



Tonga Meteorological Service

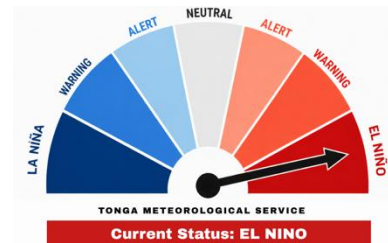
Meteorological Drought Outlook

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

Issued: 24 September 2026

Current El Niño-Southern Oscillation (ENSO) status:

El Niño is underway and now firmly established in Tonga and in the tropical Pacific. Forecast models are in strong agreement that warming will continue in the tropical Pacific over the next three months and peak in November or December. Forecasts also indicate that this will be a very strong El Niño event, likely the strongest since reliable records began in 1950. El Niño conditions typically lead to below-average rainfall and the possibility of prolonged drought in Tonga.



Overall summary:

For the past month (August 2026), Dry to Seriously Dry conditions were observed for all of Tonga with the exception of Vava'u, where normal rainfall totals were observed. Looking at accumulated rainfall over the last three months (June to August 2026), Dry to Seriously Dry conditions persist for all of Tonga and meteorological drought status for Niuafu'ou and Niuatoputapu have been upgraded.

Rainfall outlooks for the next three months (September to November) indicate there is a very high chance for Very Dry conditions for all of Tonga, which is typical of strengthening El Niño event and conditions. It should be noted that forecast skill for September and the seasonal period September to November ranges from moderate to high depending on the location of island divisions in Tonga.

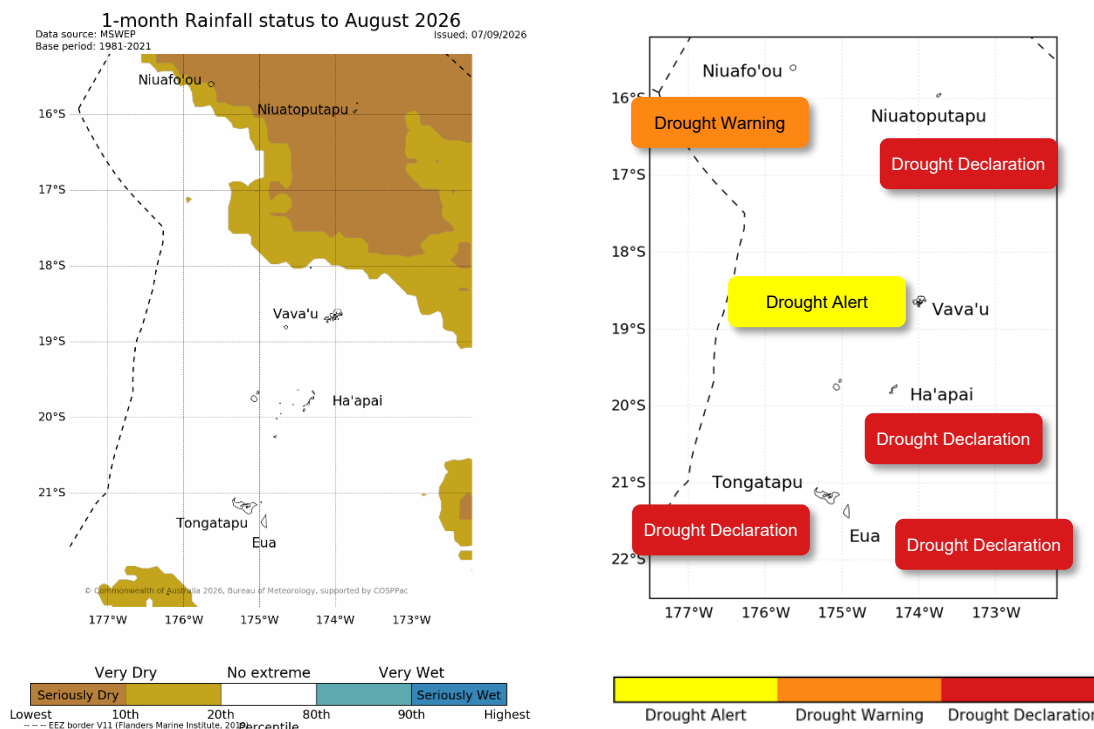
Rainfall and Meteorological Drought Status:

For the past month (August 2026), Dry to Very Dry conditions were observed in Tongatapu, 'Eua and Ha'apai. Seriously Dry conditions were observed in Niuafu'ou and Niuatoputapu. Normal rainfall was observed in Vava'u, attributed to two localised heavy rainfall events (on August 12–13 and August 26–27), which can still occur during prolonged periods of dry conditions and drought.

For the past three month period (June to August 2026), Dry conditions persist across all island groups and Seriously Dry conditions were observed over Tongatapu, 'Eua, Ha'apai and Niuatoputapu.

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:



Based on the three month period of rainfall data to the end of August, Ha’apai, Tongatapu and ‘Eua remain in Drought Declaration. Niuatoputapu has been upgraded from Drought Warning to Drought Declaration. Niufo’ou has been upgraded from Drought Alert to Drought Warning. Vava’u remains in Drought Alert.

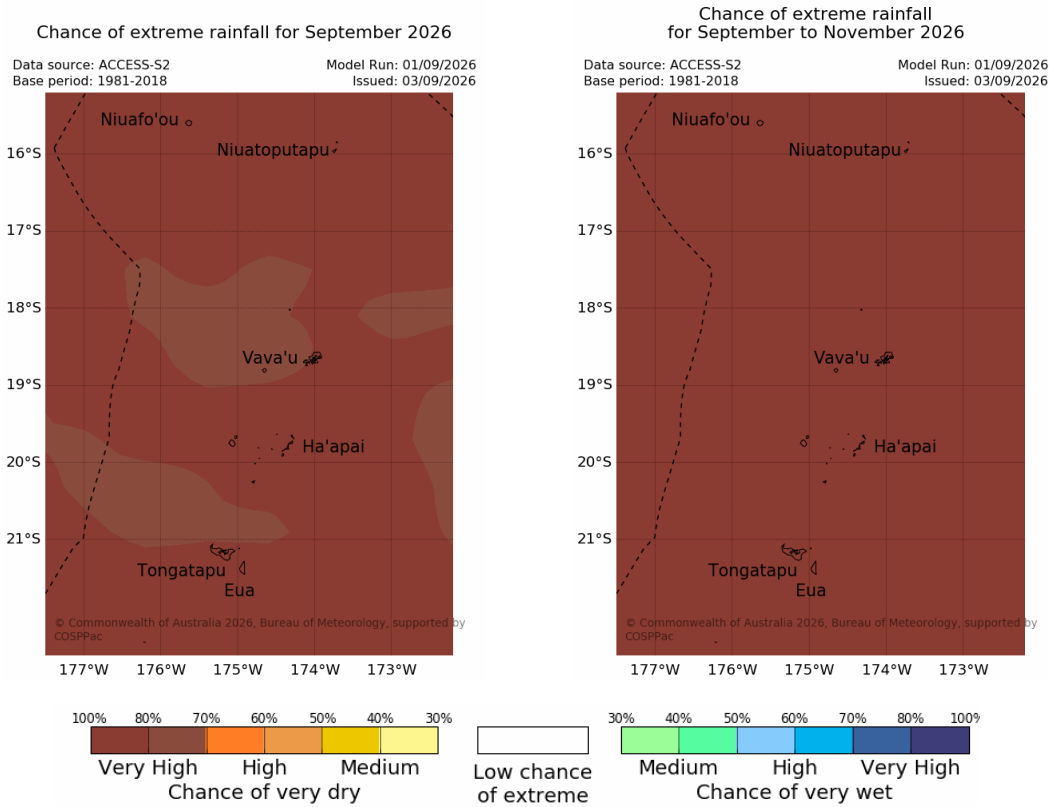
Island Group	Met. Drought Status	Alert Levels
Niufo'ou	Drought Warning	Drought Alert: Three month rainfall observations within 25 th to 40 th percentile
Nuatoputapu	Drought Declaration	Drought Warning: Three month observations within 10 th to 25 th percentile
Vava'u	Drought Alert	Drought Declaration: Three month rainfall observations less than the 10 th percentile
Ha'apai	Drought Declaration	
Tongatapu	Drought Declaration	
'Eua	Drought Declaration	

Rainfall Outlook (for very dry conditions):

Looking at the monthly rainfall outlook for September, there is a very high chance (80 – 100%) of very dry conditions for all of Tonga.

For the seasonal outlook for September to November, there is also 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 September	Outlook for Status by end October	Outlook for Status by end November
Niufo'ou	Drought Warning	Drought Declaration	Drought Declaration	Drought Declaration
Nuatoputapu	Drought Declaration	Drought Declaration	Drought Declaration	Drought Declaration
Vava'u	Drought Alert	Drought Warning	Drought Declaration	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 September shows a range from low to high across all island groups, with lowest skill noted for Ha’apai and highest skill noted in Niufo’ou.

Past accuracy for seasonal rainfall outlooks for September to November is **low to moderate** for Tongatapu, 'Eua and Ha'apai, but is **high** for Vava'u and the northern islands of Niuatoputapu and Niuafo'ou.

Impacts

The following primary agricultural and hydrological variables may be impacted after the specified period of below- or above-average rainfall. Note that the periods are 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 – less 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 (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). Increase in pests and diseases. Limited replanting options (Niutatoputapu, Ha'apai, Tongatapu), unable to replant.	Coconut fruits (reduced quality and less bountiful). Increase in pests and diseases. Limited replanting options (Niutatoputapu, 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.	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.	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.

Fua'amotu Airport Tonga, Phone: +676 35 123 or 35 355
Website: <https://met.gov.to/> Email: metstaff@met.gov.to