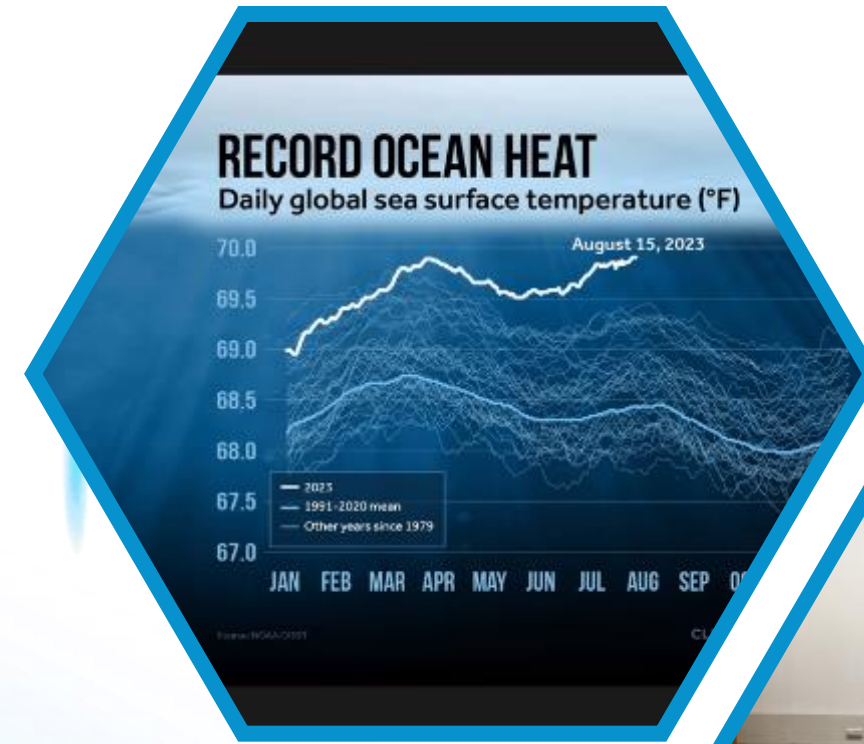


15TH SESSION OF THE PACIFIC ISLANDS CLIMATE OUTLOOK & STAKEHOLDER FORUM

PICOF-15

14 - 15 OCTOBER, 2024

HYBRID
IN-PERSON: NUKU'ALOFA, TONGA
ONLINE: ZOOM



SUB-REGION: 'POLYNESIA'

SIGNIFICANT WEATHER & OCEAN EVENTS

[Over the Past 6-Months]

Bates Manea

Cook Islands, Niue, Samoa, Tokelau, Tonga and Tuvalu

PICOF-15



Resort experiences coastal inundation and beach erosion

Tuesday 14 May 2024 | Written by [CI News Staff](#) | Published in [National](#), [Weather](#)

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Emergency Management Cook Islands in a statement yesterday morning said: "Pa...



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Schools close as high seas hit the Pa Enua

Tuesday 6 February 2024 | Written by [Malina Etcheh](#) | Published in [Local](#), [National](#), [Outer Islands](#), [Weather](#)

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High seas surged over the shore, washing in around Tetautua School on the eastern rim of Penrhyn Island, restricting safe access for children to their classrooms.

Yesterday morning, the school students were moved to a new location - upstairs in the "Te Papa o Savaiki Piri" Cyclone Shelter, to continue their classroom activities.

Puna Vano, Penrhyn's executive officer, who is currently on Rarotonga, said no one was hurt on Tetautua, which has a population of about 40 to 50 people, and there had been no damage to any properties on the island.

"The sea did not reach up into the floor level of Tetautua school, however, maybe another two inches and it would have."

"The power for the school was completely cut out, most probably due to the sea getting into the underground cables, at this time we are not sure," said Vano.

Vano said on Sunday night there was wind and big waves driving into Tetautua, coming from the lagoon side, from the Omoka side (western side).

Penrhyn's huge lagoon occupies an area larger than the land of all 15 Cook Islands put together. It has two villages, Tetautua and Omoka on opposite ends of the atoll.

Vano had spoken to the Mayor of Penrhyn who is on Omoka, the main village of Penrhyn, which lies on the western side of the lagoon, and has a population of about 180.

"Omoka was not affected by the high seas or winds," he said.

On the island of Manihiki, school closed yesterday due to the strong winds which hit before 8am.

Mayor of Manihiki, Ngamata Napara said Tukao School in Manihiki closed about 11am yesterday.

Napara said the acting principal, Anthony Kaina, had explained that parents had refused to send their kids to school, keeping them home, because they were concerned for their safety.

She said everyone was safe in Manihiki and that there had been no damage reported as of yesterday afternoon.

"The sun started shining strong around 3pm, now it is so hot," she said.

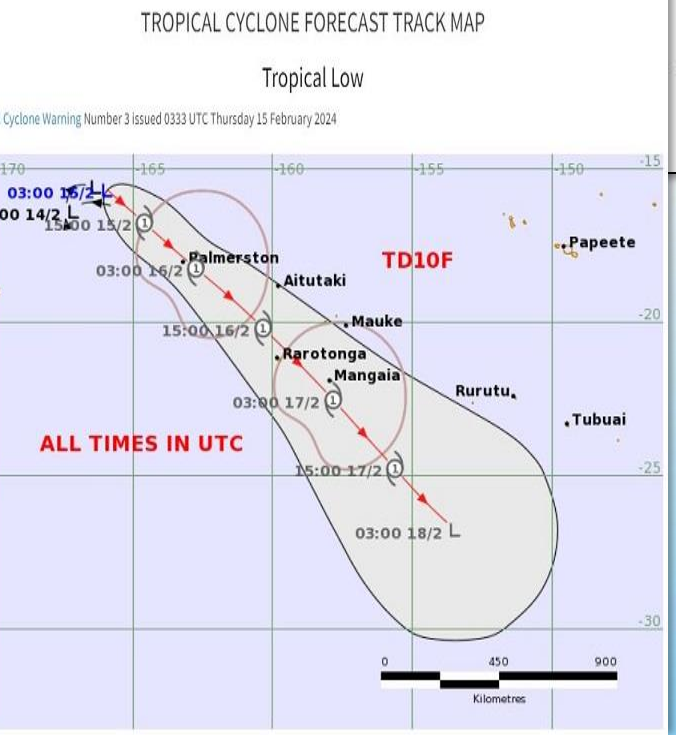
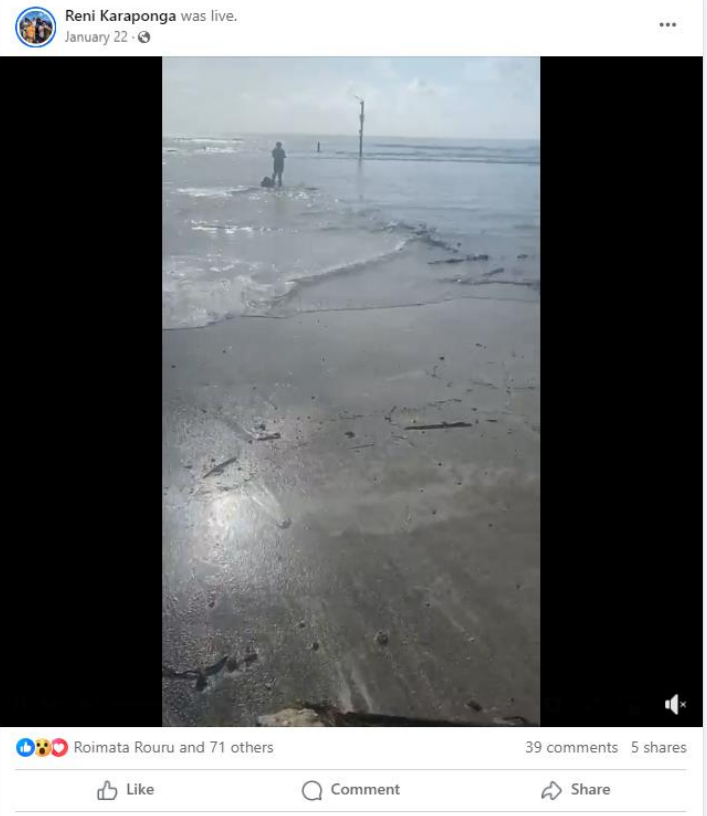
Napara said the western side of Taubunu was rough and lots of kikai had fallen, but there was no damage.

She noted that over the weekend, including Sunday, in heed of the weather warnings, the people of Manihiki, were preparing more provisions.

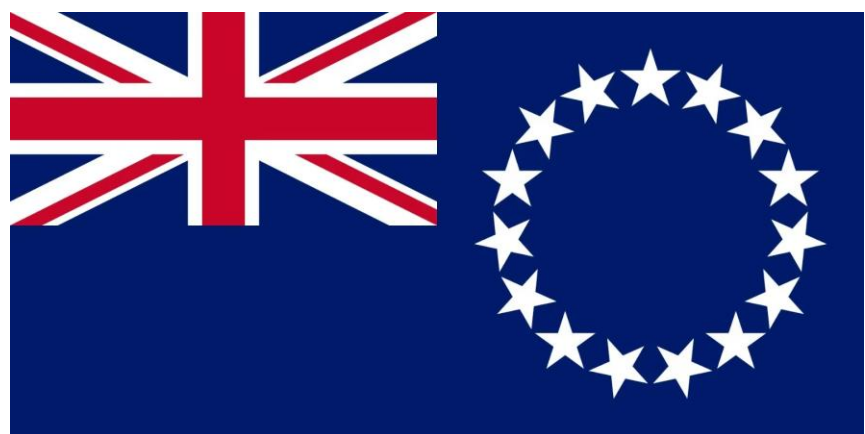
Mia Teaurima, director of Pa Enua Services said he had had a zoom meeting with the Pa Enua...



Tetautua Primary School in Penrhyn pictured at 7:30am yesterday, was surrounded by sea water. PC: TANU TANU/TAU/24020507



Cook Islands



- Northern Cook Islands experienced mostly near-normal to above-normal rainfall conditions the past 6-months, which was a much needed relief to alleviate water stress, brought on by the prolonged dry period for much of 2023.
- Southern Cooks experienced a significant meteorological drought the past 6-months, drought committee was called for regular meetings and sit-reps. Cases of water cartage in Pa Enua.
- 9 known and recorded events occurred in 2024, 2 x Tropical Cyclone/Storm (TD10F & Low), 6 x Non-Tropical System(Swell) and 1 x event unsure of cause(generation mechanism).
- Historically, over 60% of tropical cyclones which affected Cook Islands occurred during El Niño years. With the current El Niño conditions, the tropical cyclone risk for Cook Islands for the upcoming tropical cyclone season 2023/2024 is high.
- It was expected that 2-3 named tropical cyclones (TCs) will pass in the Cook Islands exclusive economic zone during the 2023/2024 tropical cyclone season, from 1st November 2023 to 30th April 2024. The peak of tropical cyclone activity for Cook Islands is usually from December to February.
- 8 Systems within the South Pacific, 3 (2 named, 1 TD) entered the Cook Islands Exclusive Economic Zone(EEZ)
 - TC Nat, relatively no sig impacts, tracked between the N. Cooks & S. Cooks
 - TC Osai, system downgraded to a TD upon arrival into Cooks EEZ
 - TD10F, did the most damage due to tracking close to Rarotonga





BE WATER READY DURING HEAVY RAINFALL!

STORE WATER BY USING:



CLEAN POTS



LARGE WATER BOTTLES



CLEAN COOLERS



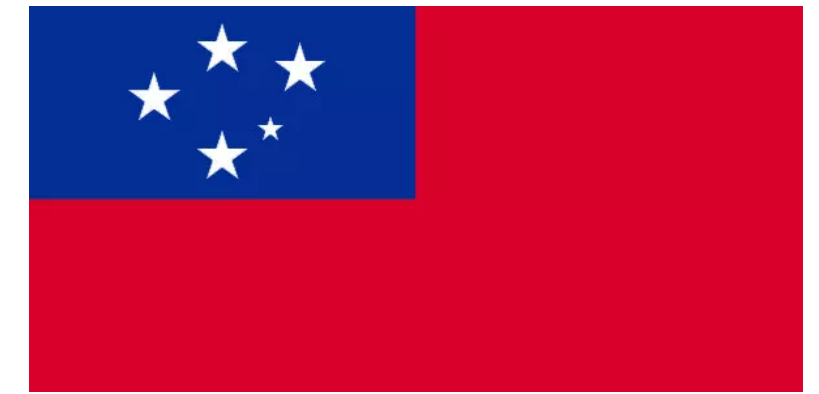
BUCKETS



PLASTIC BOTTLES

Samoa

- The 2024 Dry season was seen to experience normal rainfall with some extreme rainfall in the beginning. However, towards July and August, a significant dry spell occurred, worrying the nation of a potential drought to occur. Regardless of the dryness experienced, the nation was assured that it was a typical impact for the dry season. The outlook also issued together with the information sent out by the Ministry alluded that the dryness will ease in the next months, in which was evident in the observations seen recently.
- Palolo Rising on the 25th of October 2024. Please lend us some if you manage to catch a lot.



PROLONGED DRY WEATHER- LOW WATER LEVELS ALERT



Water levels at SWA sources have declined significantly, customers are asked to:

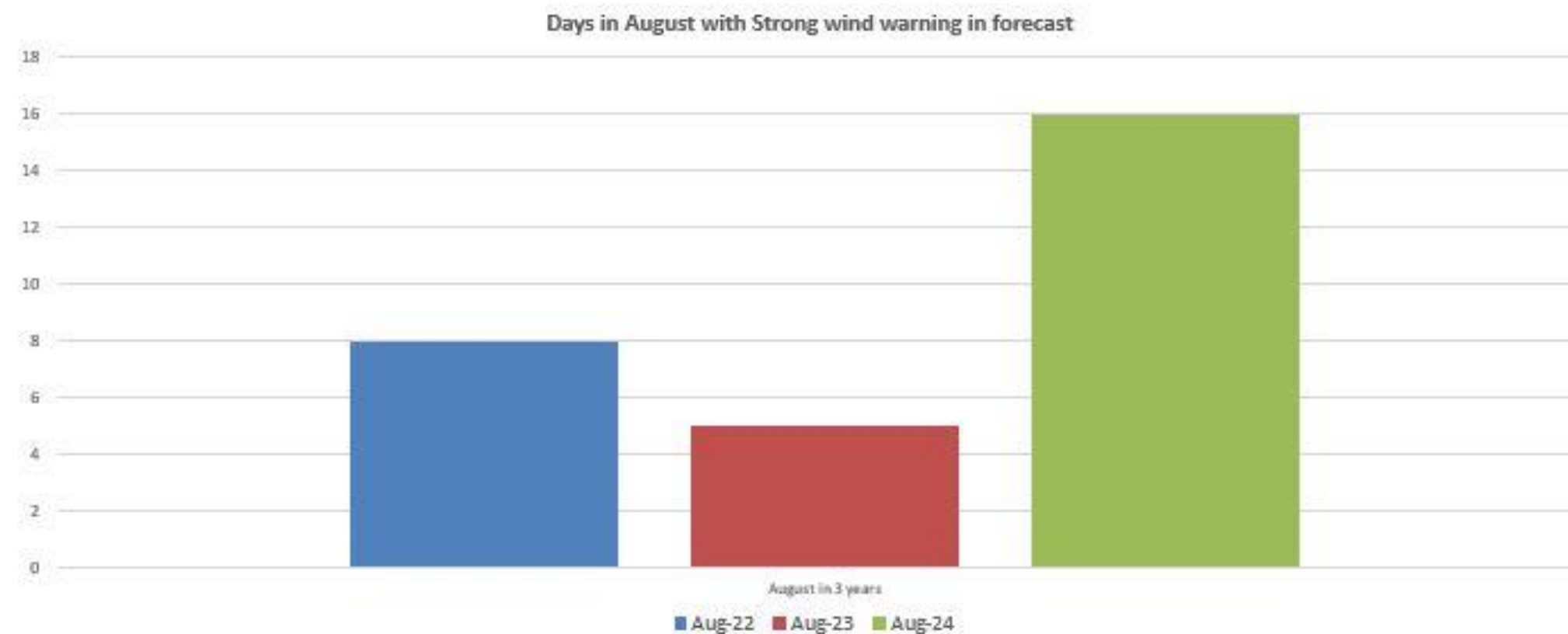
- > Use water wisely
- > Collect and safely store rainwater
- > Report any burst pipes as soon as possible
- > Fix all leaks





Tokelau

Source: Tokelau Meteorological Service (EDNRE). Sudden change in the weather that are not even detected in weather models. This has been a frequent occurrences.

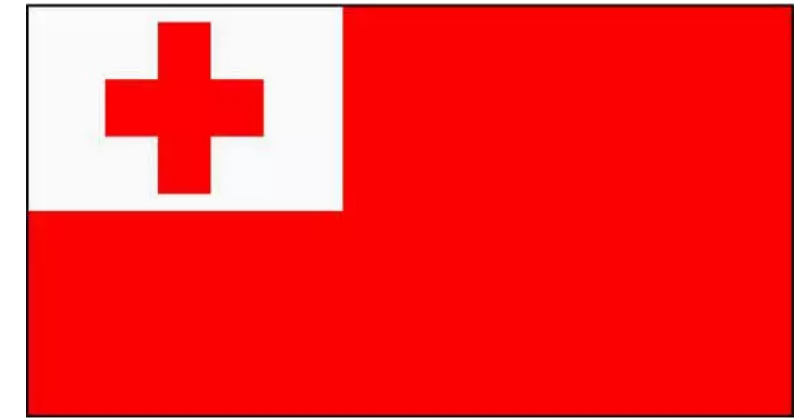


Three year in comparison, there have been an extreme increase in strong wind warnings in Tokelau forecast. The month of August in three years period was used as an example (2022, 2023 and 2024). Data retrieved from Tokelau daily forecast provided by the Fiji Met Service. From 8 days in 2022 to 16 days in total in August 2024.

- Frequent strong wind warnings
- Sudden changes in weather. E.g sudden down pour and strong wind will occur in the midst of a sunny day that will only last for 2 to 5 minutes.
- Extreme heat.

Tonga

- Due to continuous heavy rainfall downpour in May 2024, cause excessive weed growth. Excessive weed growth can cause damage to crops and plants.
- Severe plant fungal disease usually happen especially to yams when rain is continuous
- Cancellation of domestic flights due to heavy rain and poor visibility in August 26th
- Dry conditions causes increase in local market price, yams and other root crops and vegetables during the period April to September



Source: MORDI Tonga, Yams leaves with fungal disease

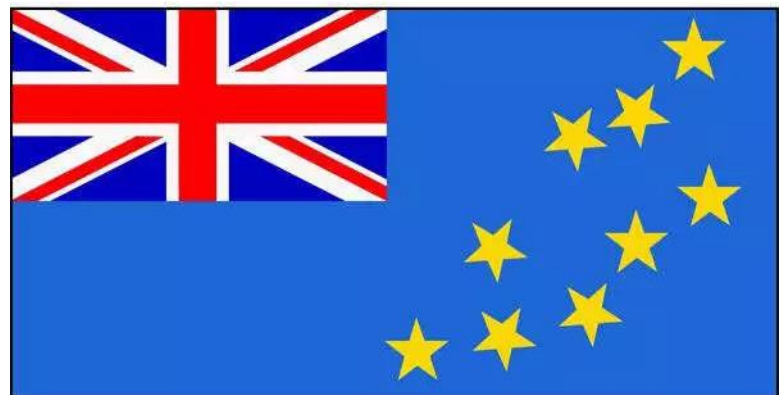


Source: Matangi Tonga, Flooding in Nukualofa 26 August 2024.

Table 1. Rainfall totals from last 6 months, April – September 2024

	April	May	June	July	August	Sep-tember
<u>Niuafo'ou</u>	192.0	67.5	25.0	84.5	165.0	106.0
<u>Niuaotoputapu</u>	178.5	163.0	157.5	119.5	50.0	148.5
<u>Vava'u</u>	100.4	162.2	107.8	85.1	109.1	104.0
<u>Ha'apai</u>	40.6	135.5	110.1	53.8	18.5	87.6
<u>Fua'amotu</u>	22.3	384.8	46.3	62.5	93.8	87.8
<u>Nuku'alofa</u>	134.5	297.5	37.5	66.5	159.0	64.0
<u>'Eua</u>	34.5	270.4	53.0	130.5	208.5	128.5





Tuvalu

- Heavy rain with high winds affected plant trees, Vaiaku site
- Effects of heavy rain and strong winds associated to major impacts including, flooding, destroy plant trees (banana and coconut tree).
- Disrupt transportation, communication and buildings
- Funafuti SE swells 2 to 3 meters crash inshore at Kavatoetoe Site causing coastal inundation.
- It has impacted properties of building (Eg-TMS enclosure).
- Inundated low-lying areas.
- Higher ocean temperatures and ocean heat waves leading to triggers of coral stress and bleaching.
- Increases the numbers of marine species are vulnerability in that particular areas (Tepuka near shore).
- For the past six months, Tuvalu has seen SSTs that approximately 30 degrees Celsius above normal, which has been linked to a hazardous coral reef surrounding the Funafuti Ocean. (reported from the fisheries department)



Sectors Affected

COOK ISLANDS

Emergency Management Cook Islands – EMCI
Cook Islands Police
To Tatou Vai – TTV
Infrastructure Cook Islands – ICI
Tourism Cook Islands
Ministry of Health - MoH
Red Cross
Ministry of Agriculture – MoA
Ministry of Education - MoE
Islands Councils – Mayor and Executive Officers(EO)
Private Sectors-Hotel Owners, Local Farmers, Tour operators

TUVALU

Tuvalu Meteorological Services – TMS
Fisheries Department
Tourism Sector
Water Sector
Island Communities – Northern part of Tuvalu

SAMOA

Ministry of Natural Resources and Environment - MNRE
Samoa Water Authority – SWA
Land Transport Authority – LTA
Samoa Fire and Emergency Services Authority – SFESA
Tourism Industry

TOKELAU

Tokelau Meteorological Services - EDNRE

TONGA

MORDI Tonga
Agriculture – Local and Subsistence Farmers
Tourism
Transportation – Airline and sea
Infrastructure



Summary

COOK ISLANDS

- Drought conditions for the Southern Cook Islands in which the drought committee was called into action, with continuous monitoring, sit-reps and meetings.
- Heavy swells causing coastal inundation, which in turn caused school closure and property damages to some hotels.
- 3 systems passed through EEZ, 2 named TC(Nat and Osai) and 1 TD(10F)

SAMOA

- Heavy rainfall in early 2024 causing flooding, fog and damages to land and roads.
- However, in the later part of 2024 saw prolonged dry spells(seen in July-August) causing fire outbreaks.

TOKELAU

- Frequent strong wind warnings
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TONGA

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TUVALU

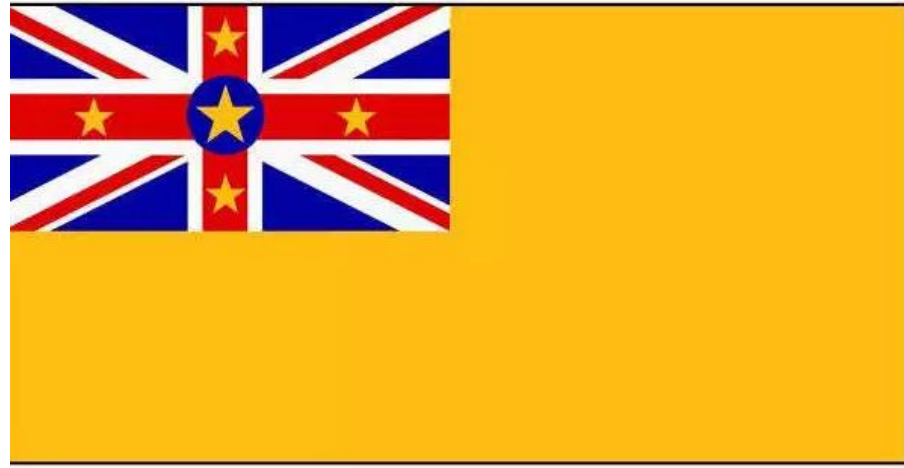
- Heavy rainfall downpour causing flooding and strong winds affecting public transportation and property damages
- Inundation of coastal and low-lying areas from 2-3m SE Swells
- Prolonged high ocean temperatures and ocean heat waves leading to triggers of coral stress and bleaching, affecting marine species.





THANK YOU!

name@xxxxxxxx.org



Niue

- Use this space for more text if needed
- Only up to 3 bullet points
- Delete text block if not applicable

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Add pictures here

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