



Tonga Meteorological Service

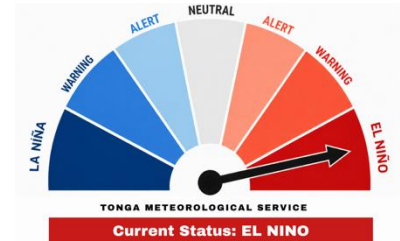
Meteorological Drought Outlook for Tonga

The Meteorological Drought Outlook for Tonga provides sector managers with a summary of recent rainfall patterns, particularly meteorological drought and the rainfall outlook for the coming months.

Issued: 18th August 2026

Current El Niño-Southern Oscillation (ENSO) status:

El Niño is underway in Tonga and in the tropical Pacific. Forecasts are pointing towards a strong to very strong El Niño event, based on the extent of warming in the central tropical Pacific. The majority of models indicate this event could peak at levels among the highest observed since 1950. El Niño conditions typically lead to below-average rainfall and the possibility of prolonged drought in Tonga.



Overall summary:

For the past month (July 2026), Dry conditions were observed for all of Tonga. Seriously Dry conditions were specifically seen in Tongatapu and 'Eua. Looking at accumulated conditions over the last three months (May to July 2026), Dry conditions were observed for all of Tonga, especially in the south.

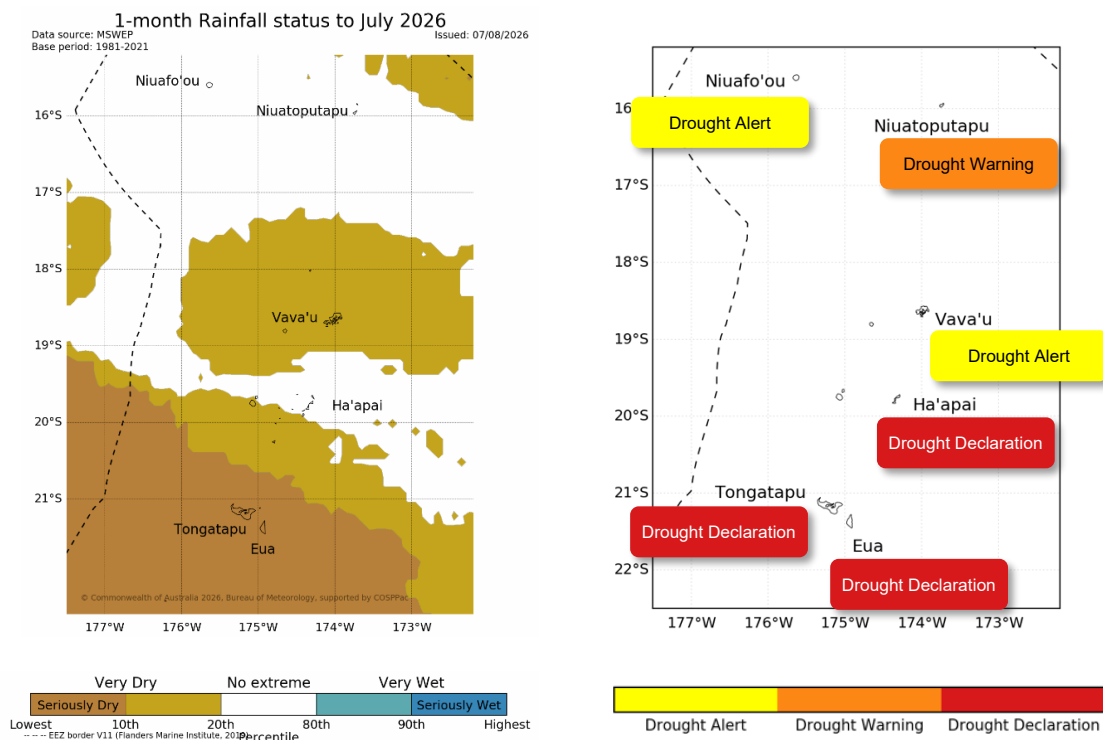
Outlooks for August and the next three months indicate very dry conditions for all parts of Tonga, which is typical of El Niño conditions. It should be noted that forecast skill for August and August to October ranges from low to high depending on the location in Tonga.

Rainfall and Meteorological Drought Status:

For the past month (July 2026), **Very Dry** conditions were observed for Vava'u and **Seriously Dry** conditions were observed in Tongatapu and 'Eua. For the past three month period (May to July 2026), **Dry** conditions were observed across all island groups, with **Seriously Dry** conditions observed in Ha'apai, Tongatapu and 'Eua. These significantly below-average conditions over a more prolonged duration have lead to an escalation in meteorological drought status for these locations.

Meteorological drought focuses only on precipitation and is defined as the extent of dryness when compared with some normal or average amount, and the duration of this dry period.

Rainfall Monitoring for the past month and meteorological drought status maps:



Over the past three months **to the end of July**, Niuafo’ou and Vava’u are in Drought Alert, Niuatoputapu is in Drought Warning and Ha’apai continues to remain at Drought Declaration with Tongatapu and ‘Eua now at **Meteorological Drought Declaration**.

Island Group	Met. Drought Status
Niuafo'ou	Drought Alert
Niuatoputapu	Drought Warning
Vava'u	Drought Alert
Ha'apai	Drought Declaration
Tongatapu	Drought Declaration
'Eua	Drought Declaration

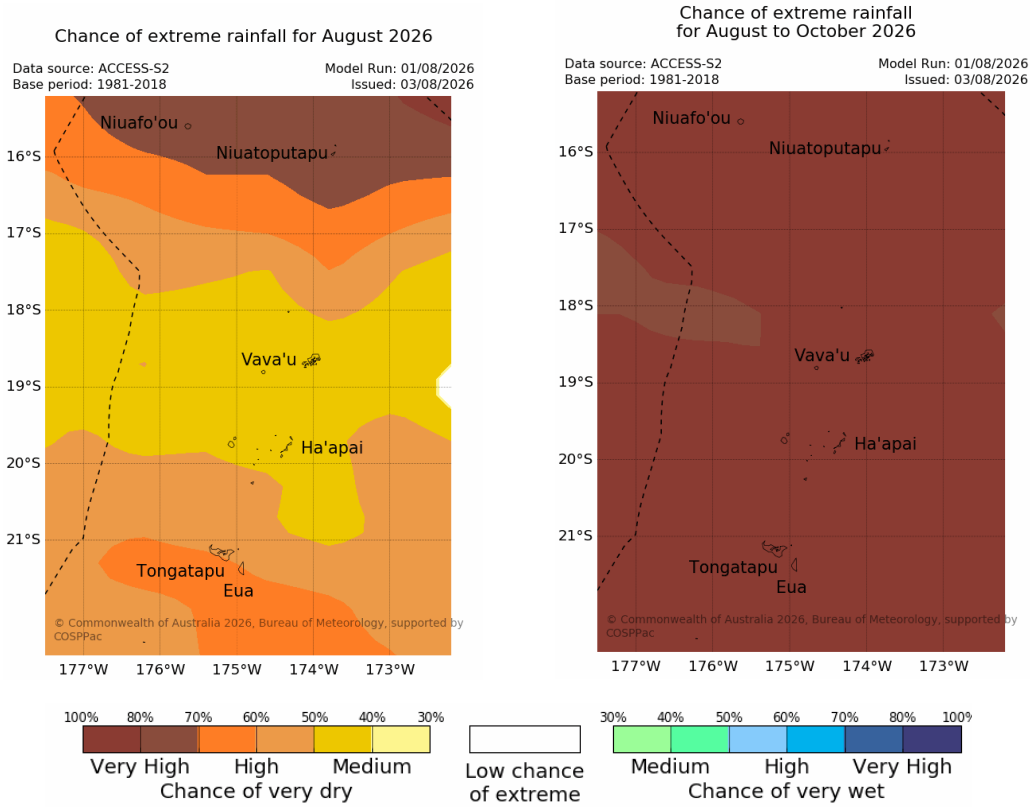
Alert Levels
Drought Alert: Three month rainfall observations within 25 th to 40 th percentile
Drought Warning: Three month rainfall observations within 10 th to 25 th percentile
Drought Declaration: Three month rainfall observations less than the 10 th percentile

Rainfall Outlook (for very dry conditions):

Looking at the monthly rainfall outlook for **August**, very dry conditions are forecast for all of Tonga, with a **very high** chance (70 – 80%) for Niuafo’ou and Niuatoputapu, a **high** chance (50 – 70%) for Tongatapu and 'Eua and a **medium** chance (40 – 50%) for Ha’apai and Vava’u.

For the seasonal outlook for **August to October**, there is a **very high** chance (80 – 100%) of very dry conditions for all of Tonga.

Rainfall Outlooks Charts:



Meteorological Drought Outlook:

The Tonga Meteorological Services **Meteorological Drought Outlook** is calculated using the current drought status of each island group and the chance of very dry conditions over each island group.

Island Group	Current Met. Drought Status	Outlook for Status by end August	Outlook for Status by end September	Outlook for Status by end October
Niuafo'ou	Drought Alert	Drought Warning	Drought Declaration	Drought Declaration
Niuatoputapu	Drought Warning	Drought Declaration	Drought Declaration	Drought Declaration
Vava'u	Drought Alert	Drought Alert	Drought Warning	Drought Declaration
Ha'apai	Drought Declaration	Drought Declaration	Drought Declaration	Drought Declaration
Tongatapu	Drought Declaration	Drought Declaration	Drought Declaration	Drought Declaration
'Eua	Drought Declaration	Drought Declaration	Drought Declaration	Drought Declaration

Past accuracy for monthly rainfall outlooks in August shows low skill for Ha'apai, moderate to low skill for Vava'u, Tongatapu, 'Eua. Niuatoputapu and Niuafo'ou have high skill for August.

Historically high accuracy for seasonal rainfall outlooks for August to October is observed in north-eastern Tonga (Niuafo'ou and Niuatoputapu), whereas low to moderate skill is observed for southern and central islands.

Impacts

The following impacts are the results from stakeholder consultation and feedbacks and may be impacted or evident after the specified period of below average rainfall. Note that the periods of lead times are baseline impact estimates only. Allow for uncertainty associated with island size, topography, geology and soil type. Contact the relevant sector offices for further information on impacts.

Tonga				
Sector	1-month period most relevant for	3-month period most relevant for	6-month period most relevant for	12-month period most relevant for
Water	Reduced or empty water tanks.	Reduced or empty water tanks. Depleted groundwater (Tongatapu). Limited water cycle processes – high evaporation. Higher operational cost in pumping water. Increased cost for drinking water.	Bore/well water dries up. Limited water cycle processes – less evaporation. Increased cost for drinking water. Depleted groundwater.	Population migration due to shortage of water (reduced evapotranspiration – deforestation). Depleted groundwater. Increased water salinity.
Agriculture	Reduced soil moisture. Yams affected. Competing demands for water for household, agriculture, livestock. Impacts on poultry, reduced lettuce, tomato, watermelon (and vegetables in general).	Reduced crop production: yams, cassava and taros are affected, and less breadfruit and pineapples – immature fruits and less yield, less but sweeter watermelon. Reduced kava growth. Increased prices for crops. High irrigations demand. Impacts on cattle and pigs.	Livelihood and food security affected. Reduced yield (yams, taro and cassava). Young trees (bananas and breadfruits) dying. Hybrid crops affected. Impact on livestock (e.g. cows) – reduced pasture availability and increased demand for drinking water). Increase in pests and diseases. Coconut fruits (reduced quality and less bountiful). Limited replanting options (Niuatoputapu, Ha'apai, Tongatapu), unable to replant.	Coconut fruits (reduced quality and less bountiful). Increase in pests and diseases. Limited replanting options (Niuatoputapu, Ha'apai, Tongatapu), unable to replant.
Health	Dehydration leading to skin disease and nose bleeding. Fever, vomiting Asthma (hard to breathe during prolonged drought) Vulnerable people have less access to water Lack of water for sanitation and hygiene – increased infectious diseases.	Typhoid, diarrhoea, lung disease. Asthma (hard to breathe during prolonged drought) Lack of water for sanitation and hygiene. Dehydration. Reduced water supply in out islands – impacts people with disability. Matakovi (red eye).	Mental health – increased social stress. Hospitals and Emergency Centres running out of water. Psychological and counselling	Mental health – increased social stress.

	Reduced water supply in out islands – impacts people with disability. Lack of water for hygiene and sanitation for pregnant women, infants, newborn babies, and new mothers.	Mental health – increased social stress. Hospitals and Emergency Centres running out of water. Psychological and counselling		
Socio-Economic	Disruption to household incomes and livelihood. Operational demands for drought response increase. Human relief responses increase. Increased solar production. Increase online drought relief scams Increased stress leading to increased domestic violence and neglect to children's health, Increased water thefts	Education: <i>Outer islands</i> school water reduced. Reduced students' focus and performance (hunger, malnutrition and lack of hygiene). Lower attendance and dropouts, and school closures. Half day programmes only, operates from home. Defence: Need more human resources for water facilities and reallocations of resources: ships/boats/equipment; manpower for new tasks/mission; operation cost (fuel, ration and deployment). Increased likelihood of Declaration of State of Emergency – support to Civil Authority by conducting HADR Increased risk of wildfires Increased shipping cost Disruptive power supply: limited water for cooling the equipment Fire Services – requires use of seawater.	Education: Schools on <i>main islands</i> (Tongatapu, Hap'apai, Vava'u) are impacted. Reduced students' focus and performance (hunger, malnutrition and lack of hygiene). Defence: Need more human resources for water facilities and reallocations of resources: ships/boats/equipment; manpower for new tasks/mission; operation cost (fuel, ration and deployment). Increased risk of wild fires Increased shipping cost Fire Services – requires use of seawater.	Education: Relocation of students from small islands to main island.

Contact the Tonga Meteorological Service, Tonga, for further information.

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