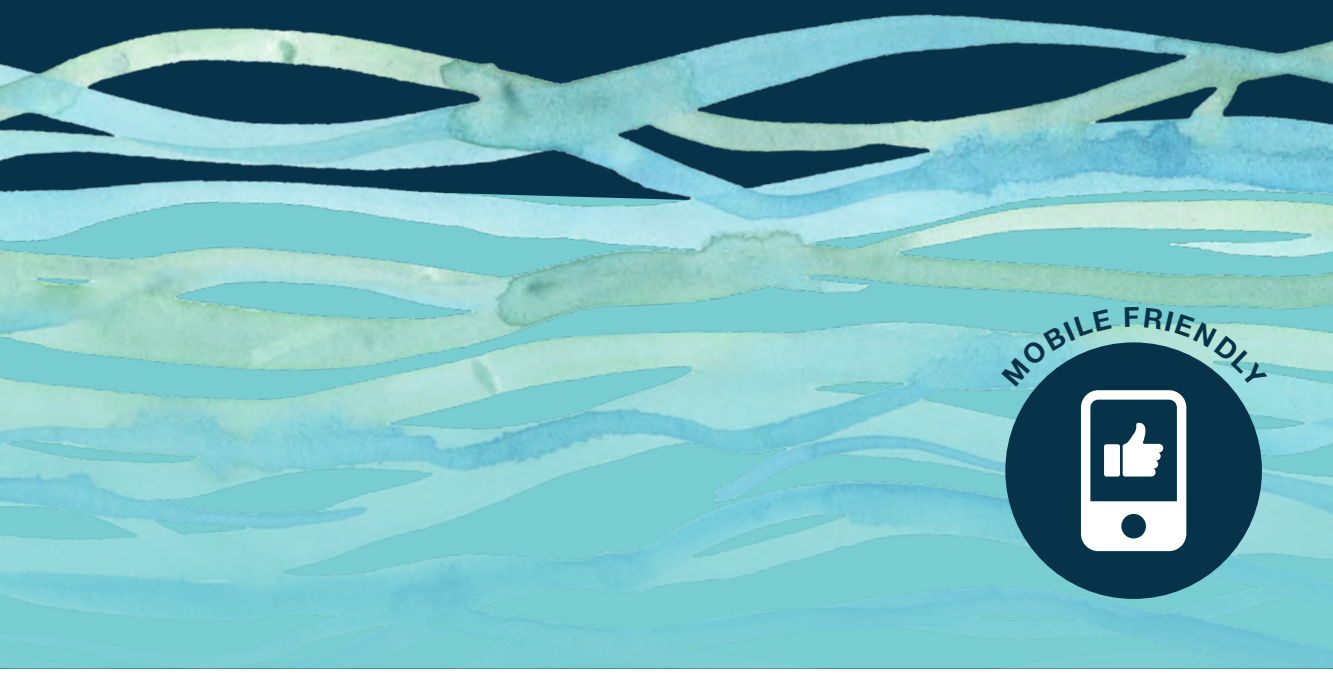
UNFCCC COP26

PACIFIC ‘NextGen’ PROJECTIONS

DIGITAL DIGEST



Australian Aid

CSIRO

SPREP
Secretariat of the Pacific Regional Environment Programme

YOUR PACIFIC UNFCCC COP26 'NEXTGEN' DIGITAL DIGEST

- The Digest has been designed by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Secretariat of the Pacific Regional Environment Programme (SPREP).
- The Digest contains user-friendly digital cards describing observed and projected climate change impacts for 14 Pacific Island countries plus Timor-Leste.
- This information is scientifically credible, tailored for individual countries, and designed to help you navigate the negotiations process at the UNFCCC COP26 in Glasgow, Scotland.

PACIFIC REGION: KEY MESSAGES

- Temperatures have increased, sea level has risen, cyclones have become less frequent but more intense, and ocean acidification has occurred[1,2].
- This is affecting water resources, health, agriculture, fisheries, biodiversity, infrastructure, tourism and other sectors[3].
- Further warming is projected along with more extremely hot days, marine heatwaves, sea level rise and ocean acidification. Changes in annual rainfall are uncertain, but heavy rainfall intensity will increase. Despite fewer tropical cyclones, their intensity will increase[1].

PACIFIC REGION: KEY MESSAGES

- Projected impacts include coastal inundation, coastal erosion, saltwater intrusion into aquifers, heat stress, coral bleaching, reduced food production and infrastructure damage[3,4].
- Risk mitigation requires global greenhouse gas emission reductions and local adaptation[3].
- Limiting global warming to 1.5°C involves a 45% decline in global carbon dioxide emissions from 2010 levels by 2030, reaching net zero emissions around 2050[3].

Note: information on cyclones does not directly apply to Kiribati and Nauru however they may be impacted by distant cyclones.

CLIMATE CHANGE
IS WELL UNDERWAY

2% increase of hot days & nights

per decade since 1950[5]

Longer marine heatwaves

increase since 1982[6]

Less frequent yet more intense cyclones

since 1989[7,8,9]

Sea level has risen 0.1 m

since 1995[1]

10 x faster ocean acidification

than in the past 300 million years[2]

PACIFIC REGION: CLIMATE CHANGE IMPACTS

- Climate change impacts are evident in water resources, health, agriculture, fisheries, biodiversity, infrastructure, tourism and other sectors[3].
- While fewer tropical cyclones are projected, their intensity may change by -5 to +10% for a 2°C global warming[1]. When combined with sea level rise and heavier rainfall events, this would increase cyclone impacts[1].
- The average annual number of moderate marine heatwaves may increase from 10-50 days during 1995-2014 to over 100 days by 2050 for low emissions (RCP2.6) and over 200 days by 2050 for high emissions (RCP8.5)[6].

PACIFIC REGION: CLIMATE CHANGE IMPACTS

- Coral reefs are projected to decline 70% to 90% at 1.5°C global warming and 99% at 2°C due to marine heatwaves[3]. This will leave coastlines defenceless with severe impacts on terrestrial ecosystems, coastal tourism, fisheries and other livelihoods based on marine ecosystems[10].
- Changes to the frequency of extreme El Niño and La Niña events may increase the frequency of droughts and floods, with implications for water and food security[3,12].
- The frequency and intensity of extremely hot days will increase, leading to more heat stress[4].

Note: information on cyclones does not directly apply to Kiribati and Nauru however they may be impacted by distant cyclones.

YOUR GATEWAY TO KEY CLIMATE CHANGE INFORMATION

Click on the link below to go straight to the information for your country.

Cook Islands	Fiji	Federated States of Micronesia
Kiribati	Nauru	Niue
Palau	Papua New Guinea	Republic of Marshall Islands
Samoa	Solomon Islands	Timor–Leste
Tonga	Tuvalu	Vanuatu

Cook Islands

Cook Islands' climate actions are identified in the Climate Change Policy 2018-2028, which builds upon the Nationally Determined Contribution 2015 and the Second Joint National Action Plan (JNAP2) 2016-2020.

COOK ISLANDS

FUTURE CLIMATE

Projected changes in annual averages, relative to the 1986–2005 period for low emissions (RCP2.6) and high emissions (RCP8.5)[1]

		Annual temperature	Annual rainfall	Annual sea level
				
2030		+0.3 to 1.0 °C	-10 to +10 %	+0.09 to 0.18 m
2050	RCP2.6	+0.3 to 0.9 °C	-6 to +5 %	+0.16 to 0.29 m
	RCP8.5	+0.8 to 2.0 °C	-10 to +9 %	+0.19 to 0.36 m
2070	RCP2.6	+0.3 to 1.1 °C	-3 to +6 %	+0.23 to 0.42 m
	RCP8.5	+1.3 to 3.0 °C	-11 to +20 %	+0.33 to 0.63 m

ADDITIONAL **IMPACTS**

- In 2005, five cyclones in four weeks caused NZ$20 million damage[13]. When combined with sea level rise and heavier rainfall events, this would increase cyclone impacts[1].
- Future vulnerabilities have been identified in coastal zones, marine resources and fisheries, water supply and quality, agriculture and food security, biodiversity, health and the national economy[14].
- Sea level rise will cause coastal inundation, erosion and saltwater intrusion into aquifers[4].

ADDITIONAL **IMPACTS**

- Coastal communities are highly exposed because 91% of the population of 15,000 live within 1 km of the coast[11,15]. Infrastructure within 500 m of the coast accounts for 70% of the total asset number and 90% of the total infrastructure replacement value[16].
- Severe coral bleaching may occur on an annual basis by 2044 for RCP8.5[17].
- Maximum fisheries catch potential under RCP8.5 is projected to decline 50% by 2050[18].

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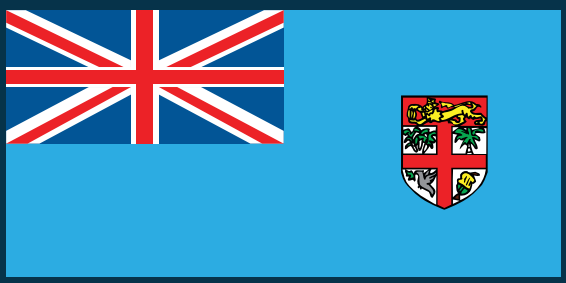
Fiji



Fiji's actions are identified in the updated Nationally Determined Contribution 2020, National Climate Change Policy 2018-2030, National Adaptation Plan 2018 and Low Emission Development Strategy 2018-2050.

FIJI

FUTURE CLIMATE

Projected changes in annual averages, relative to the 1986–2005 period for low emissions (RCP2.6) and high emissions (RCP8.5)[1]

		Annual temperature	Annual rainfall	Annual sea level
2030		+0.3 to 1.0 °C	-7 to +11 %	+0.09 to 0.18 m
2050	RCP2.6	+0.5 to 1.0 °C	-3 to +8 %	+0.17 to 0.30 m
	RCP8.5	+0.8 to 2.0 °C	-10 to +11 %	+0.21 to 0.37 m
2070	RCP2.6	+0.4 to 1.1 °C	-9 to +9 %	+0.23 to 0.42 m
	RCP8.5	+1.4 to 2.9 °C	-15 to +15 %	+0.36 to 0.63 m

ADDITIONAL **IMPACTS**

- Cyclone damage has risen due to extreme winds and rainfall, coupled with sea level rise, destructive waves, storm surges and coastal flooding[1,3,7].
- Cyclone Winston in 2016 affected 62% of the population, caused 44 fatalities, damaged power and communication infrastructure, damaged or destroyed over 30,000 houses, and caused loss and damage totaling F$1.99 billion, equivalent to 20% of GDP[19].

ADDITIONAL **IMPACTS**

- Sea level rise will cause coastal inundation, erosion and saltwater intrusion into aquifers[4]. Coastal communities are highly exposed because 27% of the population of 837,000 live within 1 km of the coast[11,15].
- Substantial declines in seagrass communities have been recorded[20].

ADDITIONAL **IMPACTS**

- Severe coral bleaching may occur on an annual basis by 2044 under RCP8.5[17].
- Maximum fisheries catch potential under RCP8.5 is projected to decline up to 5% by 2050[18].

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Federated States of Micronesia

FSM's actions are identified in the Intended Nationally Determined Contribution 2016, Nation-Wide Integrated Disaster Risk Management and Climate Change Policy 2013 and Joint State Action Plans (JSAPs) for Disaster Risk Management and Climate Change Adaptation.

FEDERATED STATES OF MICRONESIA

FUTURE CLIMATE

Projected changes in annual averages, relative to the 1986–2005 period for low emissions (RCP2.6) and high emissions (RCP8.5)[1]

		Annual temperature	Annual rainfall	Annual sea level
				
2030		+0.4 to 0.9 °C	-5 to +12 %	+0.09 to 0.18 m
2050	RCP2.6	+0.6 to 1.2 °C	-5 to +13 %	+0.17 to 0.29 m
	RCP8.5	+1.0 to 1.9 °C	+1 to +14 %	+0.21 to 0.36 m
2070	RCP2.6	+0.5 to 1.2 °C	+2 to +14 %	+0.23 to 0.43 m
	RCP8.5	+1.6 to 3.1 °C	+3 to +18 %	+0.36 to 0.64 m

ADDITIONAL **IMPACTS**

- Cyclone damage has risen due to extreme winds and rainfall, coupled with sea level rise, destructive waves, storm surges and coastal flooding[1,3,21].
- Sea level rise will cause coastal inundation, erosion and saltwater intrusion into aquifers[4]. Coastal communities are highly exposed because 89% of the population of 103,000 live within 1 km of the coast[11,15]. Infrastructure within 500 m of the coast accounts for 59% of the total asset number and 71% of the total infrastructure replacement value[16].

ADDITIONAL **IMPACTS**

- Severe coral bleaching may occur on an annual basis by 2038 under RCP8.5[17].
- Maximum fisheries catch potential under RCP8.5 is projected to decline 50% by 2050[18].

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Kiribati

Kiribati's actions are identified in the Intended Nationally Determined Contribution 2016, Kiribati Joint Implementation Plan (KJIP) on Climate Change and Disaster Risk Management 2014-2023 and Kiribati Climate Change Policy 2018.

KIRIBATI

FUTURE CLIMATE

Projected changes in annual averages, relative to the 1986–2005 period for low emissions (RCP2.6) and high emissions (RCP8.5)[1]

		Annual temperature	Annual rainfall	Annual sea level
2030		+0.4 to 1.2 °C	-9 to +34 %	+0.09 to 0.18 m
2050	RCP2.6	+0.6 to 1.5 °C	-3 to +44 %	+0.17 to 0.29 m
	RCP8.5	+1.0 to 2.2 °C	-2 to +70 %	+0.20 to 0.36 m
2070	RCP2.6	+0.5 to 1.4 °C	-1 to +59 %	+0.24 to 0.43 m
	RCP8.5	+1.5 to 3.5 °C	-4 to +124 %	+0.35 to 0.63 m

ADDITIONAL **IMPACTS**

- Low atolls are exposed to sea level rise in addition to ongoing coastal erosion and inundation during spring tides, storm surges and strong winds. By 2050, 18-80% of the land in Buariki, North Tarawa, and up to 50% of the land in Bikenibeu, South Tarawa, could become inundated[22].
- Health issues affected by climate change are water-borne, food-borne and vector-borne diseases[23].

ADDITIONAL **IMPACTS**

- Sea level rise will cause coastal inundation, erosion and saltwater intrusion into aquifers[4]. Coastal communities are highly exposed because all of the population of 110,000 live within 1 km of the coast[11,15]. Infrastructure within 100 m of the coast accounts for 67% of the total asset number and 63% of the total infrastructure replacement value[16].
- Severe coral bleaching may occur on an annual basis by 2041 under RCP8.5[17].
- Maximum fisheries catch potential under RCP8.5 is projected to decline 60% by 2090[18].

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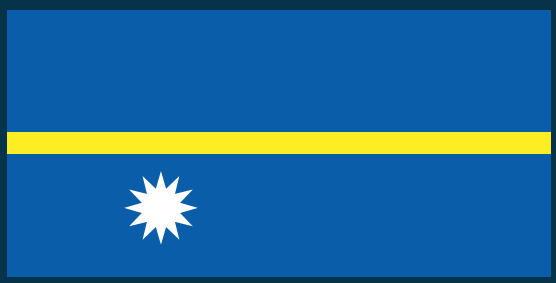
Nauru



Nauru's actions are identified in the updated Nationally Determined Contribution 2021 and Nauru Framework for Climate Change Adaptation and Disaster Risk Reduction 2015 (RONAdapt).

NAURU

FUTURE CLIMATE

Projected changes in annual averages, relative to the 1986–2005 period for low emissions (RCP2.6) and high emissions (RCP8.5)[1]

		Annual temperature	Annual rainfall	Annual sea level
2030		+0.4 to 1.2 °C	-7 to +52 %	+0.09 to 0.18 m
2050	RCP2.6	+0.6 to 1.4 °C	-9 to +56 %	+0.17 to 0.30 m
	RCP8.5	+1.0 to 2.2 °C	-3 to +69 %	+0.21 to 0.36 m
2070	RCP2.6	+0.5 to 1.4 °C	+5 to +72 %	+0.24 to 0.44 m
	RCP8.5	+1.5 to 3.5 °C	-2 to +142 %	+0.36 to 0.63 m

ADDITIONAL **IMPACTS**

- Only a few drought-resilient freshwater lenses are close to the coast[34].
- Severe coral bleaching may occur on an annual basis by 2035 under RCP8.5[15].

ADDITIONAL **IMPACTS**

- Sea level rise will cause coastal inundation, erosion and saltwater intrusion into aquifers[4]. Coastal communities are highly exposed because 93% of the population of 10,000 live within 1 km of the coast[11,15]. Infrastructure within 100 m of the coast accounts for 34% of the total asset number and 40% of the total infrastructure replacement value[16].

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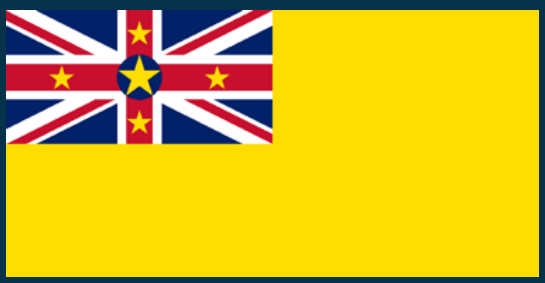
Niue



Niue's actions are identified in the Intended Nationally Determined Contribution 2016, Joint National Action Plan (JNAP) for Disaster Risk Management and Climate Change Adaptation, National Climate Change Policy and Strategic Energy Road Map 2015-2025.

NIUE

FUTURE CLIMATE

Projected changes in annual averages, relative to the 1986–2005 period for low emissions (RCP2.6) and high emissions (RCP8.5)[1]

		Annual temperature	Annual rainfall	Annual sea level
2030		+0.3 to 1.1 °C	-12 to +18 %	+0.09 to 0.18 m
2050	RCP2.6	+0.3 to 1.0 °C	-13 to +12 %	+0.17 to 0.29 m
	RCP8.5	+0.8 to 2.0 °C	-14 to +13 %	+0.21 to 0.36 m
2070	RCP2.6	+0.3 to 1.0 °C	-8 to +12 %	+0.23 to 0.42 m
	RCP8.5	+1.3 to 3.0 °C	-16 to +32 %	+0.36 to 0.62 m

ADDITIONAL **IMPACTS**

- Following Cyclone Heta in 2004, the cost of recovery and reconstruction was almost NZ$38 million[25]. Cyclone damage has risen due to extreme winds and rainfall, coupled with sea level rise, destructive waves, storm surges and coastal flooding[1,3].
- Severe coral bleaching may occur on an annual basis by 2047 under RCP8.5[17].
- Maximum fisheries catch potential under RCP8.5 is projected to decline 50% by 2050[18].

ADDITIONAL **IMPACTS**

- Sea level rise will cause coastal inundation, erosion and saltwater intrusion into aquifers[4]. Coastal communities are highly exposed because 25% of the population of 1,500 live within 1 km of the coast[11,15]. Infrastructure within 500 m of the coast accounts for 50% of the total asset number and 46% of the total infrastructure replacement value[16].

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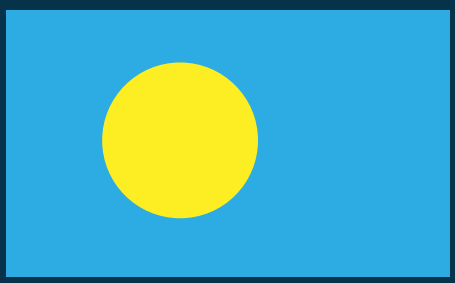
Palau



Palau's actions are identified in the Intended Nationally Determined Contribution 2015, Palau Climate Change Policy 2015 and National Disaster Risk Management Framework 2016.

PALAU

FUTURE CLIMATE

Projected changes in annual averages, relative to the 1986–2005 period for low emissions (RCP2.6) and high emissions (RCP8.5)[1]

		Annual temperature	Annual rainfall	Annual sea level
2030		+0.4 to 1.0 °C	-8 to +10 %	+0.09 to 0.18 m
2050	RCP2.6	+0.6 to 1.1 °C	-4 to +10 %	+0.17 to 0.29 m
	RCP8.5	+1.0 to 1.9 °C	-7 to +13 %	+0.21 to 0.36 m
2070	RCP2.6	+0.5 to 1.2 °C	-5 to +9 %	+0.23 to 0.42 m
	RCP8.5	+1.6 to 3.1 °C	-2 to +16 %	+0.36 to 0.62 m

ADDITIONAL **IMPACTS**

- Sea level rise will cause coastal inundation, erosion and saltwater intrusion into aquifers[4,26]. Coastal communities are highly exposed because 93% of the population of 18,000 live within 1 km of the coast[11,15]. Infrastructure within 500 m of the coast accounts for 80% of the total asset number and 89% of the total infrastructure replacement value[16].

ADDITIONAL **IMPACTS**

- The frequency and intensity of extremely hot days will increase, leading to more heat stress and deaths[4,26].
- Severe coral bleaching may occur on an annual basis by 2038 under RCP8.5[17].
- Hotter and wetter conditions with increased storm intensity are expected to influence food security[3,26].
- Those who are already vulnerable such as children, the elderly, low-income communities, and people with disabilities are at greater risk[26].

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Papua New Guinea

Papua New Guinea's actions are identified in the Second Nationally Determined Contribution 2020, National Climate Compatible Development Management Policy 2015 and National Energy Policy 2017-2027.

PAPUA NEW GUINEA

FUTURE CLIMATE

Projected changes in annual averages, relative to the 1986–2005 period for low emissions (RCP2.6) and high emissions (RCP8.5)[1]

		Annual temperature	Annual rainfall	Annual sea level
				
2030		+0.5 to 1.1 °C	-1 to +9 %	+0.09 to 0.18 m
2050	RCP2.6	+0.6 to 1.2 °C	0 to +9 %	+0.17 to 0.29 m
	RCP8.5	+1.0 to 2.0 °C	-1 to +15 %	+0.21 to 0.36 m
2070	RCP2.6	+0.5 to 1.3 °C	-1 to +9 %	+0.23 to 0.42 m
	RCP8.5	+1.6 to 3.2 °C	-1 to +20 %	+0.36 to 0.63 m

ADDITIONAL **IMPACTS**

- Heavier rainfall events would increase flooding, inundation, landslides and erosion, causing damage to public amenities and infrastructure[27].
- Sea level rise will cause coastal inundation, erosion and saltwater intrusion into aquifers[4]. Coastal communities are highly exposed because 21% of the population of 5.2 million live within 1 km of the coast[11,15].

ADDITIONAL **IMPACTS**

- Severe coral bleaching may occur on an annual basis by 2040 under RCP8.5[17].
- Maximum fisheries catch potential under RCP8.5 is projected to decline 50% by 2050[18].

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Republic of Marshall Islands

Marshall Islands' actions are identified in the updated Nationally Determined Contribution 2020 and Tile Til Eo 2050 Climate Change Strategy.

REPUBLIC OF MARSHALL ISLANDS

FUTURE CLIMATE

Projected changes in annual averages, relative to the 1986–2005 period for low emissions (RCP2.6) and high emissions (RCP8.5)[1]

		Annual temperature	Annual rainfall	Annual sea level
2030		+0.4 to 1.1 °C	-6 to +11 %	+0.09 to 0.18 m
2050	RCP2.6	+0.6 to 1.2 °C	-2 to +8 %	+0.17 to 0.30 m
	RCP8.5	+1.0 to 1.9 °C	-2 to +26 %	+0.21 to 0.37 m
2070	RCP2.6	+0.5 to 1.2 °C	-4 to +4 %	+0.23 to 0.44 m
	RCP8.5	+1.6 to 3.2 °C	-4 to +16 %	+0.36 to 0.66 m

ADDITIONAL **IMPACTS**

- Sea level rise will cause coastal inundation, erosion and saltwater intrusion into aquifers[4]. Potable groundwater on Roi-Namur will become unavailable by 2030–2040 for RCP8.5 and 2055–2065 for RCP4.5[24].
- Coastal communities are highly exposed because all of the population of 530,000 live within 1 km of the coast[11,15]. Infrastructure within 100 m of the coast accounts for 72% of the total asset number and 61% of the total infrastructure replacement value[16].

ADDITIONAL **IMPACTS**

- Severe coral bleaching may occur on an annual basis by 2040 under RCP8.5[17].
- By 2050 under RCP8.5, maximum fisheries catch potential is projected to decline 30%[18] and tuna biomass is projected to decrease 15%[28].

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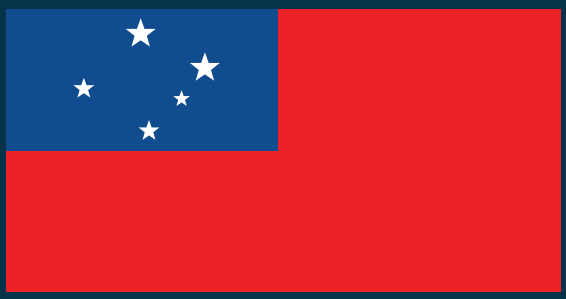
Samoa

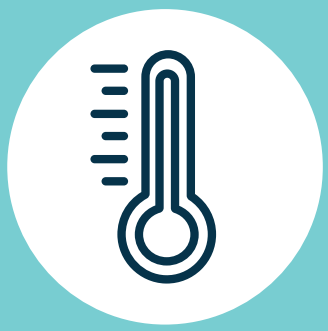


Samoa's actions are identified in the Second Nationally Determined Contribution 2021 and the National Climate Change Policy 2020-2030.

SAMOA

FUTURE CLIMATE

Projected changes in annual averages, relative to the 1986–2005 period for low emissions (RCP2.6) and high emissions (RCP8.5)[1]

		Annual temperature	Annual rainfall	Annual sea level
				
2030		+0.4 to 1.1 °C	-7 to +9 %	+0.09 to 0.18 m
2050	RCP2.6	+0.4 to 1.1 °C	-7 to +8 %	+0.17 to 0.29 m
	RCP8.5	+0.4 to 1.1 °C	-8 to +5 %	+0.23 to 0.42 m
2070	RCP2.6	+1.0 to 1.9 °C	-9 to +6 %	+0.19 to 0.36 m
	RCP8.5	+1.5 to 2.9 °C	-16 to +12 %	+0.33 to 0.63 m

ADDITIONAL **IMPACTS**

- Infrastructure supporting the transport, power, water and sewage systems is at greatest risk[29].
- Sea level rise will cause coastal inundation, erosion and saltwater intrusion into aquifers[4]. Coastal communities are highly exposed because 61% of the population of 200,000 live within 1 km of the coast[11,15]. Infrastructure within 500 m of the coast accounts for 47% of the total asset number and 48% of the total infrastructure replacement value[16].

ADDITIONAL **IMPACTS**

- Cyclone damage has risen due to extreme winds and rainfall, coupled with sea-level rise, destructive waves, storm surges and coastal flooding[1,3].

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Solomon Islands

Solomon Islands' actions are identified in the updated Nationally Determined Contribution 2021 and National Climate Change Policy.

SOLOMON ISLANDS

FUTURE CLIMATE

Projected changes in annual averages, relative to the 1986–2005 period for low emissions (RCP2.6) and high emissions (RCP8.5)[1]

		Annual temperature	Annual rainfall	Annual sea level
				
2030		+0.4 to 1.0 °C	-2 to +9 %	+0.09 to 0.18 m
2050	RCP2.6	+0.6 to 1.2 °C	-1 to +7 %	+0.17 to 0.30 m
	RCP8.5	+1.0 to 1.9 °C	-3 to +9 %	+0.20 to 0.36 m
2070	RCP2.6	+0.4 to 1.2 °C	-3 to +8 %	+0.24 to 0.43 m
	RCP8.5	+1.5 to 3.0 °C	-3 to +14 %	+0.35 to 0.63 m

ADDITIONAL **IMPACTS**

- Sea level rise will cause coastal inundation, erosion and saltwater intrusion into aquifers[4]. Coastal communities are highly exposed because 65% of the population of 516,000 live within 1 km of the coast[11,15]. Infrastructure within 500 m of the coast accounts for 47% of the total asset number and 74% of the total infrastructure replacement value[16].

ADDITIONAL **IMPACTS**

- Severe coral bleaching may occur on an annual basis by 2040 under RCP8.5[17].
- Maximum fisheries catch potential under RCP8.5 is projected to decline 40% by 2050[18].
- Average annual daily maximum temperatures in the Guadalcanal Plain could be above the 30–32 °C threshold for growing cocoa by about 2050, possibly sooner under a worst-case scenario[35].

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Timor-Leste

Timor-Leste's actions are identified in the Intended Nationally Determined Contribution 2016 and National Adaptation Plan 2021.

TIMOR-LESTE

FUTURE CLIMATE

Projected changes in annual averages, relative to the 1986–2005 period for low emissions (RCP2.6) and high emissions (RCP8.5)[1]

		Annual temperature	Annual rainfall	Annual sea level
				
2030		+0.4 to 1.1 °C	-15 to +11 %	+0.09 to 0.18 m
2050	RCP2.6	+0.5 to 1.1 °C	-11 to +9 %	+0.16 to 0.29 m
	RCP8.5	+1.0 to 2.0 °C	-13 to +16 %	+0.21 to 0.36 m
2070	RCP2.6	+0.4 to 1.1 °C	-13 to +8 %	+0.23 to 0.42 m
	RCP8.5	+1.7 to 3.1 °C	-25 to +21 %	+0.37 to 0.62 m

ADDITIONAL **IMPACTS**

- Infrastructure damage is projected to increase due to landslides, floods, erosion and droughts[30].
- Sea level rise will cause coastal inundation, erosion and saltwater intrusion into aquifers[4].
- Malaria, dengue fever, diarrheal diseases, and disruption to healthcare services are projected to increase due to extreme weather events[30].
- Severe coral bleaching may occur on an annual basis by 2040 under RCP8.5[17].

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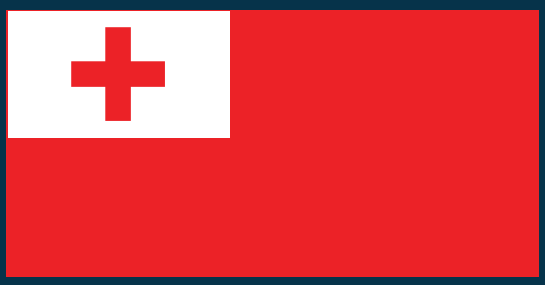
Tonga



Tonga's actions are identified in the Second Nationally Determined Contribution 2020, Joint National Action Plan (JNAP2) on Climate Change Adaptation and Disaster Risk Management 2018-2028, and Tonga Climate Change Policy 2016-2035.

TONGA

FUTURE CLIMATE

Projected changes in annual averages, relative to the 1986–2005 period for low emissions (RCP2.6) and high emissions (RCP8.5)[1]

		Annual temperature	Annual rainfall	Annual sea level
				
2030		+0.3 to 1.0 °C	-12 to +10 %	+0.09 to 0.18 m
2050	RCP2.6	+0.4 to 1.0 °C	-5 to +12 %	+0.17 to 0.30 m
	RCP8.5	+0.8 to 2.0 °C	-10 to +15 %	+0.21 to 0.37 m
2070	RCP2.6	+0.3 to 1.0 °C	-11 to +10 %	+0.23 to 0.42 m
	RCP8.5	+1.4 to 2.9 °C	-16 to +24 %	+0.36 to 0.63 m

ADDITIONAL **IMPACTS**

- Heavy rainfall causes flooding and prolonged ponding of water, which is associated with health risks such as water-borne and vector-borne diseases, including dengue fever[31].
- Severe coral bleaching may occur on an annual basis by 2045 under RCP8.5[17].
- Sea level rise will cause coastal inundation, erosion and saltwater intrusion into aquifers[4].

ADDITIONAL **IMPACTS**

Coastal communities are highly exposed because 84% of the population of 101,000 live within 1 km of the coast[11,15]. Infrastructure within 500 m of the coast accounts for 51% of the total asset number and 57% of the total infrastructure replacement value[16].

- Maximum fisheries catch potential under RCP8.5 is projected to decline 20% by 2050[18].

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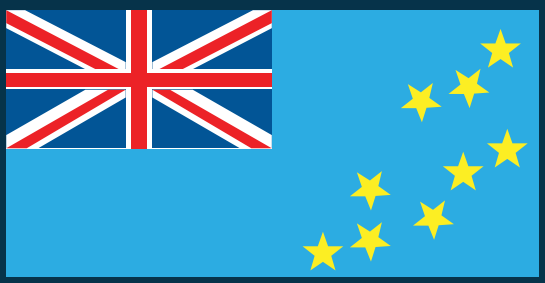
Tuvalu



Tuvalu's actions are identified in the Intended Nationally Determined Contribution 2015, National Climate Change Policy 2020-2030, National Energy Policy 2012-2020 and National Adaptation Plan Framework.

TUVALU

FUTURE CLIMATE

Projected changes in annual averages, relative to the 1986–2005 period for low emissions (RCP2.6) and high emissions (RCP8.5)[1]

		Annual temperature	Annual rainfall	Annual sea level
				
2030		+0.4 to 1.0 °C	-4 to +12 %	+0.09 to 0.18 m
2050	RCP2.6	+0.5 to 1.2 °C	-6 to +11 %	+0.17 to 0.29 m
	RCP8.5	+1.0 to 1.9 °C	-11 to +17 %	+0.19 to 0.37 m
2070	RCP2.6	+0.5 to 1.2 °C	-10 to +12 %	+0.23 to 0.43 m
	RCP8.5	+1.5 to 3.1 °C	-15 to +28 %	+0.32 to 0.63 m

ADDITIONAL **IMPACTS**

- Since 2011, Tuvalu has been affected by algal blooms, the most recent being a large growth of Sargassum on the main atoll of Funafuti, related to high ocean temperatures[32].
- Sea level rise will cause coastal inundation, erosion and saltwater intrusion into aquifers[4]. Coastal communities are highly exposed because all of the population of 11,000 live within 1 km of the coast[11,15]. Infrastructure within 100 m of the coast accounts for 66% of the total asset number and 62% of the total infrastructure replacement value[16].

ADDITIONAL **IMPACTS**

- Severe coral bleaching may occur on an annual basis by 2039 under RCP8.5[17].
- By 2050 under RCP8.5, maximum fisheries catch potential is projected to decline 65%[18] and tuna biomass is projected to decline 9%[28].

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Vanuatu

Vanuatu's actions are identified in the updated Nationally Determined Contribution 2020 and National Climate Change and Disaster Reduction Policy 2016-2030.

VANUATU

FUTURE CLIMATE

Projected changes in annual averages, relative to the 1986–2005 period for low emissions (RCP2.6) and high emissions (RCP8.5)[1]

		Annual temperature	Annual rainfall	Annual sea level
2030		+0.3 to 1.0 °C	-9 to +13 %	+0.09 to 0.18 m
2050	RCP2.6	+0.5 to 1.1 °C	-6 to +9 %	+0.17 to 0.30 m
	RCP8.5	+0.8 to 2.0 °C	-12 to +14 %	+0.24 to 0.43 m
2070	RCP2.6	+0.4 to 1.1 °C	-10 to +9 %	+0.22 to 0.37 m
	RCP8.5	+1.5 to 2.9 °C	-16 to +15 %	+0.37 to 0.64 m

ADDITIONAL **IMPACTS**

- Cyclone Pam in 2015 affected 188,000 people, displaced 65,000 people, and damaged 96% of crops and 81% of homes in affected areas[33].
- Sea level rise will cause coastal inundation, erosion and saltwater intrusion into aquifers[4]. Coastal communities are highly exposed because 64% of the population of 234,000 live within 1 km of the coast[11,15]. Infrastructure within 500 m of the coast accounts for 48% of the total asset number and 90% of the total infrastructure replacement value[16].

ADDITIONAL **IMPACTS**

- Severe coral bleaching may occur on an annual basis by 2043 under RCP8.5[17].
- Maximum fisheries catch potential under RCP8.5 is projected to decline 25% by 2090[18].

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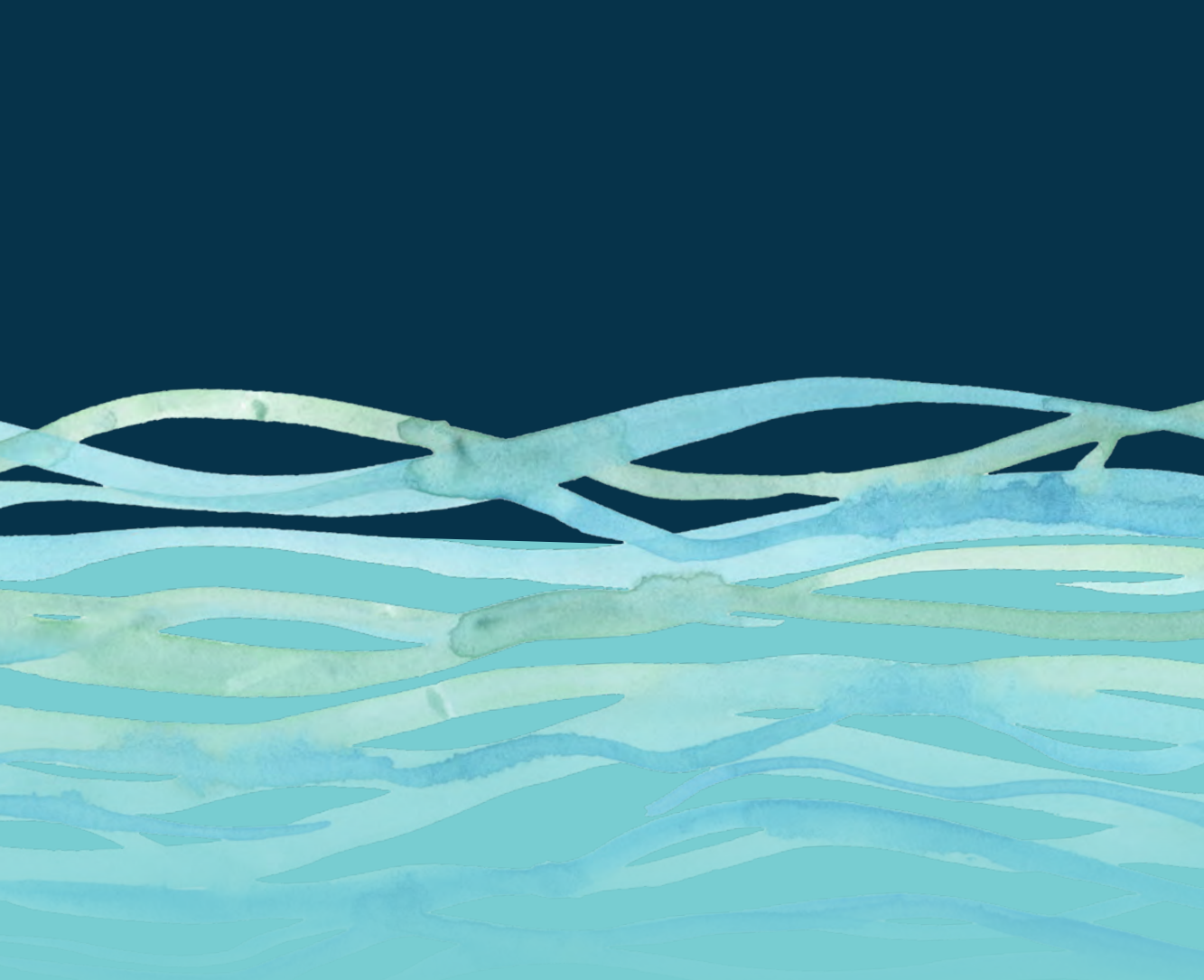

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