



# Fiji Climate Change Factsheet

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## What is the IPCC and why is it Important

THE IPCC stands for the Intergovernmental Panel on Climate Change. The IPCC is the international body for assessing the science related to climate change. The IPCC was set up in 1988 by the World Meteorological Organization (WMO) and United Nations Environment Programme (UNEP) to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.

The Panel is made up of representatives of the member states

and meets in Plenary Sessions to take major decisions. Participation in the IPCC is open to all member countries of the WMO and United Nations. It currently has 195 members. The IPCC Bureau, elected by member governments, provides guidance to the Panel on the scientific and technical aspects of the Panel's work and advises the Panel on related management and strategic issues<sup>1</sup>.

IPCC assessments provide a scientific basis for governments at all levels to develop climate-related policies, and they underlie negotiations at the UN Climate Conference – the United

Nations Framework Convention on Climate Change (UNFCCC).

The assessments are policy-relevant but not policy-prescriptive: they may present projections of future climate change based on different scenarios and the risks that climate change poses and discuss the implications of response options, but they do not tell policymakers what actions to take.

IPCC assessments are written by hundreds of leading scientists who volunteer their time and expertise as Coordinating Lead Authors and Lead Authors of the reports.

## The IPCC Working Groups

The IPCC work is shared among three Working Groups, a Task Force and a Task Group. The activities of each Working Group and of the Task Force are coordinated and administrated by a Technical Support Unit (TSU).

<b>IPCC Working Group I (WG I)</b>	<p>Assesses the physical scientific aspects of the climate system and climate change.</p> <p>The main topics assessed by WG I include: changes in greenhouse gases and aerosols in the atmosphere; observed changes in air, land and ocean temperatures, rainfall, glaciers and ice sheets, oceans and sea level; historical and paleoclimatic perspective on climate change; biogeochemistry, carbon cycle, gases and aerosols; satellite data and other data; climate models; climate projections, causes and attribution of climate change.</p>
<b>IPCC Working Group II (WG II)</b>	<p>Assesses the vulnerability of socio-economic and natural systems to climate change, negative and positive consequences of climate change, and options for adapting to it.</p> <p>It also takes into consideration the inter-relationship between vulnerability, adaptation and sustainable development. The assessed information is considered by sectors (water resources; ecosystems; food &amp; forests; coastal systems; industry; human health) and regions (Africa; Asia; Australia &amp; New Zealand; Europe; Latin America; North America; Polar Regions; Small Islands).</p>
<b>IPCC Working Group III (WG III)</b>	<p>Assesses options for mitigating climate change through limiting or preventing greenhouse gas emissions and enhancing activities that remove them from the atmosphere.</p> <p>The main economic sectors are taken into account, both in a near-term and in a long-term perspective. The sectors include energy, transport, buildings, industry, agriculture, forestry, waste management. The WG analyses the costs and benefits of the different approaches to mitigation, considering also the available instruments and policy measures. The approach is more and more solution-oriented.</p>



# Findings of IPCC Assessments re

**1995 Second Assessment Report (SAR)** confirmed the vulnerable state of small islands, now included in a specific chapter titled 'Coastal Zones and Small Islands.'

**2001 Third Assessment Report (TAR)** included a specific chapter on 'Small Island States'. In confirming previously identified concerns of small island states two factors were highlighted - the first relating to sustainability noting that 'with limited resources and low adaptive capacity, these islands face the considerable challenge of meeting the social and economic needs of their populations in a manner that is sustainable'.

**2007 Fourth Assessment Report (AR4)** sea level rise had dominated vulnerability and impact studies of small island states. Since AR4 the literature on small islands and climate change has increased substantially. A number of features distinguish the literature from that included in earlier assessments. First, the

literature appears more sophisticated and does not shirk from dealing with the complexity of small island vulnerability, impacts and adaptation or the differences between islands and island states. Second, and related to the first, the literature is less one dimensional, and deals with climate change in a multidimensional manner as just one of several stressors on small island nations.

## **2014 Fifth Assessment Report (5AR)**

The 5AR revealed the following alarming findings:

- Climate models have improved since the AR4. Models reproduce observed continental-scale surface temperature patterns and trends over many decades, including the more rapid warming since the mid-20th century and the cooling immediately following large volcanic eruptions
- Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes

are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased

- Over the last two decades, the Greenland and Antarctic ice sheets have been losing mass, glaciers have continued to shrink almost worldwide, and Arctic sea ice and Northern Hemisphere spring snow cover have continued to decrease in extent.
- The rate of sea level rise since the mid-19th century has been larger than the mean rate during the previous two millennia. Over the period 1901 to 2010, global mean sea level rose by 0.19 [0.17 to 0.21] m
- Global mean sea level will continue to rise during the 21st century. The rate of sea level rise will very likely exceed that observed during 1971 to 2010 due to increased ocean warming and increased loss of mass from glaciers and ice sheets.





# Relevant for small islands

- The atmospheric concentrations of carbon dioxide, methane, and nitrous oxide have increased to levels unprecedented in at least the last 800,000 years.
- Continued emissions of greenhouse gases will cause further warming and changes in all components of the climate system. Limiting climate change will require substantial and sustained reductions of greenhouse gas emissions.
- Carbon dioxide concentrations have increased by 40% since pre-industrial times, primarily from fossil fuel emissions and secondarily from net land use change emissions.
- Climate change will affect carbon cycle processes in a way that will exacerbate the increase of CO<sub>2</sub> in the atmosphere.
- Ocean warming dominates the increase in energy stored in the climate system, accounting for more than 90% of the energy accumulated between 1971 and 2010.

- The global ocean will continue to warm during the 21st century. Heat will penetrate from the surface to the deep ocean and affect ocean circulation.
- The ocean has absorbed about 30% of the emitted anthropogenic carbon dioxide, causing ocean acidification.

THE fifth assessment report of the IPCC identified with high confidence the following key risks arising from climate change impacts:

1. Risk of death, injury, ill-health, or disrupted livelihoods in low-lying coastal zones and small islands, due to storm surges, coastal flooding, and sea-level rise.
2. Risks due to extreme weather events leading to breakdown of infrastructure networks and critical services such as electricity, water supply, and health and emergency services.
3. Risk of food insecurity and the breakdown of food systems linked

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to warming, drought, flooding, and precipitation variability and extremes

4. Risk of loss of marine and coastal ecosystems, biodiversity, and the ecosystem goods, functions, and services they provide for coastal livelihoods
5. Risk of loss of terrestrial and inland water ecosystems, biodiversity, and the ecosystem goods, functions, and services they provide for livelihoods.



## Managing future risks and building resilience

- In small islands, diverse physical and human attributes and their sensitivity to climate-related drivers have been inconsistently integrated into adaptation planning (*high confidence*).
- Adaptation to climate change generates larger benefit to small islands when delivered in conjunction with other development activities, such as disaster risk reduction and community based approaches to development.
- Adaptation and mitigation on small islands are not always trade-offs, but can be regarded as complementary components in the response to climate change.
- Examples of adaptation-mitigation inter linkages in small islands include tourism infrastructure and activities. The potential emission reductions (e.g. more energy efficient operation in hotels) together with adaptation (e.g. water saving initiatives, climate proofed infrastructure) offer co-benefits and opportunities.
- The ability of small islands to undertake adaptation and mitigation programs, and their effectiveness, can be substantially strengthened through appropriate assistance from the international community.
- Opportunities for effective adaptation can be found by, for example, empowering communities and optimizing the benefits of local practices that have proven to be effective through time, and working synergistically to progress development agendas

For more information contact:

### Climate Change Division

Ministry of Foreign Affairs and International Cooperation

Phone: (+679) 3309 645 Fax: (+679) 3309 644

Email: kumar.mahend@gmail.com

Website: [www.climate-change-fiji.gov.fj](http://www.climate-change-fiji.gov.fj)

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