SOLOMON ISLANDS

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

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"Strengthening health systems resilience is a high priority; act now."

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 may be exacerbated by climate change. Some of the 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 23rd Conference of the Parties (COP23) to the UNFCCC, held in Bonn, Germany in 2017, with the vision that by 2030 all health systems in SIDS will be resilient to climate variability and climate change. It is clear, however, that, in order to protect the most vulnerable from climate risks and to gain the health co-benefits of mitigation policies, building resilience must happen in parallel with the reduction of carbon emissions by countries around the world.

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.

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

KEY RECOMMENDATIONS

1 INSTITUTIONALIZE CLIMATE CHANGE IN THE MINISTRY OF HEALTH AND MEDICAL SERVICES ORGANIZATIONAL STRUCTURE

A division within the Ministry of Health and Medical Services with existing supportive legislation to include climate change and health as a core function, to oversee the implementation of the Solomon Islands National Climate Change and Health Adaptation Plan 2011 and to strengthen the weak collaboration within the health sector and with other sectors. Relevant climate change and health activities to be streamlined into respective department's annual operational plan where relevant.

2 STRENGTHEN IMPLEMENTATION OF THE CLIMATE CHANGE AND HEALTH STRATEGIC ACTION PLAN

The Ministry of Health and Medical Services has approved the National Climate Change and Health Adaptation Plan 2011. This plan is to be updated with inclusion of key performance indicators and specific budget requirements. It is to be aligned to the National Health Strategic Plan 2016–2020, the National Climate Change Policy 2012, the National Development Strategy 2016–2019 and the United Nations (UN) Sustainable Development Goals. However, implementation remains moderate. Main barriers to implementation have been identified as insufficient funding and a lack of adequate information systems and reporting with respect to health and climate change issues.

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

Conduct a national assessment of climate change impacts, vulnerability and adaptation for health in collaboration with the Climate Change Division, Ministry of Environment, Climate Change and Disaster Management (MECCDM). Cover both community and health care facilities in the assessment and use results of the assessment for policy prioritization and allocation of resources.

4 STRENGTHEN INTEGRATED RISK SURVEILLANCE AND EARLY WARNING SYSTEMS

The current surveillance system to incorporate climate data, geographical and other relevant environmental data with the purpose of surveillance and early warning system for health. There is a need for human resources and institutional capacity-building for this purpose, including strengthening the National Public Health Laboratory to provide scientific support.

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

Strengthen local policy, institutional, technical and knowledge capacities, to support preparation of a country proposal for specific funding. There must be ongoing dialogue between the health sector and potential funders in order to provide relevant information for funding purposes. A technical working group is to be established to drive resource mobilization for the health sector.

6 INCLUDE THE HEALTH CO-BENEFITS OF MITIGATION AND ADAPTATION ACTIONS IN THE NATIONAL CLIMATE CHANGE POLICY INCLUDING SECTOR-SPECIFIC POLICIES FOR SOLOMON ISLANDS

The Ministry of Health and Medical Services to advocate for health co-benefits to be incorporated into the National Climate Change Policy and other sector-specific policies.

BACKGROUND

Solomon Islands is a scattered archipelago of over 900 small islands located in the 'Ring of Fire', the earthquake belt of the Pacific Region *(1)*. Geographically, the islands are a combination of mountainous lands and low-lying coral atolls *(2)*. Similar to other islands in the Pacific Region, the Solomon Islands are vulnerable to extreme weather events such as drought and flooding, which are associated with food and water shortage, flooding, and landslides *(1)*. Other potential hazards include tropical cyclones, volcanic activity, earthquakes and tsunamis *(1)* that threaten public health, ecosystems and infrastructure.

Recent trends have indicated increases in temperature, sea level rise, ocean acidification and coral bleaching associated with global climate change *(3)*. This poses a risk to more than 80% of the population that resides in low-lying coastal areas *(1)*. Accelerated coastal erosion and salinization of well water is an additional risk for several of the smaller, low-lying islands *(1)*.

Health risks of considerable concern include vector-borne diseases, respiratory diseases, waterborne and foodborne diseases, malnutrition, and noncommunicable diseases *(4,5)*. Measures to address these health concerns include creating a national policy framework, capacity-building and institutional strengthening, and increased public awareness and education *(1)*.

The Solomon Islands face socioeconomic challenges that exacerbate existing vulnerabilities *(1)*. In addition to being vulnerable to natural disasters and extreme events, other obstacles include a lack of access to electricity and roads for inland villages, limited government services, and political instability that make it difficult for government agencies to implement effective national programmes *(1)*.

HIGHEST PRIORITY CLIMATE-SENSITIVE HEALTH RISKS FOR SOLOMON ISLANDS

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: Adapted and updated from reference *(4)*.
Please refer to reference *(4)* for further information on each category.

CLIMATE HAZARDS RELEVANT FOR HEALTH

Climate hazard projections for Solomon Islands

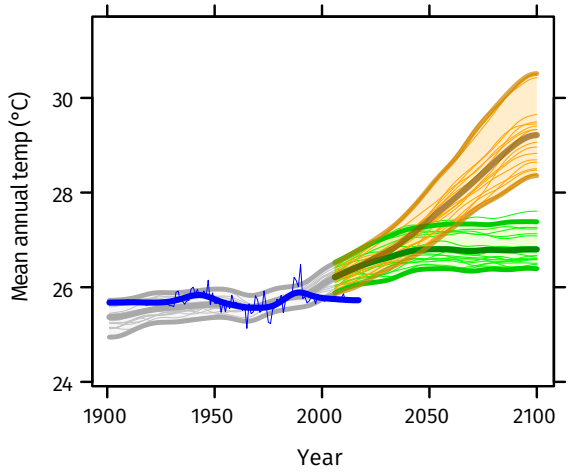
Country-specific projections are outlined up to the year 2100 for climate hazards under a 'business as usual' high emissions scenario compared to projections under a 'two-degree' scenario with rapidly decreasing global emissions (see Figures 1–5).

The climate model projections 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

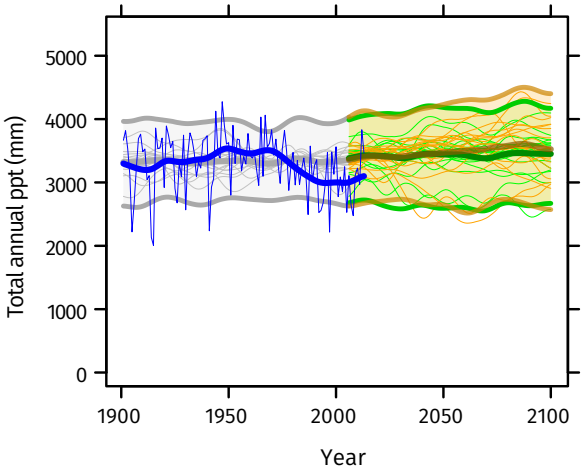
FIGURE 1: Mean annual temperature, 1900–2100



Under a high emissions scenario, mean annual temperature is projected to rise by about 2.9 °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 0.8 °C.

Small increase in total precipitation

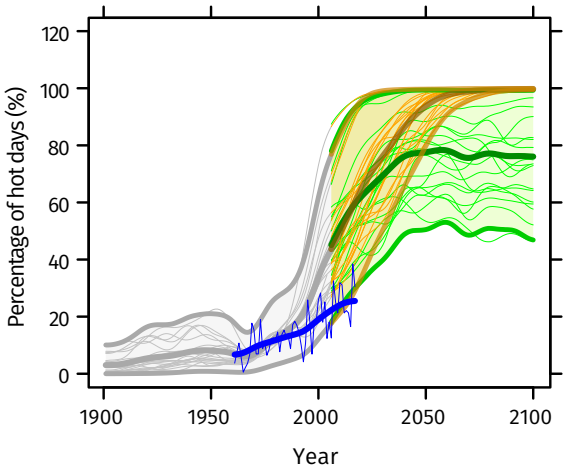
FIGURE 2: Total annual precipitation, 1900–2100



Total annual precipitation is projected to increase by about 6% on average under a high emissions scenario, although the uncertainty range is large (-6% to +23%). If emissions decrease rapidly there is little projected change on average: an increase of 3% with an uncertainty range of -8% to +12%.

More high temperature extremes

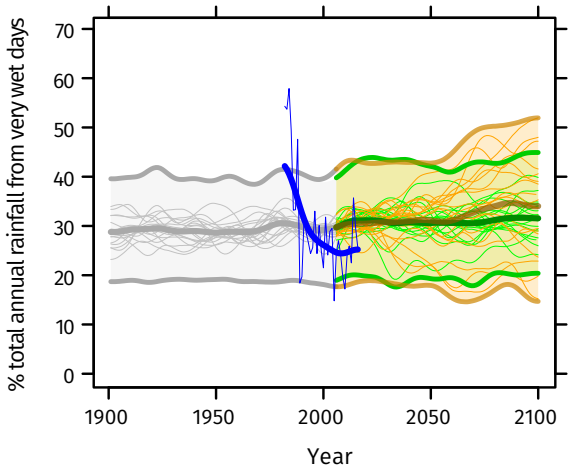
FIGURE 3: Percentage of hot days ('heat stress'), 1900–2100



The percentage of hot days[d] is projected to increase substantially from about 15% of all observed 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 75% of days on average are 'hot'. Note that the models tend to over-estimate the observed increase in hot days (by about 10% on average for 1981–2010). Similar increases are seen in hot nights[d] (not shown).

Small increase in extreme rainfall

FIGURE 4: Contribution of very wet days ('extreme rainfall' and 'flood risk') to total annual rainfall, 1900–2100

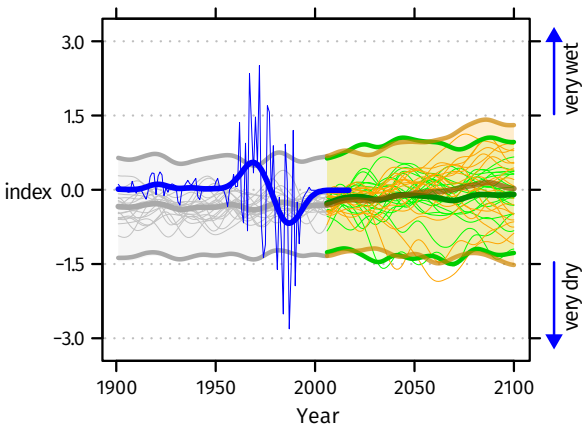


Under a high emissions scenario, the proportion of total annual rainfall from very wet days[e] (about 30% for 1981–2010) could increase a little by the end-of-century (to around 34% on average with an uncertainty range of about 15% to 50%), with less change if emissions decrease rapidly. These projected changes are accompanied by small projected increases in total annual rainfall (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.

Under a high emissions scenario, SPI12 values are projected to increase from about -0.4 to about 0.1 on average by the end of the century (2071–2100), with a number of models indicating substantially larger increases and hence more frequent and/or intense wet episodes. Year-to-year variability remains large with dry episodes continuing to occur into the future.



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.

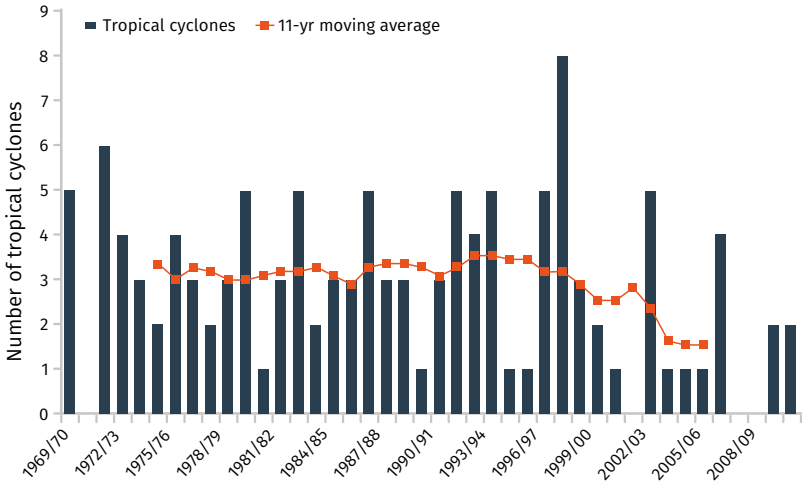
[e] The proportion (%) of annual rainfall totals that falls during very wet days, defined as days that are at least as wet as the historically 5% wettest of all days.

[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.

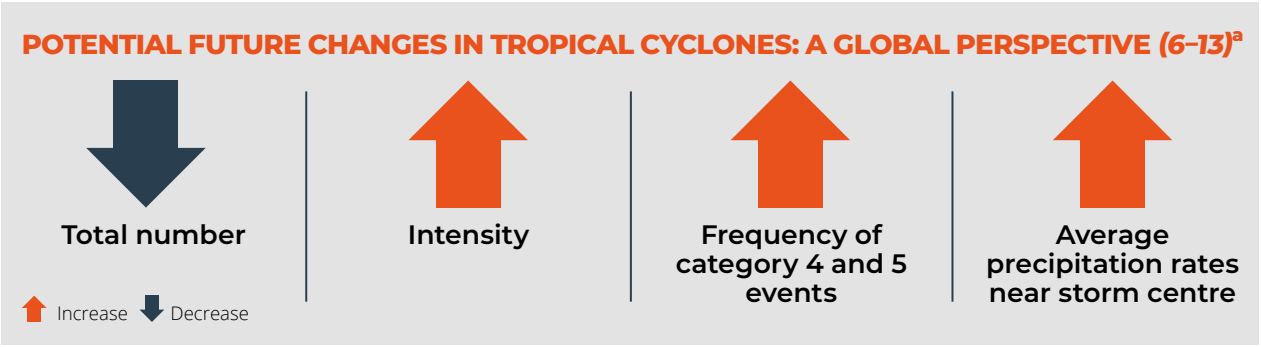
Tropical cyclones

Tropical cyclones affect Solomon Islands mainly between November and April. An average of 29 cyclones per decade developed within or crossed the Solomon Islands Exclusive Economic Zone (EEZ) between the 1969/70 and 2010/11 seasons (see Figure 6). The interannual variability in the number of tropical cyclones in Solomon Islands EEZ is large *(3)*.

FIGURE 6: Time series of the observed number of tropical cyclones developing within and crossing the Solomon Islands Exclusive Economic Zone. 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)*.



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 global mean sea level rise rates 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