



# PACIFIC REGION

**Pacific islands are extremely vulnerable to climate change. The most substantial impacts of climate change include losses of coastal infrastructure and land, more intense cyclones and droughts, failure of subsistence crops and coastal fisheries, losses of coral reefs and mangroves, and the spread of certain diseases.**

## **Countries, surface areas and highest peaks:**

Northern Mariana Islands (477 km<sup>2</sup>, 474 m), Federated States of Micronesia (702 km<sup>2</sup>, 782 m), Fiji (18.274 km<sup>2</sup>, 1.324 m), French Polynesia (4.167 km<sup>2</sup>, 2.241 m), Kiribati (811 km<sup>2</sup>, 87 m), Marshall Islands (181 km<sup>2</sup>, 10 m), Nauru (21 km<sup>2</sup>, 65 m), New Caledonia (18.519 km<sup>2</sup>,

1,628 m), New Zealand (268.021 km<sup>2</sup>, 3.754 m), Palau (459 km<sup>2</sup>, 242 m), Solomon Islands (28.896 km<sup>2</sup>, 2.335 m), Tonga (748,5 km<sup>2</sup>, 1.033 m), Tuvalu (26 km<sup>2</sup>, 4.6 m), Vanuatu (12.189 km<sup>2</sup>, 1.879 m), Wallis and Futuna (274 km<sup>2</sup>, 524 m).

**Population:** The countries combined have a population of about 7.5 million; between 35 % and 45 % are younger than 14.

**Climate:** tropical climate

**GDP:** GDPs of Pacific island countries range from 64 million USD (Tuvalu) to 249.9 billion USD (New Zealand) (both 2021)

**Economy:** service industry, tourism, agriculture, industry

## CLIMATE CHANGE IMPACTS

- ▶ **Rise of sea levels** poses the most serious danger to the countries in the Pacific region. Global mean sea level has risen at **an average rate of about 3.3 mm per year since the start of satellite records in the early 1990s** and has accelerated as a result of ocean warming and land-ice melt.
- ▶ **Extreme heat** has been breaking records in the Pacific in the last years with 2020 being one of the warmest years on record. Sea surface temperatures are an important physical indicator of Earth's climate system. Between 1982-2020, ocean surface temperatures in the Tasman Sea

and in the west of the Timor Sea increased at three times the global average rate. High temperatures affected the entire reef and widespread coral bleaching was reported, the third mass bleaching event in the past five years.

- ▶ **Storms and floods** represented 93 % of the natural hazards in the region in 2021. They routinely trigger deaths, destruction and displacement and have historically been the most devastating extreme weather events in the region. In Nauru for example, drought and irregular rains have already impacted 61% of the surveyed families.



Cynthia Houniuhi, president of the [PACIFIC ISLAND FORUM](#), speaks of her experience of climate change in the Pacific islands, specifically of the island where her father lives: "I saw that the island changed. It used to be filled with children, playing soccer on the sand and there were more houses. I saw that the houses were no longer there so I asked my dad what was happening to the island and he said that the sea level rose, so the people had to move to the mainland and there are only a few people left now." Watch the entire interview [HERE](#).



Atmospheric scientist Dr. Armineh Barkhordarian confirms that this systematic warming pool is not the result of natural climatic variations - but of human influences instead. Based on a study she was a part of she explained that the sharp increase in average water temperature is pushing ecosystems to their limits. More on the study [HERE](#).



Bernadeth, a mother from Vanuatu, recalls a storm that blew away the roof of her house, tore her ceilings apart and made her flee from the house with her three young children. She remembers her family desperately trying to find a spot where rain could not reach them and finding temporary shelter in a local church. More on cyclones in Vanuatu [HERE](#).



## CLIMATE PROJECTIONS

Ocean warming

Sea-level rise

Increased intensity of typhoons



Climate change will result in increased migration as islanders are affected by sea-level rise, coastal erosion, salt-water intrusion and more frequent and intense droughts. Under a moderate climate change scenario and population growth, it is projected that by 2055 migration will dramatically increase in Kiribati and Tuvalu, but also other low-lying atolls. More on how climate change affects migration in the Pacific [HERE](#).

## KEY CLIMATE IMPACTS

Impact on fisheries

Lack of drinking water due to saltwater intrusion

Flooding

Diseases

Impact on ecosystems

- ▶ **Sea-level rise** is already having a major impact on society, economies and ecosystems in Pacific Islands. Rises in sea level and storm surges will result in **saltwater entering freshwater supplies** (saline intrusion), which means that there will be **less water available to drink** and to grow plants and food.
- ▶ **Sea surface temperatures and ocean heat** in parts of the South-West Pacific are increasing at more than three times the global average rate, with marine heatwaves bleaching once vibrant coral reefs and **threatening vital ecosystems** upon which the region depends.
- ▶ **Flooding** of lowland and coastal areas and severe coastal erosion are already having an impact on coastal infrastructure. Storms and floods have historically been the most devastating extreme weather events in the region.



## CLIMATE CHANGE AND FORCED MIGRATION IN PACIFIC ISLANDS

- ▶ In **Kiribati**, most migration is currently from the outer islands to the capital of South Tarawa, intensifying existing overcrowding and water shortages.
- ▶ In **Tuvalu**, environmental conditions triggered 9% of recorded movements in 2005-2015 and the majority of households indicated that they feel that migration would be a necessary strategy if climate change impacts worsen their basic living conditions. Sea-level rise (76% of respondents), saltwater intrusion (74%), drought (72%) and floods (71%) are the most likely environmental factors thought to trigger future migration. While 97% of surveyed households in Tuvalu reported they had been impacted by natural hazards between 2005 and 2015, only 53% of the people perceived they would be able to afford migration in the future.
- ▶ In January 2022, a category 1 tropical cyclone Cody struck **Fiji**. One person has died, there is widespread infrastructural damage, especially on the main island of Viti Levu, and about 2,000 people have been forced to flee their homes and seek shelter at 110 evacuation centers across Fiji.



Countries in the Pacific are facing an existential threat. Inhabitants of Tuvalu want world leaders to recognise that they will be subsumed by water if climate change continues to be ignored. But the island will become unlivable long before this happens. Even young students are extremely aware of the potential disaster facing Tuvalu: "Climate change means my home island is sinking and I will not have a home in the future". Watch the [VIDEO](#) to hear more about the unique idea of not only moving the people, but the entire nation to a new location.