FIJI

HEALTH & CLIMATE CHANGE

COUNTRY PROFILE 2020

Small Island Developing States Initiative

World Health Organization

United Nations
Framework Convention on
Climate Change

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Acknowledgements

This document was developed in collaboration with the Ministry of Health and Medical Services Fiji, the World Health Organization (WHO) and the United Nations Framework Convention on Climate Change (UNFCCC). Financial support for this project was provided by the Norwegian Agency for Development Cooperation (NORAD) and the Wellcome Trust.

EXECUTIVE SUMMARY

Despite producing very little greenhouse gas emissions that cause climate change, people living in small island developing States (SIDS) are on the front line of climate change impacts. These countries face a range of acute to long-term risks, including extreme weather events such as floods, droughts and cyclones, increased average temperatures and rising sea levels. Many of these countries already have a high burden of climate-sensitive diseases that are then exacerbated by climate change. As is often the case, nations at greatest risk are under-resourced and unprotected in the face of escalating climate and pollution threats. In recent years, the voice of the small island nation leaders has become a force in raising the alarm for urgent global action to safeguard populations everywhere, particularly those whose very existence is under threat.

Recognizing the unique and immediate threats faced by small islands, WHO has responded by introducing the WHO Special Initiative on Climate Change and Health in Small Island Developing States (SIDS). The initiative was launched in November 2017 in collaboration with the United Nations Framework Convention on Climate Change (UNFCCC) and the Fijian Presidency of the COP23 in Bonn Germany, with the vision that by 2030 all health systems in SIDS will be resilient to climate variability and climate change. It is clear that building resilience must happen in parallel with the reduction of carbon emissions by countries around the world in order to protect the most vulnerable from climate risks and to gain the health co-benefits of mitigation policies.

The WHO Special Initiative on Climate Change and Health in SIDS aims to provide national health authorities in SIDS with the political, technical and financial support required to better understand and address the effects of climate change on health.

A global action plan has been developed by WHO that outlines four pillars of action for achieving the vision of the initiative: empowerment of health leaders to engage nationally and internationally; evidence to build the investment case; implementation to strengthen climate resilience; and resources to facilitate access to climate finance. In March 2018, Ministers of Health gathered in Fiji to develop a Pacific Islands Action Plan to outline the implementation of the SIDS initiative locally and to identify national and regional indicators of progress.

As part of the regional action plan, small island nations have committed to developing a WHO UNFCCC health and climate change country profile to present evidence and monitor progress on health and climate change. In the Western Pacific region in particular, the SIDS initiative is a joint effort with For the Future: Towards the Healthiest and Safest Region. It highlights climate change, environment and health as a thematic priority for WHO's work in the Region. The goal is to ensure that countries and communities in the Region have the capacity to anticipate and respond to the health consequences of the changing climate and environment, with the health sector taking a lead role in cross-sectoral, multi-stakeholder efforts.

This WHO UNFCCC health and climate change country profile for Fiji provides a summary of available evidence on climate hazards, health vulnerabilities, health impacts and progress to date in the health sector's efforts to realize a climate-resilient health system.

KEY RECOMMENDATIONS

1 STRENGTHEN THE IMPLEMENTATION OF THE CLIMATE CHANGE AND HEALTH STRATEGIC ACTION PLAN FOR FIJI

Fiji has an approved national Climate Change and Health Strategic Action Plan 2016–2020, which is being implemented within limited resources.

2 ASSESS HEALTH VULNERABILITY, IMPACTS AND ADAPTIVE CAPACITY TO CLIMATE CHANGE

Conduct a national assessment of climate change impacts, vulnerability and adaptation for health, including climate resilient and environmentally sustainable health care facilities. Ensure that results of the assessment are used for policy prioritization and the allocation of human and financial resources in the health sector.

3 STRENGTHEN INTEGRATED RISK SURVEILLANCE AND EARLY WARNING SYSTEMS

Integrate foodborne and waterborne diseases, nutrition, injuries and mental health issues related to climate change into existing monitoring systems and improve the use of meteorological information in these systems.

4 ADDRESS BARRIERS TO ACCESSING INTERNATIONAL CLIMATE CHANGE FINANCE TO SUPPORT HEALTH ADAPTATION

The main barriers have been identified as a lack of information on the opportunities and a lack of connection by health actors to climate change processes.

WHO RESOURCES TO SUPPORT ACTION ON THESE KEY RECOMMENDATIONS:
https://www.who.int/activities/building-capacity-on-climate-change-human-health/toolkit/

BACKGROUND

The island nation of the Republic of Fiji in the South Pacific Ocean is an upper middle-income country rich in natural resources. The oceanic tropical marine climate means the country experiences warm weather all year round with minimal temperature extremes and variable rainfall that is slightly higher in the warmest months. Most of the land comprises volcanic islands, and the country experiences a range of natural hazards including earthquakes, landslides, cyclones, flooding and storm surges *(1)*.

Though Fiji contributes minimally to global greenhouse gas emissions, this small island developing state is vulnerable to the effects of climate change. Fiji is already experiencing rising sea levels, coastal erosion, water shortages, salination of water supplies, depleted fishery stocks, large-scale flooding and an increase in vector-borne diseases *(1)* – all of which will likely increase as the effects of climate change become more pronounced. Furthermore, internal displacement as a result of climate is already being experienced in Fiji.

The Fiji Ministry of Health has been working to increase its capacity to monitor, assess and respond to hydro-meteorological disasters and climate sensitive diseases to reduce the health risks associated with climate change. Fiji has committed to reducing emissions by up to 30% against a business as usual level, and increasing electricity generation through renewable energy from 60% (2013) to 100% by 2030 *(1)*.

HIGHEST PRIORITY CLIMATE-SENSITIVE HEALTH RISKS IN FIJI

Direct effects	
Health impacts of extreme weather events	✓
Heat-related illness	
Indirect effects	
Water security and safety (including waterborne diseases)	✓
Food security and safety (including malnutrition and foodborne diseases)	✓
Vector-borne diseases	✓
Zoonoses	✓
Respiratory illness	
Disorders of the eyes, ears, skin and other body systems	✓
Diffuse effects	
Disorders of mental/psychosocial health	✓
Noncommunicable diseases	✓
Health systems problems	✓
Population pressures	

Source: Table adapted from WHO Regional Office for the Western Pacific (2015) *(2)*.

CLIMATE HAZARDS RELEVANT FOR HEALTH

Climate hazard projections for Fiji

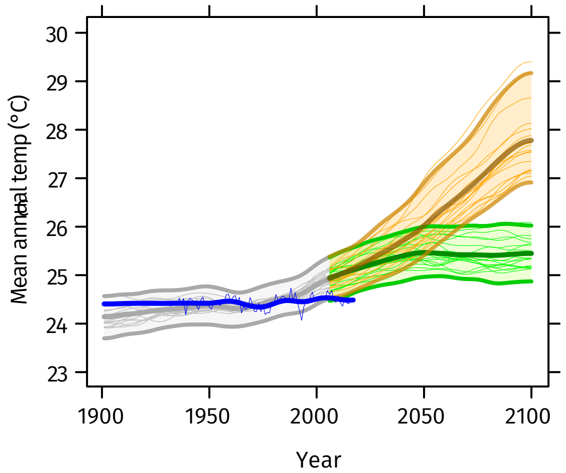
Country-specific projections are outlined up to the year 2100 for climate hazards under a 'business as usual' high emissions scenario compared to projections under a 'two-degree' scenario with rapidly decreasing global emissions (see Figures 1–5).

The climate model projections given below present climate hazards under a high emissions scenario, Representative Concentration Pathway 8.5 (RCP8.5 – in orange) and a low emissions scenario (RCP2.6 – in green).[a] The text describes the projected changes averaged across about 20 global climate models (thick line). The figures[b] also show each model individually as well as the 90% model range (shaded) as a measure of uncertainty and the annual and smoothed observed record (in blue).[c] In the following text the present-day baseline refers to the 30-year average for 1981–2010 and the end-of-century refers to the 30-year average for 2071–2100.

Modelling uncertainties associated with the relatively coarse spatial scale of the models compared with that of small island states are not explicitly represented. There are also issues associated with the availability and representativeness of observed data for such locations.

Rising temperature

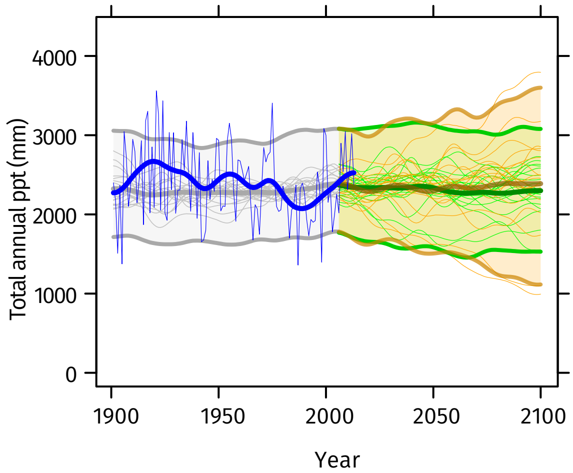
FIGURE 1: Mean annual temperature



Under a high emissions scenario, the mean annual temperature is projected to rise by about 2.7°C on average by the end-of-century (i.e. 2071–2100 compared with 1981–2010). If emissions decrease rapidly, the temperature rise is limited to about 0.7°C.

Little change in total precipitation

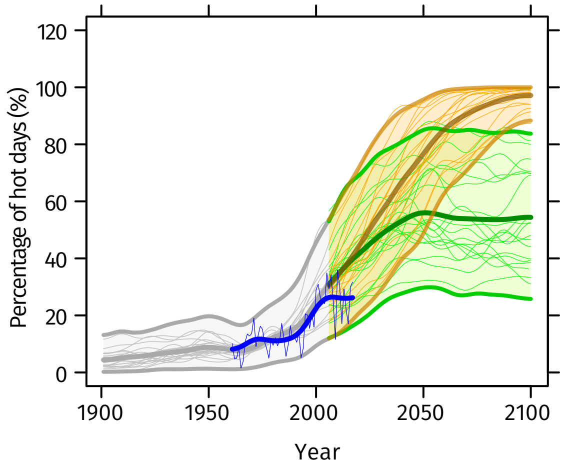
FIGURE 2: Total annual precipitation



Total annual precipitation is projected to remain almost unchanged on average under a high emissions scenario, although the uncertainty range is large (-47% to +31%). If emissions decrease rapidly there is little projected change on average, with an uncertainty range of -23% to +9%.

More high temperature extremes

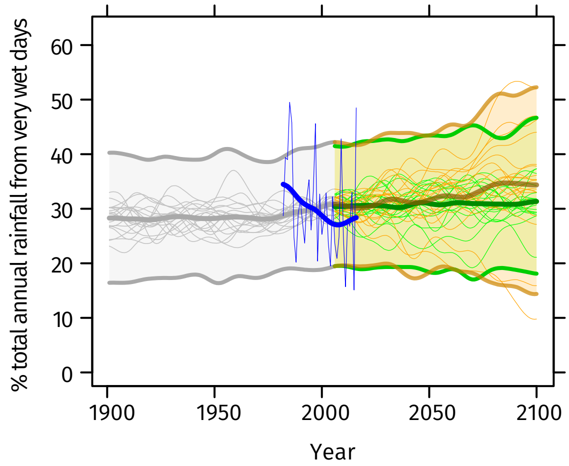
FIGURE 3: Percentage of hot days ('heat stress')



The percentage of hot days[d] is projected to increase substantially from about 20% of all days on average in 1981–2010 (10% in 1961–1990). Under a high emissions scenario, almost 100% of days on average are defined as 'hot' by the end-of-century. If emissions decrease rapidly, about 55% of days on average are 'hot'. Note that for the last few years the models tend to overestimate the observed increase in hot days. Similar increases are seen in hot nights *(4)* (not shown).

Small increase in extreme rainfall

FIGURE 4: Contribution to total annual rainfall from very wet days ('extreme rainfall' and 'flood risk')

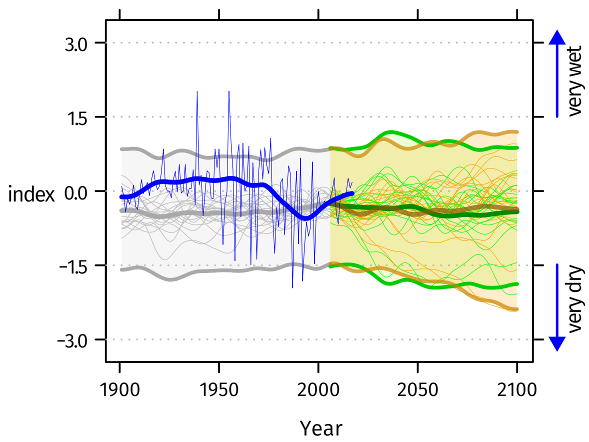


Under a high emissions scenario, the proportion of total annual rainfall from very wet days[e] about 30% for 1981–2010) could increase a little by the end-of-century (to about 35% on average with an uncertainty range of about 15% to 50%), with little change if emissions decrease rapidly. These projected changes are accompanied by little or no change in total annual rainfall even under a high emissions scenario (see Figure 2).

FIGURE 5: Standardized Precipitation Index ('drought'), 1900–2100

The Standardized Precipitation Index (SPI) is a widely used drought index which expresses rainfall deficits/excesses over timescales ranging from 1 to 36 months (here 12 months, i.e. SPI12).[f] It shows how at the same time extremely dry and extremely wet conditions, relative to the average local conditions, change in frequency and/or intensity.

SPI12 values for Fiji show little projected change from an average of about -0.4, indicating little change on average in the frequency and/or intensity of wet episodes and drought events, though year-to-year variability remains large. A few models indicate larger decreases (more frequent/intense drought events) or increases (more frequent/intense wet events).



NOTES

[a] Model projections are from CMIP5 for RCP8.5 (high emissions) and RCP2.6 (low emissions). Model anomalies are added to the historical mean and smoothed.

[b] Analysis by the Climatic Research Unit, University of East Anglia, 2018.

[c] Observed historical record of mean temperature is from CRU-TSv3.26 and total precipitation is from GPCC. Observed historical records of extremes are from JRA55 for temperature and from GPCC-FDD for precipitation.

[d] A 'hot day' ('hot night') is a day when maximum (minimum) temperature exceeds the 90th percentile threshold for that time of the year.

[e] The proportion (%) of annual rainfall totals that falls during very wet days, defined as days that are at least as wet as the historically 5% wettest of all days.

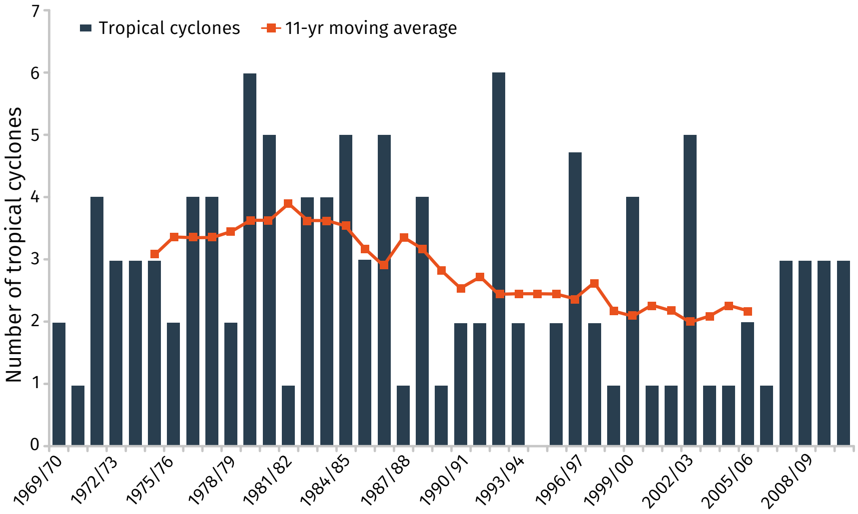
[f] SPI is unitless but can be used to categorise different severities of drought (wet): above +2.0 extremely wet; +2.0 to +1.5 severely wet; +1.5 to +1.0 moderately wet; +1.0 to +0.5 slightly wet; +0.5 to -0.5 near normal conditions; -0.5 to -1.0 slight drought; -1.0 to -1.5 moderate drought; -1.5 to -2.0 severe drought; below -2.0 extreme drought.

Tropical cyclones

Tropical cyclones normally affect Fiji between November and April, although during El Nino years tropical cyclones can also occur in October and May. Between 1969/70 and 2010/11, 117 tropical cyclones crossed the Fiji Exclusive Economic Zone (EEZ) (Figure 6). This represents an average of 28 cyclones per decade. Interannual variability in the number of tropical cyclones in the Fiji EEZ is large *(3)*.

FIGURE 6: Time series of the observed number of tropical cyclones developing within and crossing the Fiji EEZ per season. The 11-year moving average is in orange

Source: Australian Bureau of Meteorology and CSIRO. Climate Variability, Extremes and Change in the Western Tropical Pacific: New Science and Updated Country Reports, 2014 *(3)*.



POTENTIAL FUTURE CHANGES IN TROPICAL CYCLONES: A GLOBAL PERSPECTIVE (4–11)[a]

Total number	Intensity	Frequency of category 4 and 5 events	Average precipitation rates near storm centre
Decrease	Increase	Increase	Increase

Increase Decrease

Sea level rise

Sea level rise is one of the most significant threats to low-lying areas on small islands and atolls. Research indicates that rates of global mean sea level rise are almost certainly accelerating as a result of climate change. The relatively long response times to global warming mean that sea level will continue to rise for a considerable time after any reduction in emissions.