

Climate change adaptation

Climate change adaptation is the measure taken to address and cope with the current and future impacts of climate change. To cope with the impacts of climate change Pacific Island communities can:

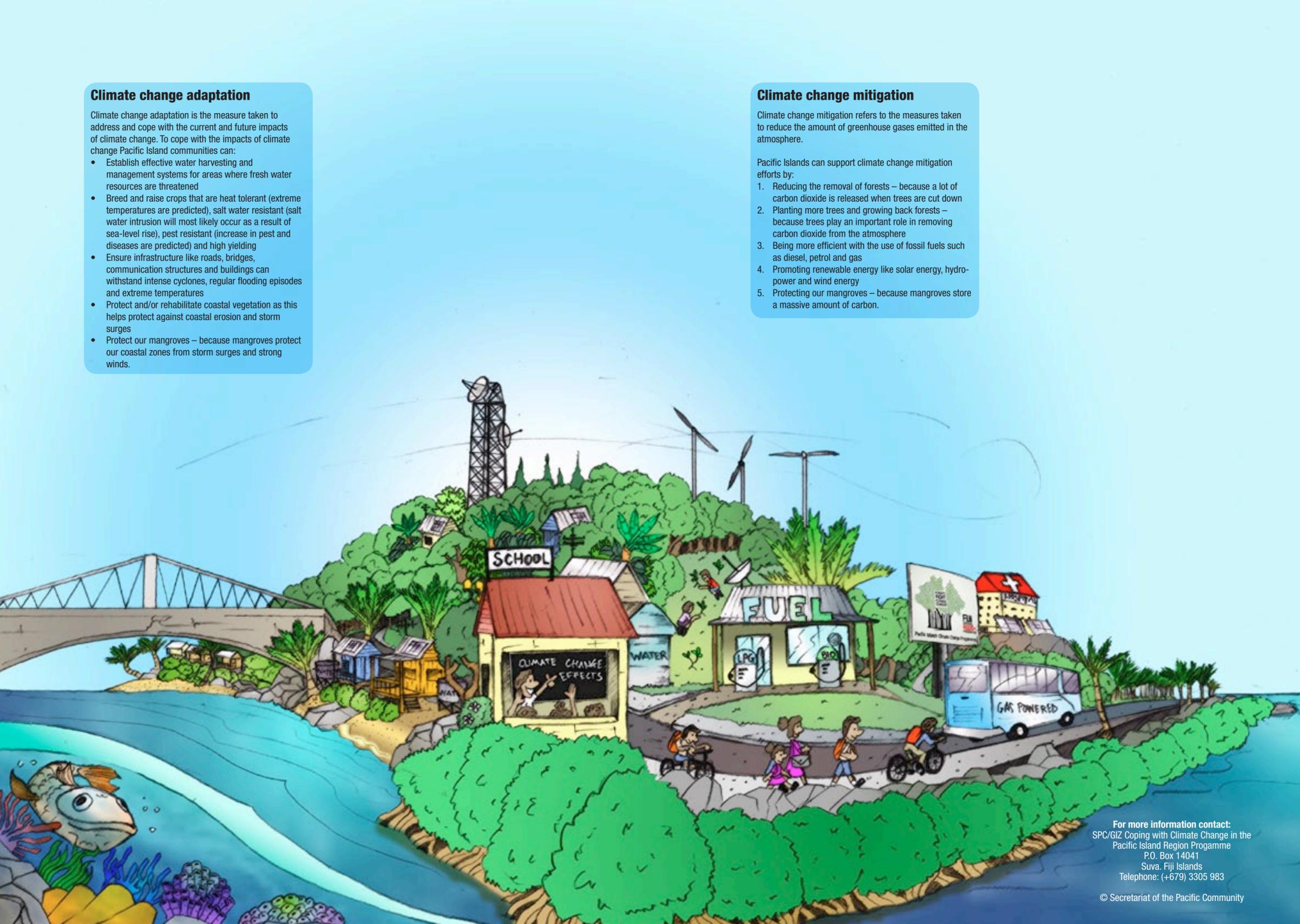
- Establish effective water harvesting and management systems for areas where fresh water resources are threatened
- Breed and raise crops that are heat tolerant (extreme temperatures are predicted), salt water resistant (salt water intrusion will most likely occur as a result of sea-level rise), pest resistant (increase in pest and diseases are predicted) and high yielding
- Ensure infrastructure like roads, bridges, communication structures and buildings can withstand intense cyclones, regular flooding episodes and extreme temperatures
- Protect and/or rehabilitate coastal vegetation as this helps protect against coastal erosion and storm surges
- Protect our mangroves – because mangroves protect our coastal zones from storm surges and strong winds.

Climate change mitigation

Climate change mitigation refers to the measures taken to reduce the amount of greenhouse gases emitted in the atmosphere.

Pacific Islands can support climate change mitigation efforts by:

1. Reducing the removal of forests – because a lot of carbon dioxide is released when trees are cut down
2. Planting more trees and growing back forests – because trees play an important role in removing carbon dioxide from the atmosphere
3. Being more efficient with the use of fossil fuels such as diesel, petrol and gas
4. Promoting renewable energy like solar energy, hydro-power and wind energy
5. Protecting our mangroves – because mangroves store a massive amount of carbon.



Climate Change Causes, impacts and responses

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Greenhouse gases

Greenhouse gases occur naturally in the atmosphere and have the ability to trap the heat reflected off the earth's surface. The main greenhouse gases are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O) and water vapour (H₂O).

The increase in industrialisation, infrastructure development, food demand and other human activities are adding more and more greenhouse gases into the atmosphere. Carbon dioxide is the highest emitted greenhouse gas from human activities.

As more greenhouse gases accumulate in the atmosphere, more heat is captured and our planet Earth will get warmer and warmer! This warming of our planet is known as "global warming".

Global warming & climate change

Global warming is largely caused by the increase of greenhouse gases in the atmosphere brought about by human activities.

Global warming will bring about changes in weather patterns, seasons and climate. This will cause the increase of extreme weather events, climatic variability and climate change.

Global warming will cause the ice sheets in the North and South Pole to melt bringing about sea level rise. In the Pacific, this will cause the loss and reduction of land in coastal areas.

Increasing sea surface temperatures can cause coral reef bleaching. This will weaken shoreline stability, damage coastal fisheries, impact coastal biodiversity and reduce tourist attractions.

Climate change impacts on the islands

In the Pacific, the following climate change impacts are predicted:

- The intensity of cyclones and storms will increase
- Extreme events like severe flooding and prolonged droughts will be more common and the number of hot days and warm nights will increase
- Fresh water resources will be seriously compromised for low lying islands
- Breeding and migratory behaviour of fish will change and survival of coral reefs will be threatened
- Pests and diseases will thrive over a wider area
- Incidences in climate-sensitive diseases like water-borne diseases, dengue, filariasis, heat stress, skin diseases, acute respiratory infections and asthma will increase.

Sea level rise in small islands will exacerbate inundation, storm surge, and coastal erosion. This threatens vital infrastructure, services and facilities coastal communities rely on.

