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ENERGY, INFORMATION, DISASTER
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CLIMATE CHANGE AND
COMMUNICATIONS (MEIDECC)
NUKU'ALOFA, TONGA

Tropical Cyclone Seasonal Outlook for Tonga: 2026-2027

(Date of Release: 28th October 2026)

Key Messages

1. Communities should prepare for Tropical Cyclone impacts, with 2 to 4 Tropical Cyclones expected to affect Tonga this season, including a moderate to high chance of at least one Severe Tropical Cyclone.
2. The highest Tropical Cyclone risk for Tonga is expected between January and March 2027, when Tropical Cyclone activity typically peaks. During this period, communities and sectors may face an increased risk of damaging winds, heavy rainfall, coastal flooding, and hazardous sea conditions.
3. Below-average rainfall is expected from November 2026 to January 2027, increasing pressure on key sectors such as water supplies, agriculture, health and livelihoods (social-economic) already affected by drought.
4. The on-going development of this very strong El Niño is expected to peak by December 2026 and will prolong drought conditions for Tonga.
5. Drought conditions persist across Tonga. Drought Declarations remain in force for Tongatapu, 'Eua, Ha'apai, and Niuatoputapu, while Vavaú and Niuafo'ou remain under Drought Warning and Alert with very high likelihood to be upgraded to Drought Declaration by the end of December 2026.
6. The Tonga Meteorological Service advises the public to prepare for both Tropical Cyclones and Drought impacts during the 2026-2027 Tropical Cyclone season. The public is encouraged to conserve and use water wisely, stay informed through official Tonga Meteorological Service (MEIDECC) weather updates, and to review drought and cyclone preparedness plans to protect lives, property, and livelihoods.

Executive Summary

The Tonga Meteorological Service advises that Tonga will face multi hazards during the 2026-2027 Tropical Cyclone Season, with the combined risks of tropical cyclones and ongoing drought conditions requiring heightened preparedness across all sectors and communities of Tonga.

Tropical cyclone activity is expected to be normal (average), with 2 to 4 tropical cyclones forecast to affect Tonga during the season. However, there is a moderate to high likelihood of at least one Severe Tropical Cyclone, particularly during the peak cyclone period from January to March 2027. During this time, communities may be exposed to damaging winds, heavy rainfall, coastal flooding, and hazardous marine conditions.

At the same time, below-average rainfall is expected from November 2026 to January 2027, largely driven by a very strong El Niño event that is forecast to peak by December 2026. These conditions are expected to prolong and intensify drought impacts across the Kingdom of Tonga, placing increasing pressure on key sectors such as water resources, agriculture, public health, livelihoods, and social-economic activities.

Drought conditions remain a significant concern nationwide, from an early warning perspective. Drought Declarations are currently in force for Tongatapu, 'Eua, Ha'apai, and Niuatoputapu, while Vava'u and Niuafo'ou remain under Drought Warning and Alert and are likely to be upgraded to Drought Declaration by the end of 2026, as forecasts indicates for continued persistence of drier conditions for Tonga.

Given the likelihood of both drought and cyclone-related impacts, the public, communities, businesses, and government agencies are urged to take proactive measures to strengthen resilience. This includes conserving and using water wisely, monitoring official weather and climate updates, and reviewing drought and tropical cyclone preparedness plans to protect lives, property, livelihoods, and essential services throughout the season.

Tropical Cyclone (TC) Seasonal Outlook 2026-2027: Technical Analysis

The Tropical Cyclone (TC) activity expected in the 2026-2027 Tropical Cyclone Season to affect Tonga is likely to be around average (2 to 4 TCs) with a moderate to high chance ($\geq 50\%$) of at least 1 Severe Tropical Cyclone occurring.

Any Tropical Cyclones passing close to the country, associated active cloud with heavy rain bands may occasionally affect Tonga with marked high rainfall, damaging to destructive force winds and possible flooding, including sea flooding from storm surge impacts on low-lying coastal areas.

Tropical Cyclones that could potentially affect Tonga in the 2026-27 season should be expected to be mostly coming from the Northern quadrants: North, Northeast and Northwest (Samoa Area: 70%) and the rest from the West and Southwestern quadrants. Tropical cyclone formation areas will be shifted to the warmer ocean temperatures to the North of Samoa and the Northern Cook Island regions.

The 2026/27 Tropical Cyclone season will likely bring below average rainfall to all island divisions of Tonga during the cyclone season due to the very strong El Niño and drought conditions currently happening, for the first half of this tropical cyclone season (November 2026 – January 2027). It should be noted that it is expected that all island divisions of Tonga will be in drought declaration by the end of 2026.

The official 2026-2027 TC Season will begin on the 01st November 2026 and will end on the 30th April 2027. It should be noted that Tropical Cyclones have occasionally formed outside this period. For instance, Tropical Cyclone “Keli” which affected Northern Tonga in June 1997 and very recently Tropical Cyclone “Wati” which affected the Cook Islands in October 2026. The peak time for the occurrence of Tropical Cyclones in Tonga is from January to March with most events occurring in February.

Tropical cyclone activities in the Pacific Island region, including Tonga, are closely associated with the El Niño Southern Oscillation (ENSO), which is the fluctuation and coupling effects of the oceanic and atmospheric conditions between the eastern and western tropical Pacific. The ENSO is characterised by three phases, that is: El Niño, La Niña and the Neutral phase.

To generate outlook for this upcoming 2026/27 TC Season, previous seasons with comparable El Niño–Southern Oscillation (ENSO) conditions were selected as analogue TC seasons. Initially, the analogue seasons were identified based on the status of the tropical Pacific during the months leading up to the TC season, specifically between May to October. The selected few analogue years were further refined using the ENSO outlooks from the global climate models. According to global climate model predictions, this TC season is very much influenced and dominated by a strong to very strong ‘*El Niño*’ ENSO phase. It should be noted that the El Niño Southern Oscillation (ENSO) is at ‘*El Niño*’ state since June 2026 and at the start of this TC season (November 2026).

Using the methodology outlined, five (5) analogue seasons were selected that shows similar atmospheric and oceanic conditions to those currently observed and anticipated during this tropical cyclone season. The identified analogue seasons are 1972/73, 1977/78, 1982/83, 1997/98, 2015/16 (see Table 1).

A 500km buffer zone outwards from Tonga’s island chains was created (figure 5) to show case and analyse the number of tropical systems (tropical depressions and tropical cyclones) that has crossed our Tonga area during these past TC analogue seasons. This reflects the importance of understanding how tropical systems behaves and its characteristics over our

Tonga areas in previous analogue TC seasons with similar conditions to this upcoming 2026-2027 TC season.

During every Tropical Cyclone season there are active periods in which the potential for tropical cyclone formation is increased. These active periods come around every 30 to 60 days on average and lasts for a duration of about 2 to 3 weeks in our region. On average, there are about 3 active periods during the tropical cyclone season for the Southwest Pacific region, including Tonga.

Current dynamics indicate that the next tropical cyclone activity for this season in the Southwest Pacific region (including Tonga) is most likely to occur around December 2026 to January 2027. These active period(s) will be updated during the cyclone season to support planning, decision making and preparedness.

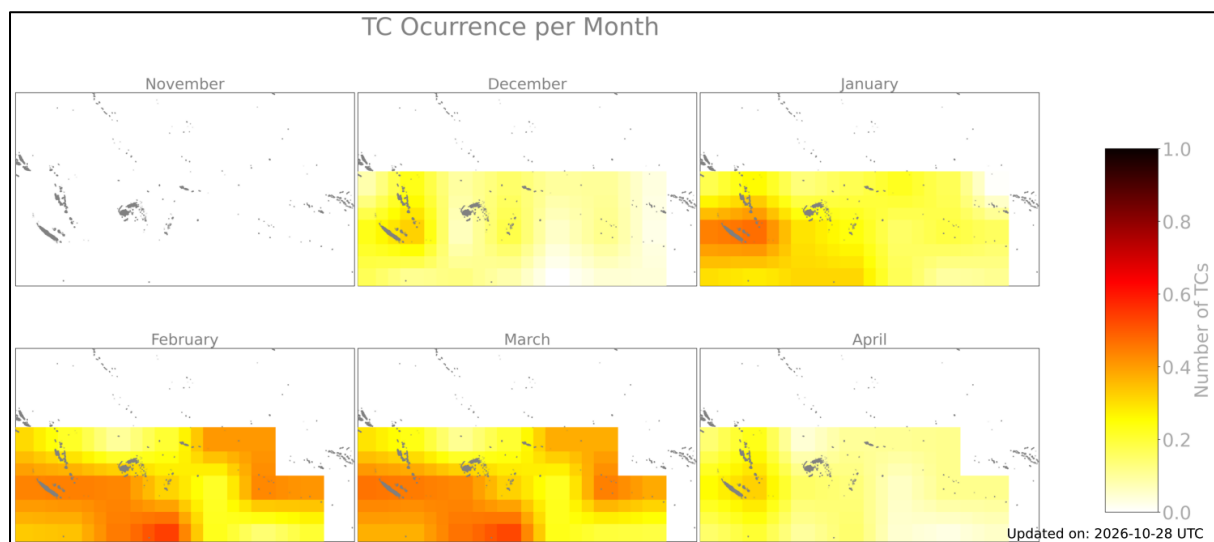


Figure 1: Expected tropical cyclone activity per month for the 2026-27 cyclone season, indicating the peak timeline for most tropical cyclone activity for Tonga should be expected to occur in the months of January to March 2027.

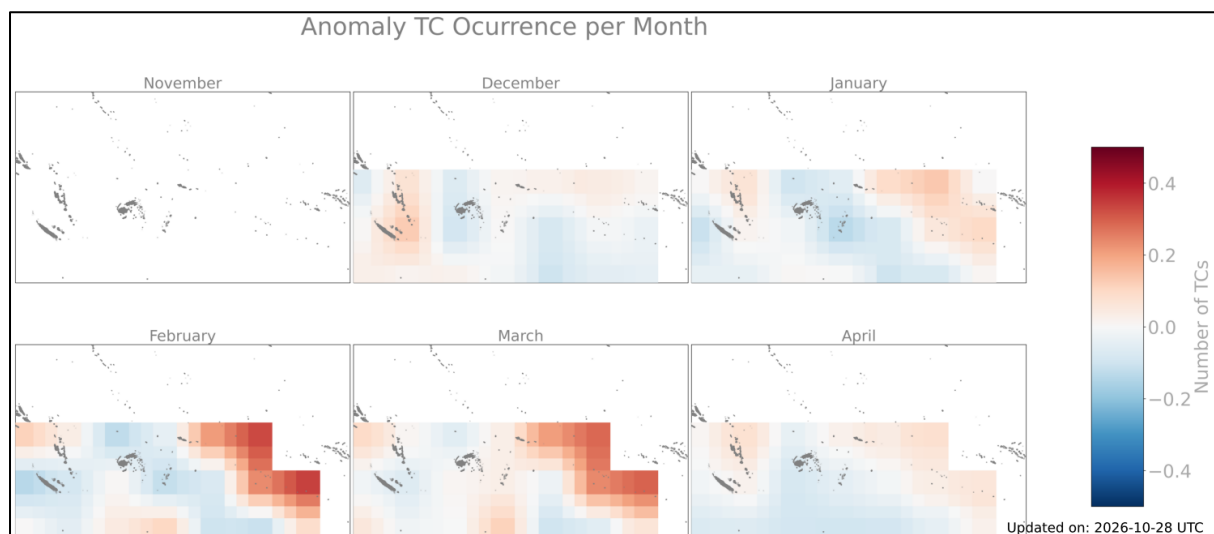


Figure 2: Expected severe tropical cyclone activity per month for the 2026-27 cyclone season, indicating that the peak month of severe tropical cyclone activity for Tonga should be expected to occur in the month of February and March 2026.

Historical Tropical Cyclone events that have affected Tonga during Past Tropical Cyclone Seasons similar to the upcoming 2026-2027 Tropical Cyclone Season.

Tropical Cyclones that have affected Tonga in the past where current and forecast conditions are similar in nature to the 2026/2027 Tropical Cyclone Season are indicated in Table 1.

Analogue Tropical Cyclone Seasons	No. of Tropical Cyclones occurring in our Area	No. of Severe Tropical Cyclones Occurring in our Area
1972-73	5	0
1977-78	3	0
1982-83	2	1
1997-98	3	2
2015-16	6	4
Average (rounded-off)	3.8 $\approx$ 4	1.4 $\approx$ 1

Table 1: Current sea surface temperatures patterns and atmospheric conditions indicate that the 2026/27 Tropical Cyclone season is expected to be of similar nature to 5 other Tropical Cyclone seasons in the recorded past. These are referred to as the analogue years: 1972-73, 1977-78, 1982-83, 1997-98 and 2015-16.

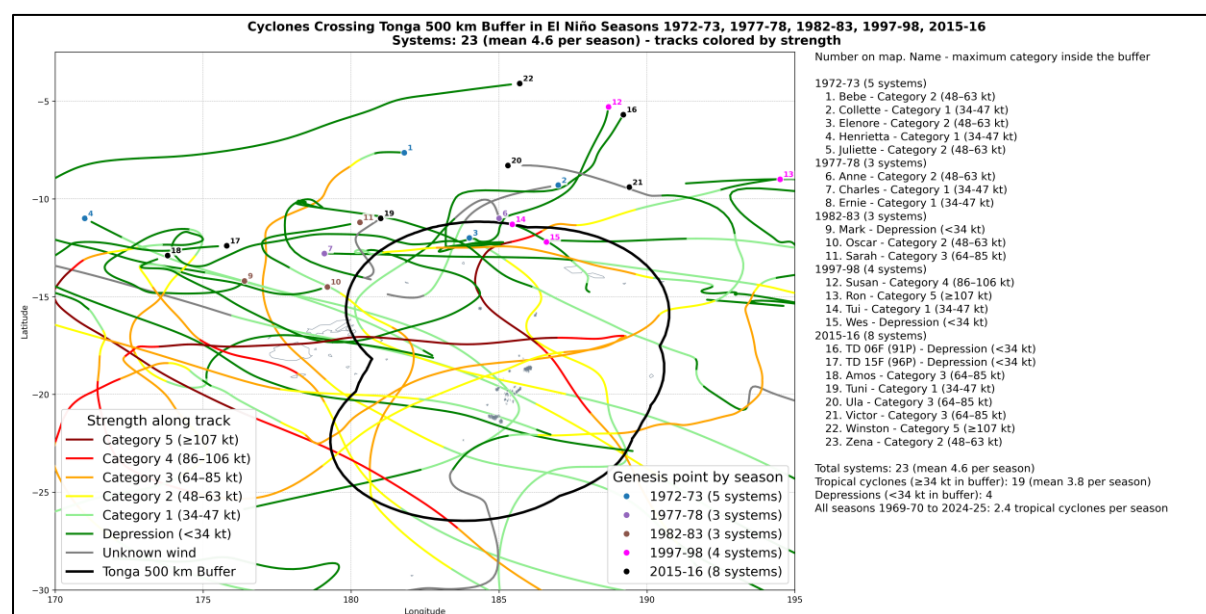


Figure 3: Tropical Cyclones (TC) and tropical depressions that affected Tonga using a 500km buffer zone outwards from Tonga's island chain in the past analogue TC seasons with similar conditions to this upcoming 2026-27 TC season (left panel).

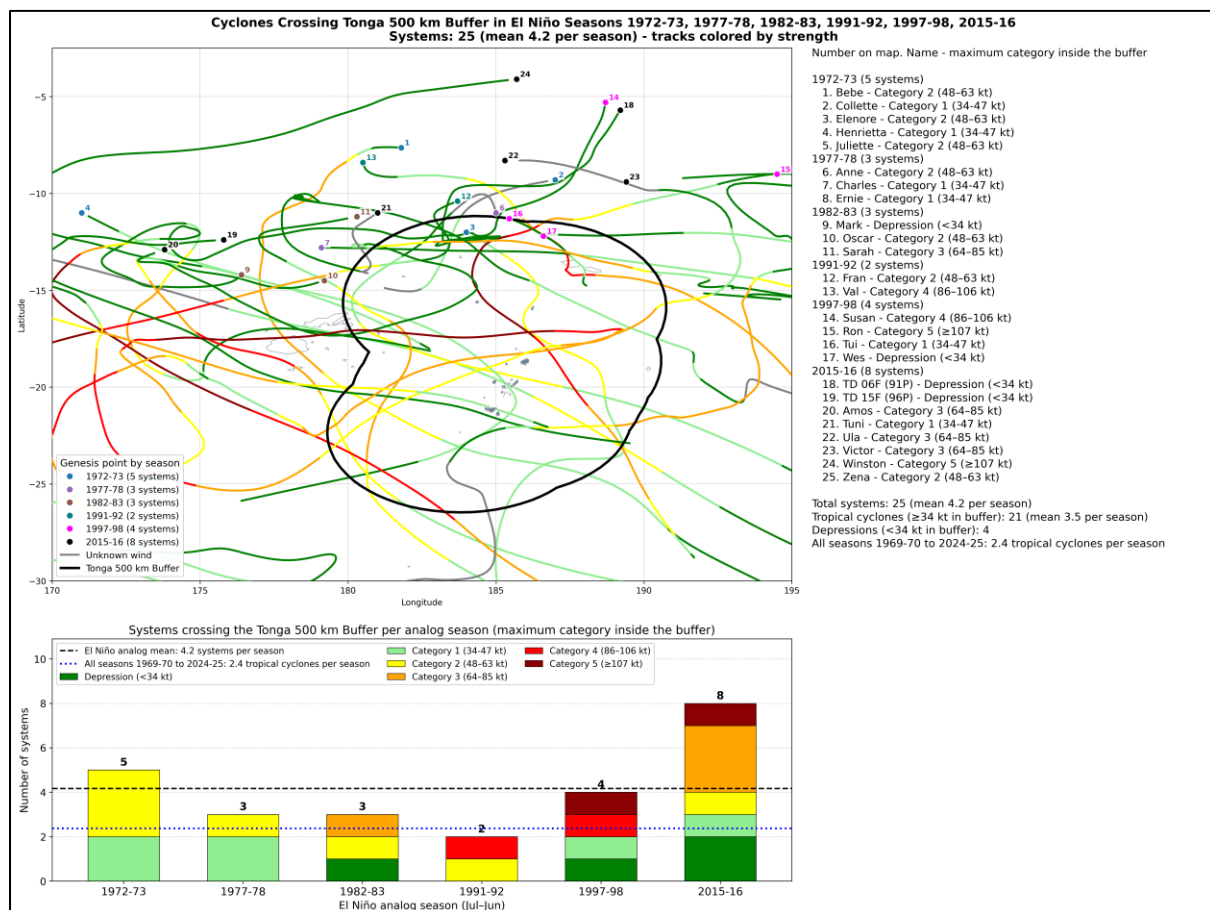


Figure 4: Detailed Tropical Cyclones (TC) and tropical depressions that affected Tonga using a 500km buffer zone outwards from Tonga's island chain in the past analogue TC seasons with similar conditions to this upcoming 2026-27 TC season (top panel) and the count of maximum TC intensities (bottom panel) within the 500km buffer zone of Tonga.

Severe Tropical Cyclones that have occurred in past analogue years similar to the 2026-27 Tropical Cyclone season

Island Group Affected	Severe Tropical Cyclone	TC Season
Vavaú, Ha'apai, Tongatapu, Eua	SARAH (Category 3)	1982-83
Tele-ki-Tonga & Tele-ki-Tokelau	SUSAN (Category 4)	1997-98
Niufo'ou, Niuatoputapu, Vavaú	RON (Category 5)	1997-98
Niufo'ou, Niuatoputapu	AMOS (Category 3)	2015-16
Vavaú, Ha'apai, Tongatapu, Eua	ULA (Category 3)	2015-16
Vavaú, Ha'apai, Tongatapu, Eua	VICTOR (Category 3)	2015-16
All of Tonga	WINSTON (Category 5)	2015-16

Table 2: Severe Tropical Cyclone events that have occurred in past TC seasons similar to this upcoming 2026-27 TC Season.

Likely Sector Impacts during the 2026-2027 Tropical Cyclone Season

1. Agriculture

Although there is average cyclone occurrence for Tonga this TC season, it is the cyclone season so strong wind events or stronger wind intensities will happen from time to time and crops prone to wind damage like Banana, Papaya and Breadfruit will be affected. At the same time, El Nino conditions will continue to bring below average rainfall and prolonged droughts which will affect rain-water dependent crops such Kape, Kava, Taro, Banana and other root crops will be affected. Water management

and irrigation are a must and to be planned wisely this season to get a good harvest. High risk of bush fires this TC season.

2. Water

Water deficits during this season are to be expected for the first half of the TC Season, given the current drought situation. Therefore, rainwater should be collected and harvested as much as possible. Conserving water and use wisely is very important this TC season.

3. Health

Higher risk of water contamination related diseases occurring due to events of below average rainfall and prolonged drought periods across Tonga. Dehydration and heat stress related health risks will be a problem due to prolonged drought periods and below rainfall for the next three to six months.

4. Infrastructure

There is a moderate to high chance of one severe cyclone happening this season, so the public are advised to fix shutters and trim trees near the house just in case we get a severe event.

5. Tourism

Moderate to High risk for Tourism activities to be affected due to El Nino drought impacts and moderate to high chance of a severe cyclone occurring.

6. Fisheries

Ocean nutrients will decrease due to El Nino conditions so expect fish convergence zones to be less abundant in our waters. Expect moderate coral bleaching or algae blooms and marine heat wave conditions for first quarter of 2027.

7. Utilities

Moderate to high risk of Communications, Water and Power utilities failures due to tropical cyclone activities for this season.

8. Transport

Moderate to high risk of above than normal cancellations to ferry and aircraft operations due to stronger winds, rough sea conditions and tropical cyclone activity.

Note of caution

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

All communities should remain alert and prepared throughout the 2026-2027 Tropical Cyclone Season and take heed of tropical cyclone alerts, warnings and advisories seriously whenever it is issued to reduce the negative effects on life and property.

All communities are urged to be vigilant and follow daily forecast information, TC outlooks and advisories provided by the Meteorology Department of the Ministry of MEIDECC throughout the season. An update to this outlook will be issued by the end of January 2027. For more information, please contact us via email at metstaff@met.gov.to or our toll-free number at 0800638.

Disclaimer: “These maps are used for illustrative purposes only and does not represent any official endorsement or acceptance of those boundaries by the Government of the Kingdom of Tonga”.

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