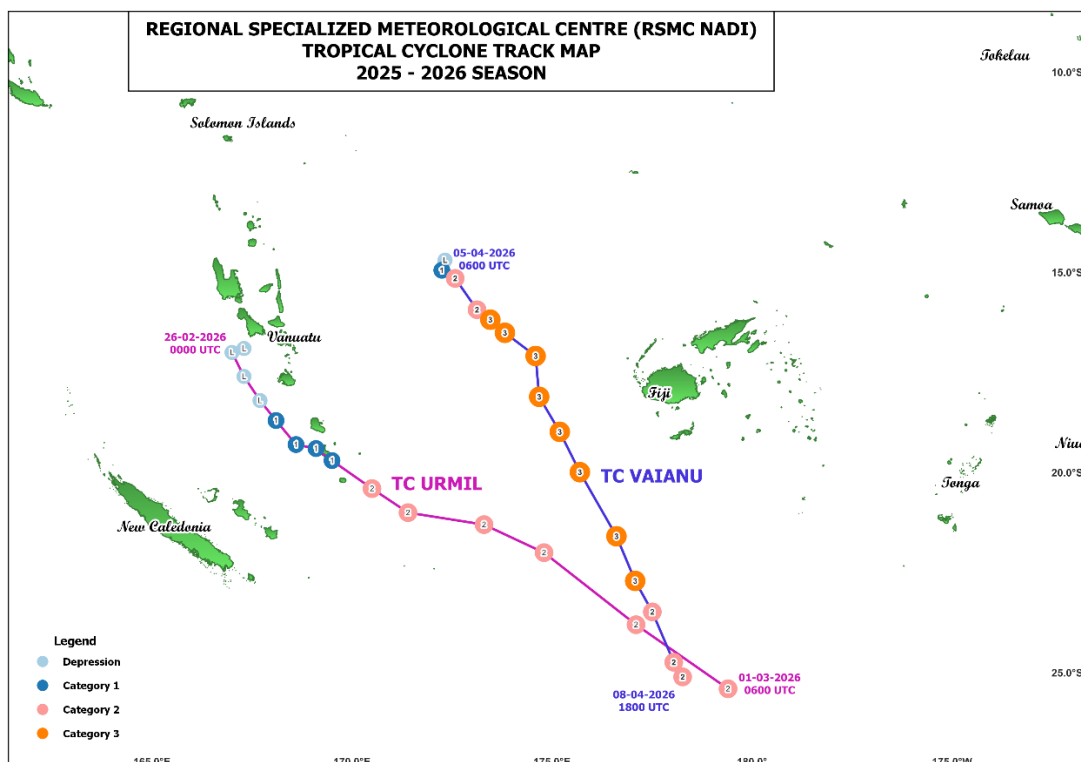


Figure 2.1: Tropical Cyclone Track Map for 2025-2026 season.

Table 2.1: Named Tropical Cyclones in the 2025/2026 Season

Tropical Cyclone/ Category	Dates	Duration	Minimum Central Pressure				Maximum Winds (knots)
			UTC	Lat (S)	Lon (E)	hPa	
TC Urmil (2)	27/02/26 – 01/03/26	3 days	28/02 0600	21.0	171.4	980	55
TC Vaianu (3)	05/04/26 – 08/04/26	4 days	06/04 1800	-17.1	174.6	945	85

Table 2.2: Tropical Disturbances monitored in the 2025/2026 Season

Tropical Disturbance Number	Date (UTC)	Max Wind Intensity (Knots)	TC Name	Remarks
01F	2100z 02/12/25 – 2100z 04/12/25	25	-	- Remained as a Disturbance. - Formed within the vicinity of French Polynesian Islands, tracked south-southeast and dissipated near 25S.
02F	0900z 05/12/25 – 2100z 06/12/25	30	-	- Developed into a Tropical Depression at 052100UTC. - Formed within the vicinity of French Polynesian Islands, tracked south-southeast and moved south of 25S.
03F	2100z 10/12/25 – 2100z 14/12/25	30	-	- Developed into a Tropical Depression at 140600UTC. - Formed over open waters north of Vanuatu, stayed slow moving and then tracked southeast in open waters between Vanuatu and Fiji where it was declassified.

04F	2100z 28/12/25 – 2100z 01/01/26	25	-	• Remained as a Disturbance. • Formed over open waters northeast of Samoa, remained slow moving initially and then tracked southerly to far east of Niue where it was declassified.
05F	1800z 19/01/26 – 2100z 20/01/26	25	-	• Remained as a Disturbance. • Formed over open waters far northwest of New Caledonia, tracked southeast and declassified over open waters west of New Caledonia.
06F	0600z 21/01/26 – 0000z 22/01/26	30	-	• Developed as a Tropical Depression at 210600UTC. • Formed over open waters west northwest of New Caledonia, and tracked southeast to the south of 25S.
07F	0000z 27/01/26 – 0600z 29/07/26	30	-	• Developed as a Tropical Depression at 282100UTC. • Formed over open waters northeast of Vanuatu, tracked southeasterly and then southerly and declassified as a Low near 25S.
08F	0000z 30/01/26 – 0600z 31/01/26	25	-	• Remained as a tropical Disturbance. • Formed over open waters south of Samoa, tracked southwesterly to west of Niue where it was declassified as a Low.
09F	2100z 25/02/26 – 0000z 01/03/26	55	Urmil	• Upgraded to a Tropical Depression at 261200UTC. • Named a Tropical Cyclone at 270000UTC. • Handed over 010600UTC analysis to TCWC Wellington. • More detailed information could be found in section 2.2 of this seasonal summary and TC report.

10F	2100z 21/03/26 – 0000z 24/03/26	30, gales far from center		• Upgraded to a Tropical Depression at 222100UTC. • Formed over the open waters south of Solomon Islands, tracked south-southeast just to the west of New Caledonia and south of 25S by 240600UTC.
11F	1800z 03/04/26 – 1200z 08/04/26	85	Vaianu	• Upgraded to a Tropical Depression at 041800UTC. • Named a Tropical Cyclone at 051200UTC. • Handed over 081800UTC analysis to TCWC Wellington. • More detailed information could be found in section 2.2 of this report and TC report.

2.1 Atmospheric and Oceanographic Conditions in the Tropics

Weak La Niña conditions were experienced throughout the 2025/2026 tropical cyclone season, characterized by persistent negative sea surface temperature (SST) anomalies in the central and eastern Pacific. As indicated by the Southern Oscillation Index (SOI) in Figure 2.1, these conditions weakened and shifted toward an ENSO-neutral state by April 2026.

Time-series SST analysis (Figure 2.2) reveals a clear contrast across the region, with warmer-than-average conditions remaining steady west of the International Dateline throughout the season. Conversely, the central Pacific showed a different pattern; while cooling was initially dominant, warmer temperatures gradually spread toward the eastern part of the area by April and May 2026. This shift in sea surface temperatures matches the weakening SOI trends, signaling that the La Niña influence was coming to an end.

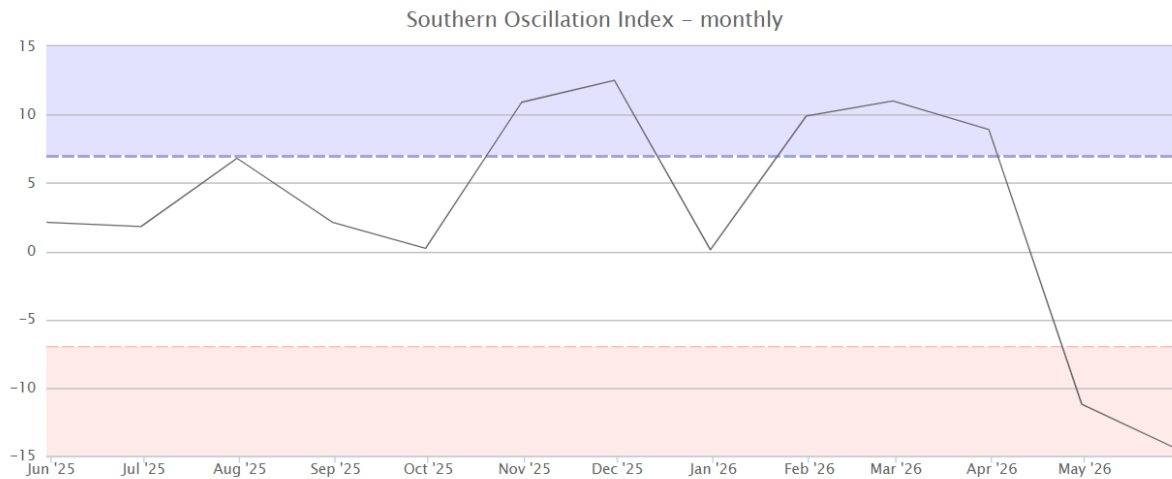


Figure 2.1: Monthly Southern Oscillation Index (SOI) for the 2025/2026 Tropical Cyclone Season .

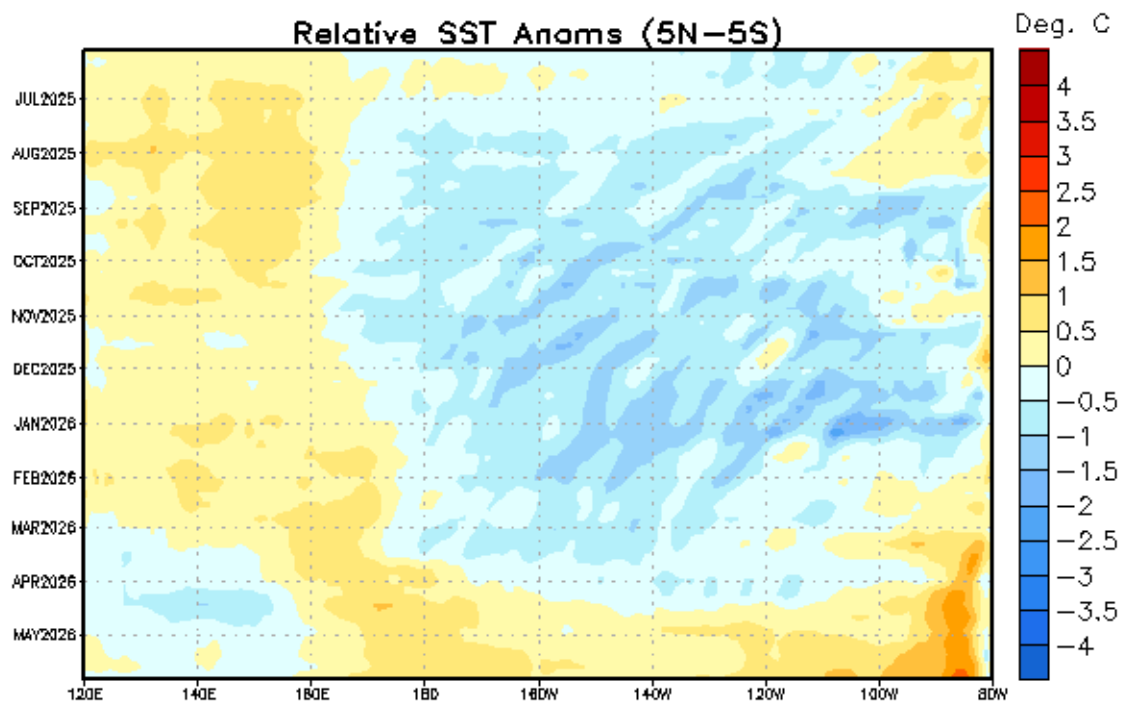
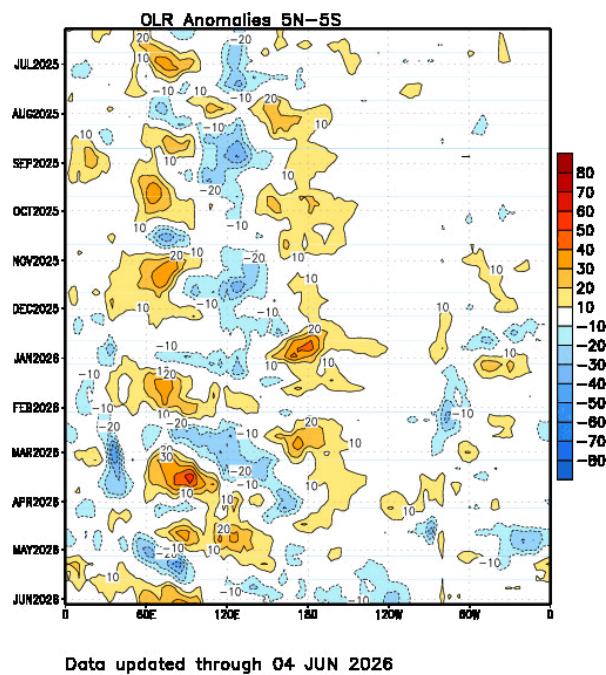


Figure 2.2: Time-longitude section of Sea Surface Temperature (SST) anomalies (5°N–5°S) from July 2025 to May 2026.

Analysis of Outgoing Longwave Radiation (OLR) anomalies highlights how convective variability modulated cyclogenesis within the RSMC Nadi Area of Responsibility (AOR). The latter part of February 2026 featured negative OLR anomalies, indicating enhanced cloudiness and convective activity that supported the development of Tropical Cyclone

Urmil. A similar pattern of negative anomalies persisted from March through April 2026, providing the favorable environment necessary for the development of Tropical Cyclone Vaianu. While the November to December 2025 period also featured pockets of lower-than-average OLR, those conditions were unable to sustain significant cyclogenesis, as several disturbances formed but failed to reach tropical cyclone strength. It is likely that while these convective clusters were present, other critical environmental conditions—such as vertical wind shear, mid-tropospheric humidity, or low-level vorticity—were not sufficiently favorable to support further development.



CLIMATE PREDICTION CENTER/NCEP

Figure 2.3: OLR anomalies (5°N–5°S) from July 2025 to June 2026.

The convective activity during the 2025/2026 season was driven by a mix of large-scale weather patterns and local conditions. While the Madden-Julian Oscillation (MJO) provided favorable conditions for cloud and storm development, other equatorial waves, such as Rossby waves, also helped trigger tropical cyclone formation. It is important to note that an active MJO phase did not always guarantee a cyclone. There were times when the MJO was active, but disturbances failed to strengthen into cyclones because other environmental factors—such as strong wind shear, dry air, or weak rotation—inhibited their development. Ultimately, successful cyclogenesis depended on these convective waves occurring at the same time as supportive background conditions.

2.2 Tropical Cyclones in 2025/2026 TC Season

There were 2 TCs that developed in RSMC Nadi's AOR in the 2025/2026 season.

In addition to the named cyclones, Tropical Disturbance 07F (TD07F) and Tropical Disturbance 10F (TD10F) were significant depressions of operational interest during the season. Brief summaries of these systems are provided below, with comprehensive post-event reanalysis reports for both depressions attached as appendices.

2025/2026-: Tropical Depression TD07F

Tropical Disturbance 07F (TD07F) developed from a low-pressure system just to the east of northern Vanuatu and was initially numbered at 0600 UTC on January 27th, 2026. The system tracked steadily southeastward between Fiji and Vanuatu and was officially upgraded to a tropical depression by 2100 UTC on January 28th, while analyzed near 22.4S 173.4E. Although initial background environmental conditions featured low to moderate shear and good upper divergence, the system suffered from poor organization and a lack of proper convective banding. TD07F's development was quickly stifled as it moved into a hostile synoptic environment characterized by moderate to high vertical wind shear to the south. This strong shear, combined with a lack of energy, inhibited tropical cyclone genesis and caused the system to rapidly weaken after 2100 UTC on January 28th. The depression continued along its southerly trajectory before ultimately being declassified as a low near 25S.

2025/2026-1: Tropical Cyclone Urmil

Tropical Disturbance 09F was first identified on 25 February 2026 over the western region of the RSMC Nadi AOR. The system steadily organized and was upgraded to a Tropical Depression at 1200 UTC on 26 February while located near 17.6S 167.3E, or about 110km west of Port Vila.

It continued to intensify and was officially named Tropical Cyclone Urmil at 0000 UTC on 27 February, marking the first named system of the 2025/2026 Southwest Pacific cyclone season. Both operational tracking during the event and subsequent post-event reanalysis

confirmed that the naming of the system was executed precisely on time, aligning exactly with when the system met the objective thresholds for tropical cyclone designation.

Urmil reached Category 2 intensity, peaking with maximum sustained winds of 55 knots and a minimum central pressure of 980 hPa on 28 February. The cyclone tracked south-eastward primarily over open waters, passing south of Vanuatu and west of Fiji, before exiting the region and being handed over to TCWC Wellington at 0600 UTC on 1 March (figure 2.4).

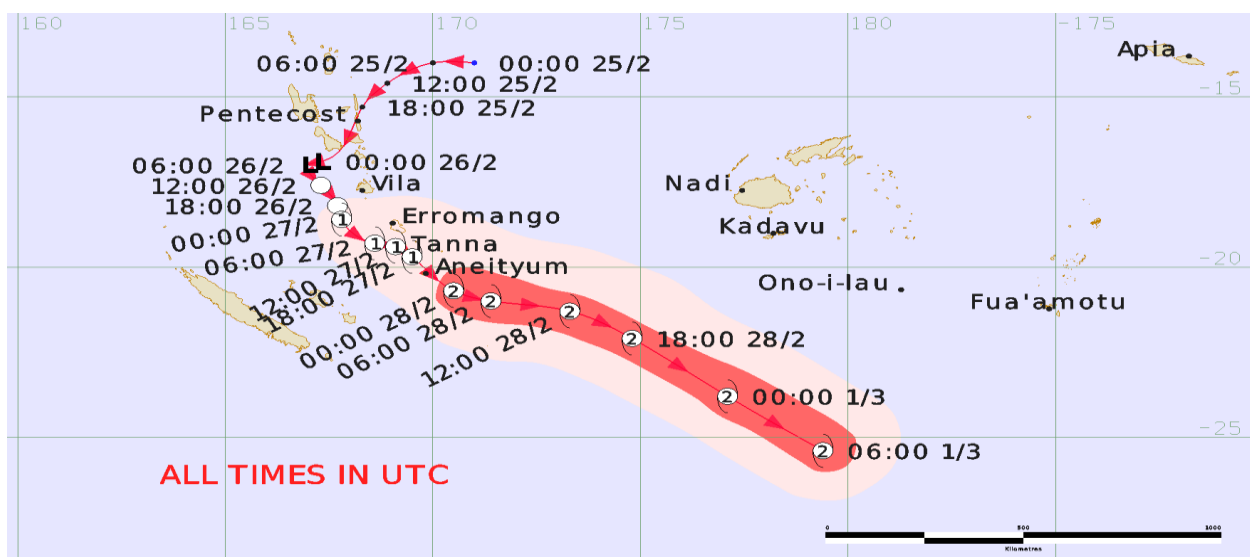


Figure 2.4: Post event best track for TC Urmil.

2025/2026-: Tropical Depression TD10F

Tropical Disturbance 10F (TD10F) was initially classified as a tropical disturbance at 2100 UTC on 21st March, 2026. The system tracked steadily southward and was officially upgraded to a tropical depression by 2100 UTC on March 22nd while located to the west of northern Vanuatu. Although initial background environmental conditions were temporarily favourable for cyclogenesis, the system's development was quickly stifled by a hostile synoptic environment characterized by strong vertical wind shear and an approaching upper-level trough.

This interference initiated an extratropical transition that prevented TD10F from consolidating into a named tropical cyclone. Caught in the broader steering flow, the depression accelerated rapidly along its southward trajectory, passing to the west of New

Caledonia. The system continued to gain forward speed before ultimately crossing the boundary and exiting the RSMC Nadi AoR by 0300 UTC on March 24th.

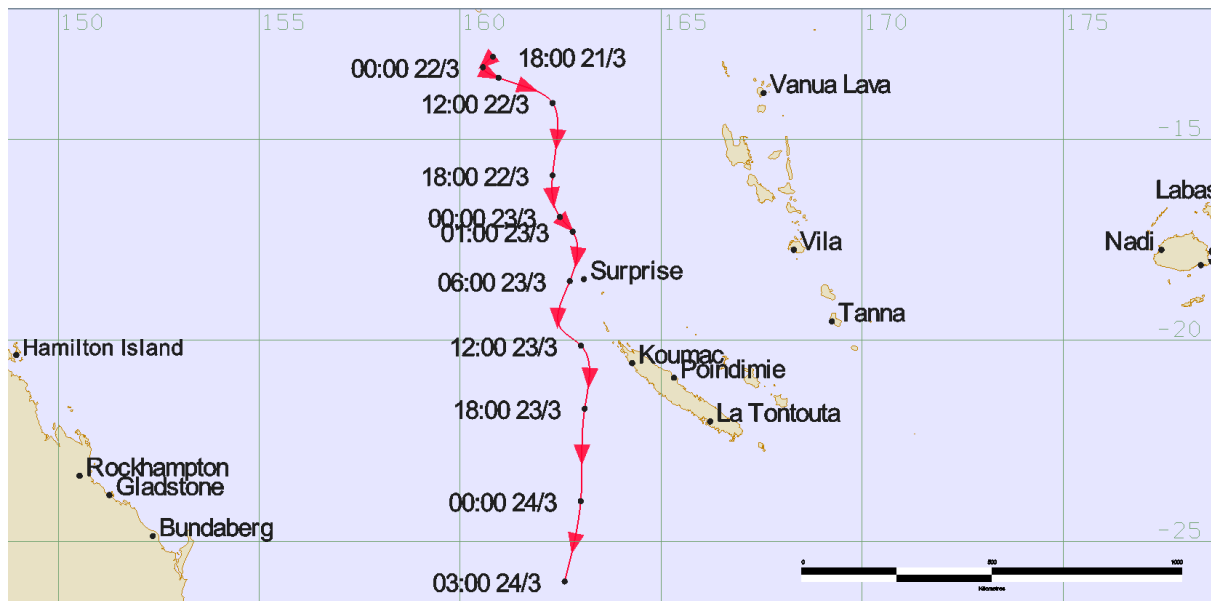


Figure 2.5: Post event track for TD10F.

2025/2026-2: Tropical Cyclone Vaianu

Tropical Cyclone Vaianu was initially classified as a tropical disturbance at 1800 UTC on April 3rd, 2026. The system tracked steadily south to south-southeast and was officially upgraded to a tropical depression by 1800 UTC on April 4th. Benefiting from favourable environmental conditions, including warm sea surface temperatures and low vertical wind shear, the system consolidated and was officially named Tropical Cyclone Vaianu at 1200 UTC on April 5th.

Vaianu underwent a period of rapid intensification, reaching Category 3 intensity by 0600 UTC on April 6th. The cyclone maintained this severe intensity for approximately 48 hours as it continued its southward trajectory, passing to the west of Fiji. As the system progressed further south into higher latitudes, it encountered cooler waters and increasing wind shear, which initiated a weakening trend and a transition toward a more dynamically driven system. Vaianu was downgraded to a Category 2 system and

continued to track south before ultimately crossing the boundary and exiting the RSMC Nadi Area of Responsibility at 1800 UTC on April 8th.

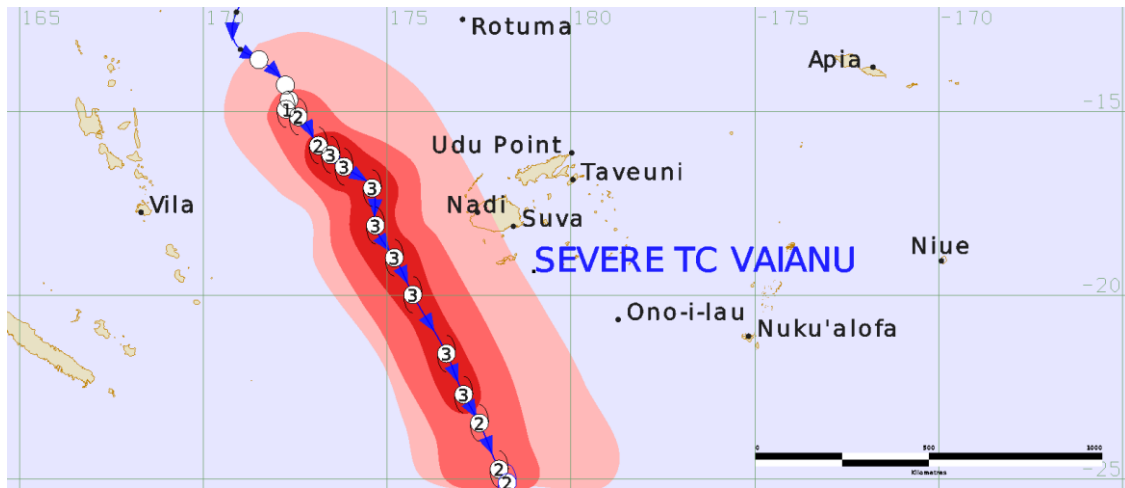


Figure 2.6: Post event best track for TC Vaianu.

2.3 Tropical Cyclone Products

RSMC Nadi provides operational products for Tropical cyclone forecasting to NMHSs via GTS, AFTN and other networks including the FMS website. Monthly and annual totals of all issued TC products for the 2025/2026 TC season are listed in Table 2.3 below.

Table 2.3: Breakdown of TC products issued for the 2025/2026 TC season

<u>Product</u>	<u>Product ID/Header</u>	<u>Nov</u>	<u>Dec</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>Total</u>
5 Day TC Outlook	FKPS20	30	31	31	28	31	30	181
5 Day TC Outlook (Graphical)	-	30	31	31	28	31	30	181
International Marine Warnings	WOPS, WTPS, WHPS	8	45	51	17	34	33	188

<u>Product</u>	<u>Product ID/Header</u>	<u>Nov</u>	<u>Dec</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>Total</u>
Tropical Disturbance (TD) Summary	WWPS21	60	62	62	56	62	60	362
Tropical Disturbance Advisory (TDA)	WTPS11, WTPS12, WTPS13, WTPS14	-	-	-	11	2	16	29
CREX	KSXS01, KSXS02, KSXS03	-	-	-	7	-	15	22
Tropical Cyclone Advisory (TCA)	FKPS01, FKPS02, FKPS03	-	-	-	10	-	17	27
TC SIGMETs	WCFJ01, WCFJ02, WCFJ03, WCFJ04	-	-	-	13	-	13	26
Special Weather Bulletin (SWB)	WWFJ40	-	-	-	-	-	-	-
Special Marine Bulletin (SMB)	WXFJ04	-	-	-	-	-	13	13
TC Track Maps		-	-	-	11	-	15	26
TC Threat Maps		-	-	-	11	-	15	26
Storm Surge Forecast		-	-	-	-	-	-	-
Total		128	169	175	192	160	257	<u>1081</u>

3.0: Verification of Tropical Cyclone Forecast for the 2025/2026 Tropical Cyclone Season

3.1 Tropical Cyclone Outlook for 2025/2026 Season

The Climate Division at the Fiji Meteorological Service does tropical cyclone seasonal outlook for Fiji and the region before the TC season every year. This is highlighted here as it is used by NMHS's in the region as well. The TC outlook is based on the statistical technique predicting the outlook for an upcoming tropical cyclone season whereby analogue seasons are identified, i.e. seasons in the past with similar ENSO state. The analogue seasons are identified based on the state of tropical Pacific in the months preceding the tropical cyclone season, in particular, between May and September. The analogue seasons are further narrowed based on ENSO outlooks from the global climate models. This outlook uses the three-month running mean of the NINO3.4 index and the Southern Oscillation Index for analogue identification, the most widely used indices for defining the ENSO. For the 2025/2026 TC season, 8 analogue years were identified from the past TC seasons includes 1980/1981, 1983/1984, 2000/2001, 2001/2002, 2003/2004, 2005/2006, 2012/2013, 2016/2017 expected to be driven by the weak La Niña event from an initialized neutral ENSO state.

For the 2025/2026 TC season, a total of four to five TCs were predicted to form within the RSMC Nadi AoR (Figure 3.1). Within this overall outlook, two to three systems were predicted to develop west of the International Dateline, with an identical projection of two to three TCs for the region east of the Dateline. However, only two tropical cyclones were named in the season, both forming to the west of the International Dateline.

The severe tropical cyclone outlook (Figure 3.2), a total of one to three severe TCs were predicted to develop within the RSMC Nadi AoR during the 2025/2026 season. Within this severe cyclone projection, one to two severe systems were anticipated to form in the Western Region, while zero to one severe TCs were expected to develop in the Eastern Region, east of the Dateline. In verification, the season recorded one severe tropical

cyclone, TC Vaianu, which reached Category 3 status and formed to the west of the International Dateline.

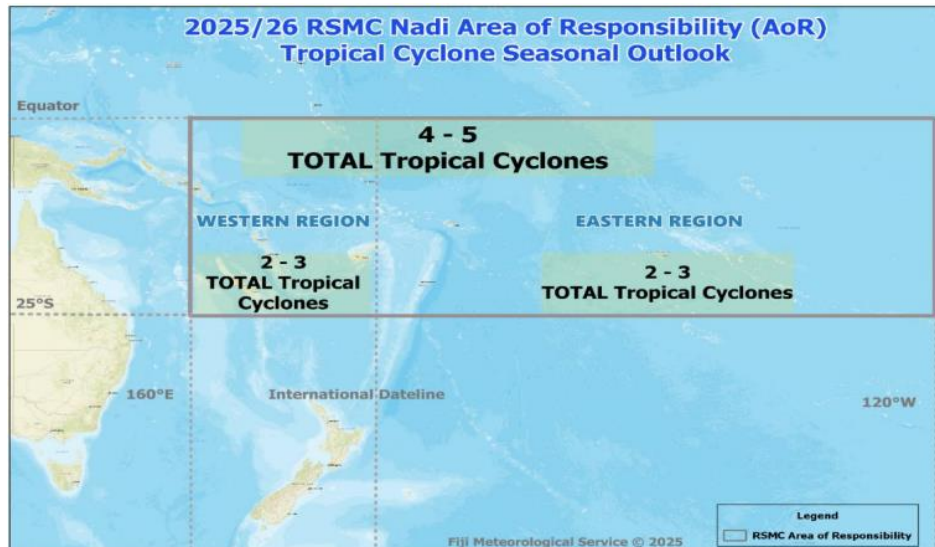


Figure 3.1: Tropical Cyclone Seasonal Outlook for the RSMC Nadi Area of Responsibility (AoR), illustrating the forecasted total number of cyclones for the season alongside the regional breakdown for the Western and Eastern regions divided by the International Dateline.



Figure 3.2: 2025/2026 RSMC Nadi Area of Responsibility (AoR) Severe Tropical Cyclone Seasonal Outlook.

In addition to the broad regional outlooks, RSMC Nadi also produces a localized seasonal forecast assessing the likelihood of tropical cyclone counts for individual countries and island groups within its Area of Responsibility (AoR). Figure 3.3 illustrates these country-level predictions overlaid with the actual tracks of the season's named systems.

As per the outlook, the highest activity was anticipated in the far western boundaries, with New Caledonia projected to experience two to three TCs. One to two TCs were forecasted for a central band covering Vanuatu, Fiji, and Tonga, while there was a likelihood of zero to one TC forecasted for the Solomon Islands, Wallis and Futuna, Samoa, Niue, and the Southern Cook Islands. There were unlikely chances forecasted for the rest of the islands in the RSMC Nadi AoR. In terms of Severe Tropical Cyclones (STCs), Figure 3.4 highlights a similar spatial pattern, with New Caledonia projected to experience one to two severe TCs. Vanuatu, Fiji, and Tonga were likely to be affected by zero to one severe TC. All other remaining island groups within the AoR were deemed unlikely to be affected by a severe TC.

Verification against seasonal activity shows mixed alignment with these projections. Tropical Cyclone Urmil only affected Vanuatu, remaining within the area forecasted to see one to two systems. Meanwhile, Severe Tropical Cyclone Vaianu went on to affect Fiji, which was similarly positioned within the one to two TC forecast band and zero to one severe TC band. Notably, New Caledonia was not affected by any tropical cyclones during the season, despite being the region where the highest number of systems (two to three) had been predicted. Conversely, the remaining island groups designated as "unlikely" or low risk stayed entirely free of tropical cyclone impacts.

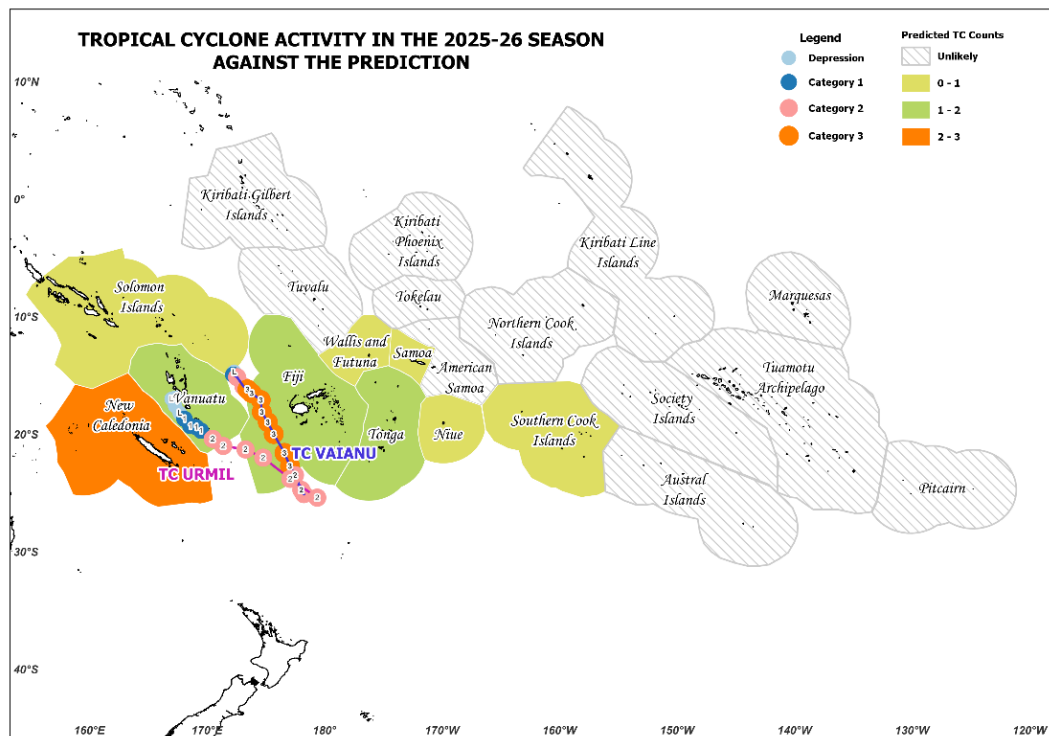


Figure 3.3: Tropical Cyclone Activity in the 2025–2026 Season Against the Regional Prediction.

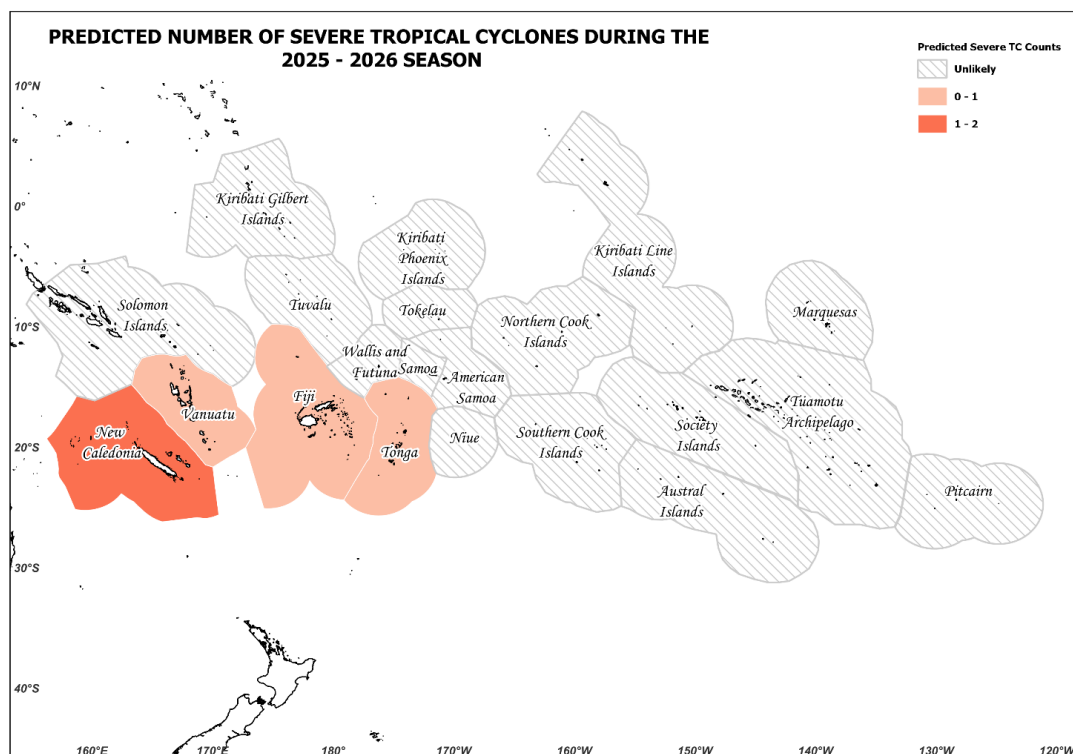


Figure 3.4: Predicted Number of Severe Tropical Cyclones during the 2025–2026 Season.

Table 3.1: Summary of the 2025/2026 Tropical Cyclone Seasonal Outlook Versus Actual Activity

<u>Outlook</u>	<u>Actual</u>	<u>Remarks</u>
4 to 5 named TCs expected between November 2025 to April 2026.	2 TCs affected the AoR during the season i.e. Urmil and Vaianu.	- TC Urmil reached category 2 status. - TC Vaianu reached category 3 status.
1 to 2 STCs expected between November 2025 to April 2026.	1 STC affected the AoR during the season i.e. Vaianu	- TC Vaianu reached category 3 status.
Fiji 1 to 2 TCs 0 to 1 STC	1 TC which became STC	TC Vaianu
New Caledonia 2 to 3 TCs 1 to 2 STCs	Nil	Nil
Solomon Islands 0 to 1 TC Nil STC	Nil	Nil
Vanuatu 1 to 2 TCs 0 to 1 STC	1 TC, Nil became STC	TC Urmil
Wallis and Futuna 0 to 1 TC Nil STC	Nil became STC	Nil

<u>Outlook</u>	<u>Actual</u>	<u>Remarks</u>
Samoa 0 to 1 TC Nil STC	Nil	Nil
Tonga 1 to 2 TCs 0 to 1 STC	Nil	Nil
Niue 0 to 1 TC Nil STC	Nil	Nil
Southern Cook Islands 0 to 1 TC Nil STC	Nil	Nil
The rest of the Pacific Islands: Unlikely chance of TC formation	Nil	Nil

3.2 Verification of Operational Forecasts

Operational forecasts for the named TCs that formed in RSMC Nadi's AOR for the 2025/2026 TC season were verified using the post event analysis from data such as scatterometry data and microwave imagery to obtain the most accurate center position. The Dvorak re-analysis of satellite cloud imagery was also used to obtain the best maximum sustained winds. These verified elements were analyzed for 12hr, 24hr, 36hr, 48hr and 72hr. All official forecast track and model guidance forecast were verified

against the post-event best track data for each TC using the TC Module Verification tool. Verification statistics for position and intensity for named TCs are in the Appendix.

3.2.1 Center Position

RSMC Nadi Forecast Position Error (km)

The position forecast verification statistics are based on the Official Forecast Track (OFT) verified against the post-event best track. The mean represents the average great-circle distance error, in kilometers, between the forecasted position and the actual position of the tropical cyclones.

Table 3.2: Mean and Standard Deviation of Track Forecast Position Errors for the 2025/2026 Season

Tropical Cyclone	12-hr forecasts		24-hr forecasts		36-hr forecasts		48-hr forecasts		72-hr forecasts	
	Mean (km)	SD (km)	Mean (km)	SD (km)	Mean (km)	SD (km)	Mean (km)	SD (km)	Mean (km)	SD (km)
Urmil	63	40	53	25	66	30	96	69	67	-
Vaianu	53	26	85	41	131	67	198	67	313	83

3.2.2 Intensity

RSMC Nadi Intensity Forecast Error (knots)

The intensity forecast verification statistics are based on the official intensity forecasts verified against the post-event best track. The mean error represents the average absolute difference, measured in knots, between the forecasted maximum sustained winds and the actual intensity of the tropical cyclones.

Table 3.3: Mean and Standard Deviation of Wind Speed Errors for the 2025/2026 Season

Tropical Cyclone	12-hr forecasts		24-hr forecasts		36-hr forecasts		48-hr forecasts		72-hr forecasts	
	Mean (kts)	SD (kts)	Mean (kts)	SD (kts)	Mean (kts)	SD (kts)	Mean (kts)	SD (kts)	Mean (kts)	SD (kts)
Urmil	6	7	5	5	4	6	7	9	5	-
Vaianu	8	11	15	17	23	25	20	24	9	13

3.2.3 Impacts

Both weather systems resulted in an estimated moderate level of disruption across their respective paths. The meteorological effects of TC Urmil were predominantly concentrated over the southern regions of Vanuatu, where communities were subjected to damaging winds and heavy, sustained rainfall. Additionally, convergence zone associated with TC Urmil affected parts of Fiji as it tracked to the far southwest of the group. The western parts of Fiji faced similar conditions, experiencing damaging winds and heavy rainfall as TC Vaianu tracked to the west of the group.

4.0: Appendix

4.1 Operational Best Track Data for 2025/2026 TC Season

Table 4.1: Best track and intensity data for Tropical Cyclone Urmil

NAME	YYYY	MM	DD	HH	LAT	LON	PRES	W(KT)	CAT
DEPRESSION	2026	02	26	00	-16.9	167.3	1003	20	0
DEPRESSION	2026	02	26	06	-17.0	167	1000	20	0
DEPRESSION	2026	02	26	12	-17.6	167.3	999	30	0
DEPRESSION	2026	02	26	18	-18.2	167.7	996	30	0
URMIL	2026	02	27	00	-18.7	168.1	995	35	1
URMIL	2026	02	27	06	-19.3	168.6	992	40	1
URMIL	2026	02	27	12	-19.4	169.1	990	45	1
URMIL	2026	02	27	18	-19.7	169.5	986	45	1
URMIL	2026	02	28	00	-20.4	170.5	985	50	2
URMIL	2026	02	28	06	-21.0	171.4	980	55	2
URMIL	2026	02	28	12	-21.3	173.3	983	50	2
URMIL	2026	02	28	18	-22.0	174.8	985	50	2
URMIL	2026	03	01	00	-23.8	177.1	985	50	2
URMIL	2026	03	01	06	-25.4	179.4	985	50	2

Table 4.2 *Best track and intensity data for Tropical Cyclone Vaianu*

NAME	YYYY	MM	DD	HH	LAT	LON	PRES	W(KT)	CAT
DEPRESSION	2026	04	05	00	-14.3	172.2	998	20	0
DEPRESSION	2026	04	05	06	-14.7	172.3	997	25	0
VAIANU	2026	04	05	12	-14.9	172.2	992	40	1
VAIANU	2026	04	05	18	-15.1	172.6	975	55	2
VAIANU	2026	04	06	00	-15.9	173.1	975	55	2
VAIANU	2026	04	06	06	-16.2	173.5	960	70	3
VAIANU	2026	04	06	12	-16.5	173.8	950	80	3
VAIANU	2026	04	06	18	-17.1	174.6	945	85	3
VAIANU	2026	04	07	00	-18.1	174.7	955	85	3
VAIANU	2026	04	07	06	-19.0	175.2	955	85	3
VAIANU	2026	04	07	12	-20.0	175.7	956	85	3
VAIANU	2026	04	07	18	-21.6	176.6	963	70	3
VAIANU	2026	04	08	00	-22.7	177.1	970	65	3
VAIANU	2026	04	08	06	-23.5	177.5	975	60	2
VAIANU	2026	04	08	12	-24.7	178.0	982	50	2

4.2 Forecast Performance of RSMC Nadi

4.2.1 Track Forecast Position Error: 2025/2026 Season vs. 5-Year Average

An analysis of the official track forecast performance for the 2025/2026 tropical cyclone season indicates a marked improvement in short- to medium-range accuracy compared to historical baselines. Specifically, from the initial analysis time (0 hours) through the 48-hour forecast period, the current season demonstrated smaller absolute mean square errors, successfully outperforming the 5-year historical average. However, this trend reversed in the longer-term projections, with the 5-year average exhibiting superior performance and lower positional errors at the 72-hour mark. These comparative track forecast position errors are illustrated in detail in figure 4.1.

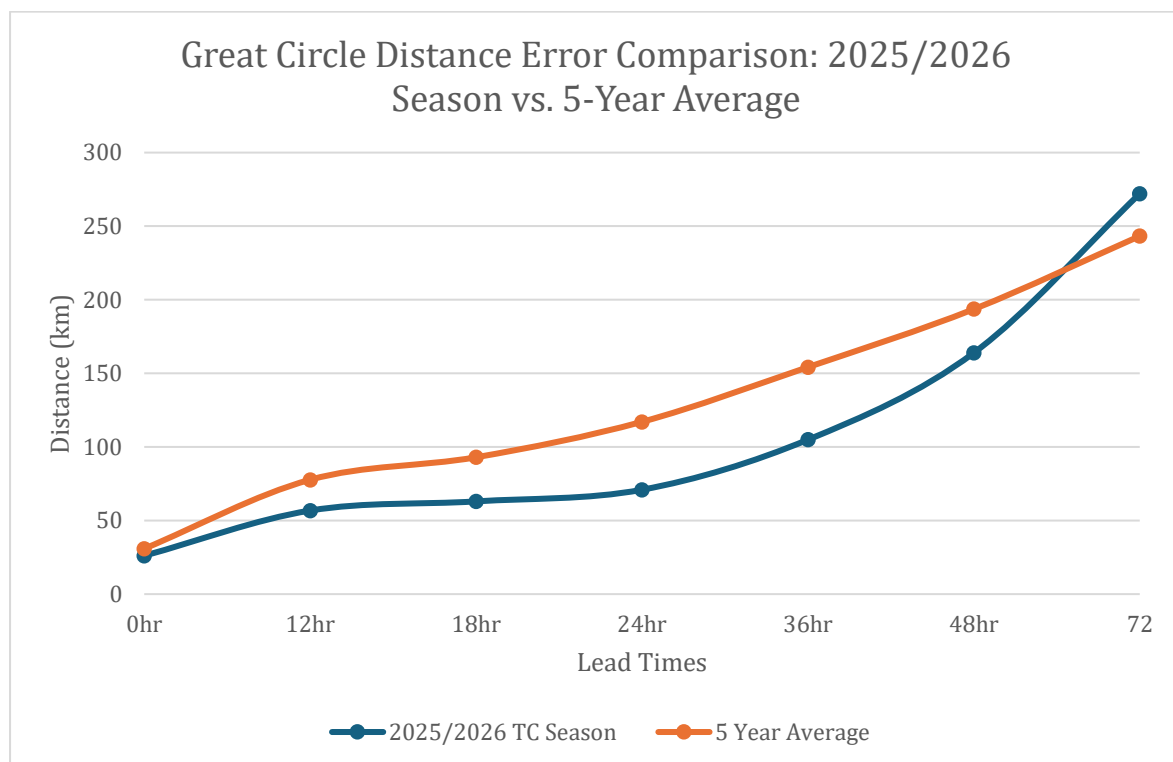


Figure 4.1: Comparison of the RSMC Nadi official track forecast position errors (Great Circle Distance in kilometers) for the 2025/2026 tropical cyclone season against the 5-year historical average across standard forecast lead times.

4.2.2 Intensity Forecast Error: 2025/2026 Season vs. 5-Year Average

An analysis of the mean intensity forecast errors for the 2025/2026 tropical cyclone season reveals a fluctuating performance trend when compared to the 5-year historical baseline (figure 4.2). At the initial analysis time (0 hours), the current season's intensity error was slightly lower than the historical average. However, throughout the short- to medium-range forecast periods (12 to 36 hours), the 2025/2026 season exhibited slightly higher intensity errors than the 5-year average. By the 48-hour mark, performance converged, with both the current season and the historical average recording approximately 15 knots of error. Most notably, at the 72-hour extended forecast range, the 2025/2026 season demonstrated a significant improvement; the mean intensity error dropped sharply to roughly 8 knots, whereas the 5-year average continued on an upward trajectory to exceed 20 knots.

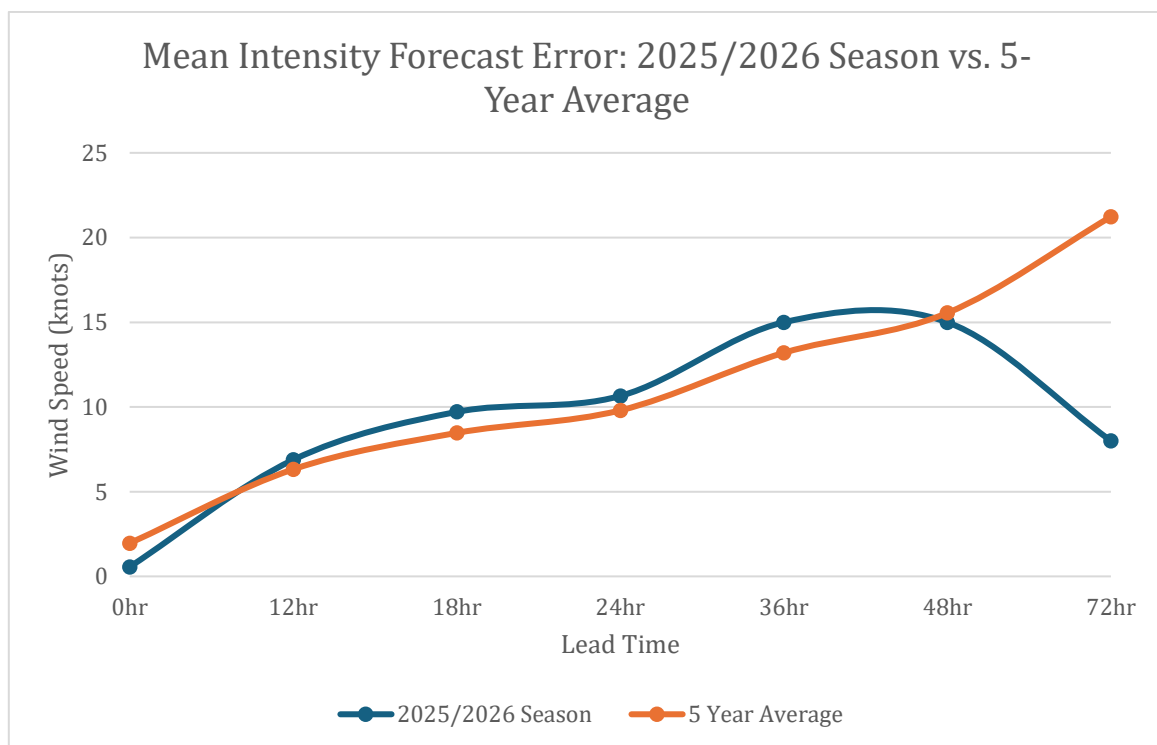


Figure 4.2: Comparison of the RSMC Nadi mean intensity forecast errors (measured in knots) for the 2025/2026 tropical cyclone season against the 5-year historical average across standard forecast lead times.

4.3 Tropical Cyclone Forecast and Guidance Performance

4.3.1: Track Forecast Performance: Official vs. NWP Guidance (2025–2026)

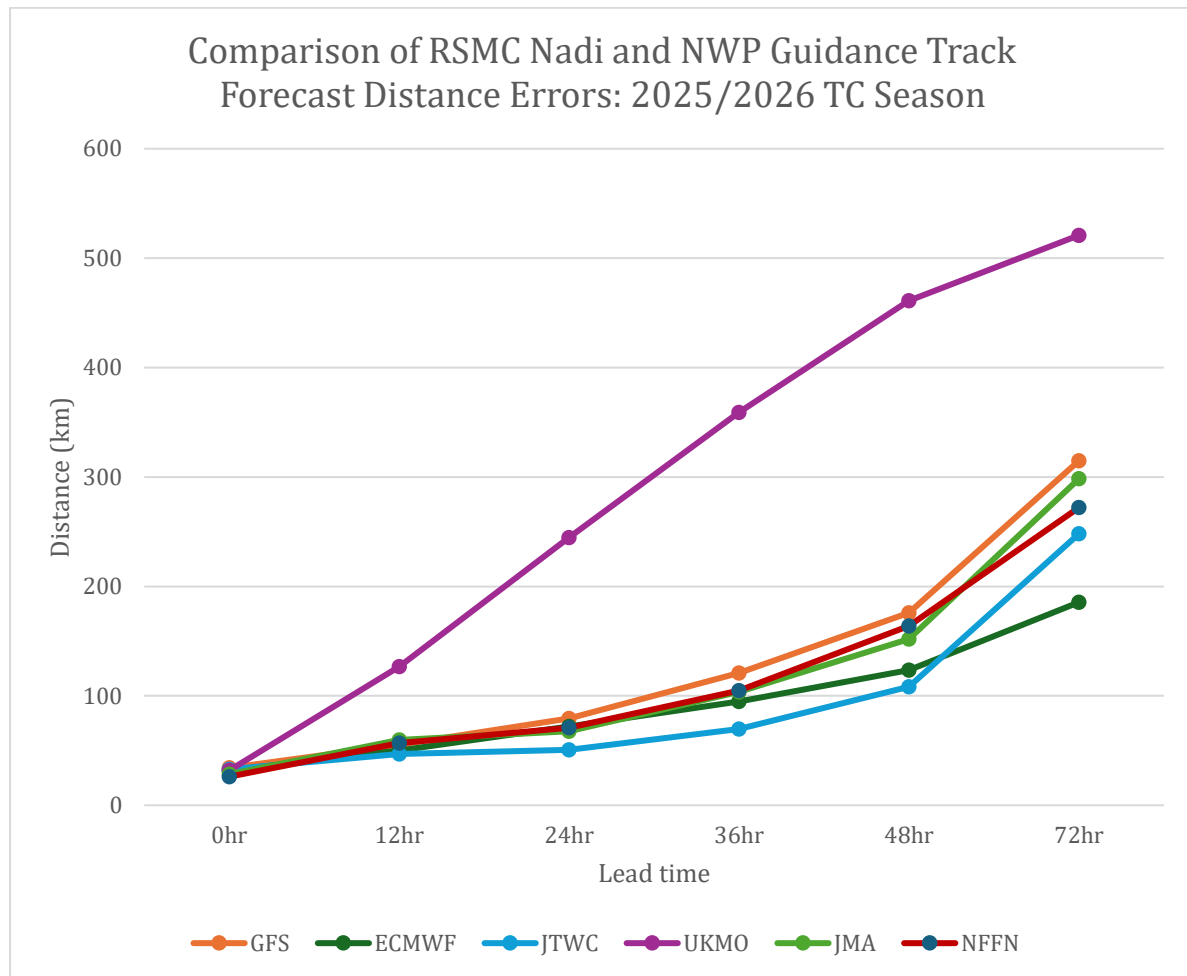


Figure 4.3 : Comparison of RSMC Nadi (NFFN) official track forecast distance errors (km) against NWP guidance models across standard forecast lead times for the 2025/2026 tropical cyclone season.

An analysis of the track forecast distance errors for the 2025/2026 tropical cyclone season highlights varying performance across the numerical weather prediction (NWP) models compared to the official RSMC Nadi (NFFN) forecast as shown above in figure 4.4. At the initial analysis time (0 hours), NFFN demonstrated the highest accuracy, recording the lowest positioning error. As the forecast lead times extended, however, both the JTWC

and ECMWF models performed slightly better than the official forecast, maintaining marginally lower mean distance errors than NFFN through to the 72-hour mark. The JMA guidance exhibited positioning errors that were closely aligned with the NFFN track throughout the forecast period, while the GFS model consistently recorded slightly higher track errors than the official forecast. Conversely, the UKMO model demonstrated the most significant drop in performance, deviating progressively further from the actual track as lead times increased, with its mean distance error peaking at approximately 520 km at 72 hours.

4.3.2: Intensity Forecast Performance: Official vs. NWP Guidance (2025-2026)

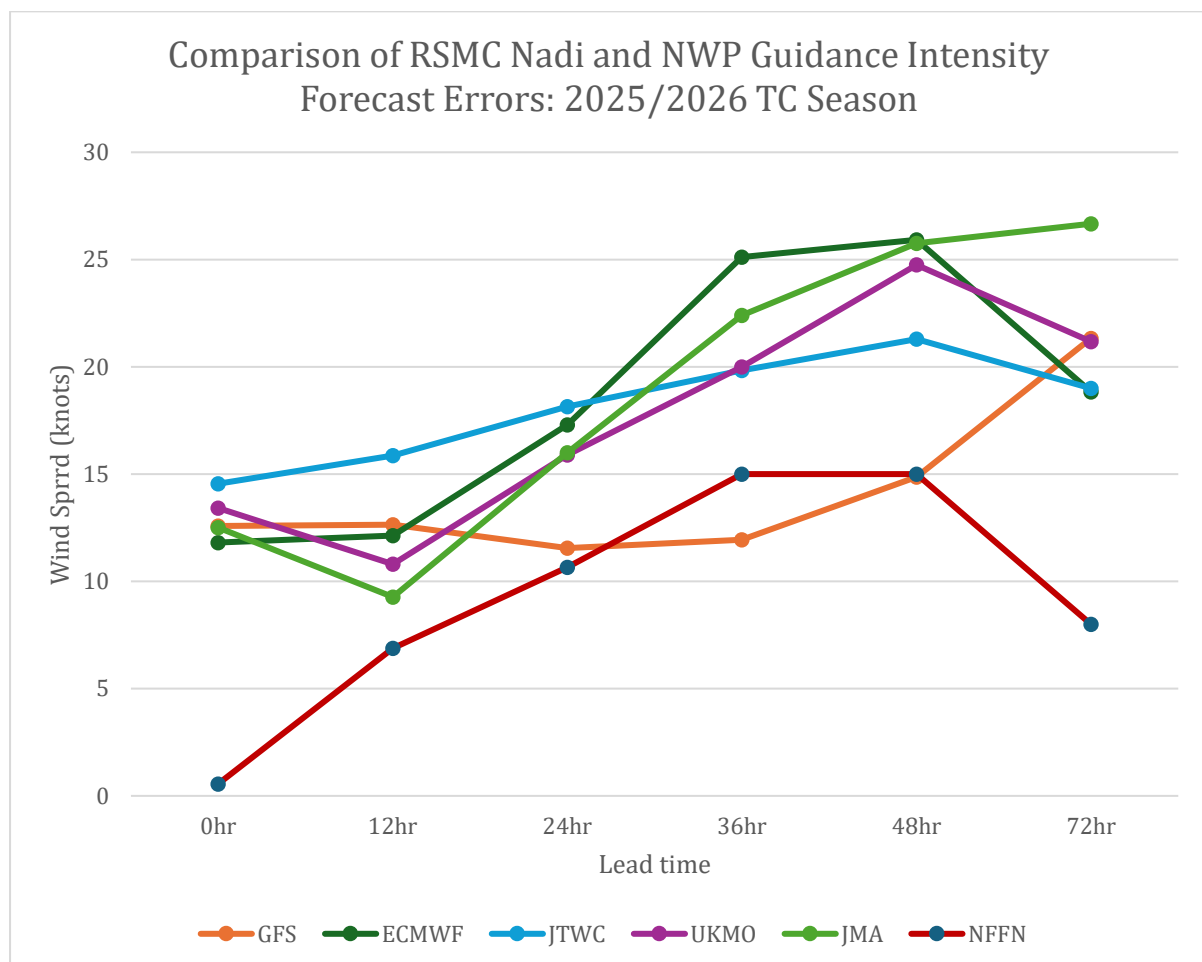


Figure 4.4: Comparison of RSMC Nadi (NFFN) official intensity forecast errors (knots) against NWP guidance models across standard forecast lead times for the 2025/2026 tropical cyclone season.

An evaluation of the mean intensity forecast errors for the 2025/2026 tropical cyclone season clearly demonstrates that the official RSMC Nadi (NFFN) forecast outperformed nearly all numerical weather prediction (NWP) guidance models across the forecast lifecycle as shown above in figure 4.4. At the initial analysis time (0 hours), NFFN exhibited exceptional accuracy with a near-zero error of just 0.56 knots, vastly outperforming the NWP guidance, which recorded initial errors ranging from 11.8 to 14.5 knots. While the NFFN error margins gradually expanded in the short-to-medium range, peaking at 15 knots at the 36-hour and 48-hour marks, it consistently remained more accurate than the ECMWF, JTWC, UKMO, and JMA models. The GFS model was the only guidance that slightly surpassed NFFN's accuracy during the 36- and 48-hour periods. However, as forecast lead times extended to 72 hours, NFFN demonstrated a distinct recovery, with its mean intensity error dropping sharply to 8 knots. In contrast, all guidance models, including GFS, continued to deviate, recording significant extended-range errors of between 18.8 and 26.6 knots. Ultimately, the official NFFN intensity forecast provided the most reliable guidance throughout the critical extended forecast periods.

4.4 Anticipatory Action (AA) Official Forecast Track (OFT)

Regional Specialized Meteorological Centre (RSMC), Nadi plays a key role in Anticipatory Action (AA) by issuing six-hourly Official Forecast Track updates during tropical cyclone events. These updates are shared via email with designated recipients, including the National Disaster Management Office (NDMO) and UNOCHA, to help determine whether trigger conditions for anticipatory response have been met.

This system enables global humanitarian partners to access timely and accurate cyclone trajectory data, allowing for early planning, resource mobilization, and targeted assistance before the cyclone makes landfall. The AA framework is designed to shift disaster response from reactive to proactive, reducing humanitarian impacts through forecast-based action.

4.5 Impacts

4.5.1 Impacts from TC Vaianu



Figure 4.5: Flooding along Queens Highway.



Figure 4.6: Fallen trees and vegetative debris block traffic lanes following damaging wind gusts from Tropical Cyclone Vaianu.