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## CLIMATE CHANGE PROFILE



**KIRIBATI**

**VERSION 1**

### **THE PACIFIC COMMUNITY GLOBAL CLIMATE CHANGE ALLIANCE PLUS - SCALING UP PACIFIC ADAPTATION PROJECT**

***Funded by the European Union***

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# Kiribati

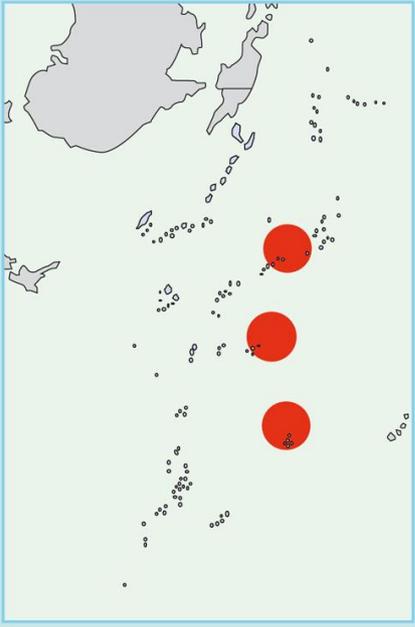
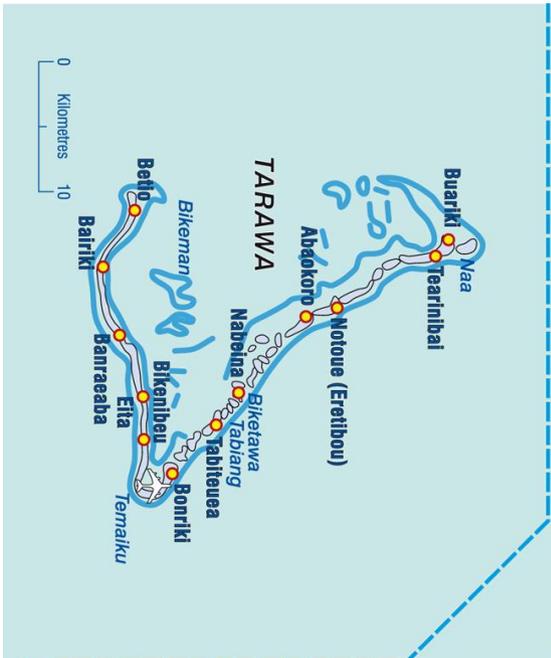
- Makin
- Butaritari
- Marakei
- Apalang
- T A R A W A
- Maiana
- Kuria
- Abemama
- Aranuka
- Banaba
- Norouiti
- Berru
- Mikunau
- Tabiteuea
- Onotoa
- Tamana
- Avorae

- Howland (US) (É.-U.)
- Baker (US) (É.-U.)
- Phoenix Islands
- Kanton
- Enderbury
- Mckean
- Birnie
- Rawaki
- Nikumaroro
- Orona
- Manra

- Palmyra (US) (É.-U.)
- Teraina
- Tabuaeran
- Kiritimat
- Jarvis (US) (É.-U.)

- Central Line Islands
- Îles de la ligne (Centre)
- Starbuck
- Malden

- Penthrin (Cook Islands)
- Southern Line Islands
- Îles de la ligne (Sud)
- Flint
- Vostok
- Caroline



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## Abbreviations

ADB	Asian Development Bank
CCA	Climate Change Adaptation
AusAID	Australia Agency for International Development
CCAF	Climate Change Adaptation Framework
CCCPIR	SPC/GIZ Coping with Climate Change in the Pacific Island Region project
DRM	Disaster Risk Management
EU	European Union
GCCA: PSIS	Global Climate Change Alliance: Pacific Small Island States project
GCCA+ SUPA	Global Climate Change Alliance Plus – Scaling Up Pacific Adaptation project
GDP	Gross Domestic Product
GEF	Global Environment Facility
GIS	Geographic Information System
IMF	International Monetary Fund
JNAP	Joint National Action Plan
KAP	Kiribati Adaptation Programme
KDF	Kiribati Development Plan
KJIP	Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management
KNEG	Kiribati National Expert Group on Climate Change and Disaster Risk Management
LDC	Least Developed Country
MELAD	Ministry of Environment, Lands and Agriculture Development
MFED	Kiribati Ministry of Finance and Economic Development
MDG	Millennium Development Goals
NAPA	National Adaptation Programme of Action
OB-SRMU	Office of the President Strategic Risk Management Unit
PEFA	Public Expenditure and Financial Accountability Framework Assessment
PFM	Public Financial Management system
PIFS	Pacific Islands Forum Secretariat
RERF	Revenue Equalization Reserve Fund
SIDS	Small Island Developing States
SPC	The Pacific Community
SPREP	Secretariat of the Pacific Environment Programme
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change

## OBJECTIVE OF THE CLIMATE CHANGE PROFILE

This climate change profile for the Federated States of Micronesia (FSM) has been prepared as part of the Pacific Community's (SPC) Global Climate Change Alliance Plus: Scaling Up Pacific Adaptation (GCCA+ SUPA) project.

The overall objective of the GCCA+ SUPA project is to enhance climate change adaptation and resilience within ten Pacific Island countries, namely Cook Islands, Federated States of Micronesia (FSM), Fiji, Kiribati, Republic of Marshall Islands (RMI), Nauru, Niue, Palau, Tonga, and Tuvalu. The logic behind the design of the project is to learn from the past in order to scale up Pacific adaptation and address capacity gaps.

This climate change profile is specific in nature and seeks to inform the GCCA+ SUPA project as well as the larger SPC climate change support team. It commences with a section on the country's background, including geography, future climate, economy, financial management and aid delivery. This is followed by a section focusing on the country's response to climate change, including climate change projections, institutional arrangements, on-going adaptation activities and climate change priorities. The profile is a work in progress and will be revised and enhanced as the project develops.

## COUNTRY BACKGROUND

### Introduction

Country Information	
Geographic coordinates	Lat. 4°N–3°S, Long. 157°W–172°E
Total land area	811 km <sup>2</sup>
Coastline	1,410,000 km
Exclusive economic zone	3,600,000 km <sup>2</sup>
Population (2018 estimate)	120,100
Population forecast (2025)	132,270
Annual population growth rate	2.1%
Population density	148 people per km <sup>2</sup>
Human Development Index	0.612 <sup>i</sup>
Access to improved water supply <sup>ii</sup>	66.9% of the total population
Improved sanitation facilities <sup>iii</sup> (2015 est.)	39.7% of households have access
Child mortality rate	54 children die per 1000 live births

The Republic of Kiribati is made up of 33 scattered low-lying islands, dispersed over 3.5 million km<sup>2</sup> in the central Pacific Ocean. From north to south of the group the distance is only 800 km, but from east to west it is more than 3210 km. There are three main island groups: Gilbert, Phoenix and the Line Islands. Kiribati consists of 32 low-lying atolls that rise to no more than a few metres above sea level and Banaba, a raised coral island with a highest point of 81m. Over half of its population lives in Tarawa (in the Gilbert islands), which has seen a 12.4% increase in population between 2010 and 2015 and now has a population density of 148 people per square kilometre.<sup>iv</sup>

## Government

Formerly part of the British territory known as the Gilbert and Ellice Islands, Kiribati became an independent republic in 1979, with full membership of the United Nations and the Pacific Islands Forum.

The country is member of the Commonwealth and adopts the Westminster model of government. It is a sovereign, democratic state with a 42 member *Maneaba ni Maungatabu* (house of parliament), elected every four years. The *Beretitenti* (President) is elected from among three or four candidates nominated by the *Maneaba* from its ranks. The *Beretitenti* chooses a twelve-member cabinet from the *Maneaba*.<sup>v</sup>

The outer islands are heavily represented in parliament, with 35 members representing the 50,000 in the outer islands and six members for South Tarawa.

There are 20 island councils and three urban councils. The budget provides annual funding to these councils, totalling around AUD 1.2 million. Councils set policies for agriculture, livestock, and fisheries; buildings and town and village planning; education; forestry and trees; land; famine and drought relief; markets; public health; public order, peace, and safety; communications and public utilities; and trade and industries. Members of the island councils wield discretionary power by issuing licenses for business development and setting such prices as bus fares.<sup>vi</sup>

Table 1 Ministries and offices of government

Ministry of Commerce, Industry and Cooperatives	(MCIC)
Ministry of Communications, Transport and Tourism Development	(MCTTD)
Ministry of Education, Youth and Sport Development	(MEYSD)
Ministry of Environment, Lands and Agricultural Development	(MELAD)
Ministry of Finance and Economic Development	(MFED)
Ministry of Fisheries and Marine Resources Development	(MFMRD)
Ministry of Foreign Affairs and Immigration	(MFAI)
Ministry of Health and Medical Services	(MHMS)
Ministry of Internal Affairs and Social Development	(MISA)
Ministry of Labour and Human Resources Development	(MLHRD)
Ministry of Public Works and Utilities	(MPWU)
Ministry of the Line and Phoenix Islands	(MLPI)
Office of the Attorney General	(OAG)
Office of the President	(OB)

## National and sector policies and strategies

The Kiribati government maintains a national development plan, the Kiribati Development Plan (KDP) 2016-2019 with its accompanying set of indicators.<sup>vii</sup> It has been founded on the following guiding principles including: managing population growth; strengthened governance; improved infrastructure; stable macroeconomic framework; economic growth; improved access to basic services; improved health standards; climate change adaptation; improved education standards; reduced poverty; gender equity and empowerment of women; and a clean environment. The KDP is traditionally prepared early in the term of each new parliament and is guided by a policy statement prepared by each incoming government. The present KDP 2016–2019<sup>viii</sup> has six broad key policy areas (KPA) derived from wide consultations undertaken with the various stakeholders that were aligned with line ministry plans and the plans of key development partners. The key policy areas are listed below.

- 1) **KPA 1: Human resource development.** The key objective is to increase access to and delivery of good quality, inclusive, equitable opportunities as well as strengthening acquisition of relevant technical and professional skills for the domestic and export market through a revamped education and training system and through human development policies for I-Kiribati by the year 2015.
- 2) **KPA 2: Economic growth and poverty reduction.** The key objective is to enhance inclusive economic development through improving and increasing sustainable employment, financial inclusion for vulnerable groups, structural and fiscal reforms, and accelerating private sector development by the year 2015.
- 3) **KPA 3: Health** The key objective is to increase access to (and delivery of) good quality health services (including awareness and promotion of healthy lifestyles) so as to improve health and well-being for all I-Kiribati by the year 2015.
- 4) **KPA 4: Environment** The key objective is to facilitate sustainable development by mitigating the effects of climate change through approaches that protect biodiversity and support the reduction of environmental degradation by the year 2015.
- 5) **KPA 5: Governance** The key objective is to strengthen national governance systems so as to promote the principles of good governance including accountability, transparency, inclusiveness and public/private sector reforms for I- Kiribati by the year 2015.
- 6) **KPA 6: Infrastructure** The key objective is to facilitate economic growth, trade, industrialisation and well-being for technological and social transformation through the upgrade and/or development of physical infrastructure, such as sea passages/airports and roads by the year 2015.

The KDP sets out objectives and supporting strategies for each KPA. The KDP 2016-19 takes into account various international obligations that the Government of Kiribati has assented to. These include the Sustainable Development Goals (SDGs), the Istanbul Plan of Action, the Small Island Developing States (SIDS) Accelerated Modalities of Action (SAMOA) Pathway and the Framework for Pacific Regionalism.

In particular, all SDG targets and indicators have been reviewed and assessed for relevance to Kiribati's context, including initial country conditions in each Key Priority Area and accounting for progress possible in the four-year timeframe of this Plan. A pathway approach to progressing towards achievement of the SDG's has been adopted, cognisant of guiding principles underscored in the 2030 UN Development Agenda, namely the need to account for national realities, capacities, levels of development and respecting national policies and priorities. The KDP provides a framework for development so that donors and government agencies have a clear understanding of the policy directions of the Government.

In addition to the four-yearly KDP, the Kiribati Government also has a 20-year vision for the development of a wealthy, healthy, and peaceful nation. Covering the period out to 2036, the *Kiribati Vision 20* (or KV20) is designed around the enabling environment and social benefits from the key economic sectors of tourism and fisheries. As the KDP broadly aligns to the 2030 Agenda, the integration of the Mid-Term Review of the KDP with the Voluntary National Review (VNR) aims to assess national goals alongside international and regional commitments in a single report.

The Government of Kiribati is currently revising institutional arrangements and technical committees relevant to climate change. A Water and Sanitation Taskforce made recommendations to establish a National Infrastructure Committee to provide, among other things, direction and coordination for the activities of the various infrastructure development projects in the country. A technical level Water Quality Committee has also been established. In addition, a Kiribati National Expert Group on Climate Change and Disaster Risk (KNEG) has in collaboration with SPC and other partners developed the Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management (KJIP).

Given the significant investments made by Kiribati over the years in terms of Climate Change Adaptation (CCA) and the similarities in focus between CCA and Disaster Risk Management (DRM) the KJIP should ensure that any overlaps in relation to previous CCA investments will be taken into account.

In early February 2013, a Regional Support Team (RST) consisting of SPC, SPREP, UNDP, PACCSAP and GIZ completed a first consultation in Kiribati. The following draft working objective and several

strategies were agreed among the KNEG: *“Priority actions to increase Kiribati resilience to climate change and reduce disaster risks at national, sector and community level are agreed and potential internal and external sources of funding identified. Climate change and disaster risk management actions are effectively coordinated, monitored and communicated among national and community stakeholders, CSOs, agencies and development partners.”*<sup>va</sup>

- Holistic, consultative and participatory approach
- Access Finance & Resources
- Capacity Building & Technology Transfer
- Roles & Responsibilities & Coordination
- Mainstreaming CC & DRM
- Awareness, Communication & Education

## **SDGs in Kiribati**

Kiribati, while rated as one of the poorest countries in the Pacific, has made remarkable progress since 2014 towards its SGD goals. Increasing employment opportunities in the public and private sector have been complemented by increases in overseas worker schemes, but unemployment is still high. However, economic progress relies heavily on the continued performance of the national fishery, which can be volatile and is also under threat from climate change.

Recent years have seen significant advances in school enrolment rates, basic literacy, and numeracy, particularly for girls and young women. There have also been improvements in universal accessibility, despite the high costs of service delivery and limited capacity at tertiary institutions.

Kiribati’s health challenges are stark: under 5 and maternal mortality rates remain among the highest in the Pacific; malnutrition is a common issue; non-communicable disease prevalence is high; water issues are acute; and Tuberculosis is persistent.

Gender-based violence and wider gender issues are a key social and economic issue.

Climate change is a serious challenge for Kiribati, affecting almost every facet of daily life. From acute water shortages, tidal inundation, seawater intrusion, and heat and storm events, Kiribati risks reversing recent development gains through climate events and ongoing impacts. There are significant capital works underway in transport, water, power, sanitation, coastal protection and food security, but the pace of climate change threatens to outpace these measures. Importantly, climate change has the potential to disrupt the largest economic resource available to Kiribati – the tuna fishery – through anticipated impacts on tuna migration and spawning patterns across the Pacific.

## **Economy**

The country has a subsistence economy with copra, seaweed and fisheries being the main sources of foreign exchange earnings. Revenue from the sale of fishing licenses for foreign vessels in the Kiribati exclusive economic zone contributes some AUD 2–3 million per annum. The public sector dominates Kiribati's economy. It provides two-thirds of all formal sector employment and accounts for almost 50% of the GDP. Remittances and earnings from the Revenue Equalization Reserve Fund are also important. Tourism plays a fairly modest role in the Gilbert Islands but for the Northern Line Islands, especially Christmas Island, tourism has a high priority.<sup>ix,x</sup>

Kiribati is highly exposed to external economic shocks, particularly surges in food and fuel commodity prices, due to its limited revenue base and high dependency on imports. Progress toward achieving the MDGs is poor, even by regional standards, particularly in certain aspects of health, water, and sanitation. It is unlikely that Kiribati will achieve the target of halving poverty by 2015. High rates of population growth in urban centres stress water and sanitation infrastructure, causing high incidence of water-borne disease.

#### **Economic information**

Gross domestic product (GDP) (2017 est)	USD 227 million
GDP per capita (2017 est)	USD 2,000
Annual growth (2017 est)	3.1%
Inflation rate (2017 est)	0.4%
Unemployment rate (2015 est)	9.3%

#### **Financial management**

As one of the most remote and geographically dispersed countries in the world, Kiribati faces enormous internal challenges for achieving effective administration. An assessment of Kiribati's public finance management (PFM) system was made in late 2009 using the Public Expenditure and Financial Accountability (PEFA) assessment. The resulting PFM performance report was based on outcomes for the 2006–2008 financial years. The results, as measured by the scores reported for the PEFA indicators, demonstrated that the present PFM system does not meet the requirements of a sound, basic PFM system.

Public sector reform, including strengthened budget management and state-owned enterprise reform, and infrastructure improvements, including the planned development of Kiritimati (Christmas) Island, are important for promoting private sector development and sustainable economic growth.<sup>xi</sup>

Ministries and public enterprises develop three year roll-on operational plans (known as ministry operational plans and business operational plans respectively) to execute the implementation of the KDP. It is intended that these plans and their respective budgets should be consistent with the KDP. The National Economic Planning Office is responsible for overall monitoring.<sup>xii</sup>

At present the Kiribati Ministry of Finance and Economic Development (MFED) does not prepare a formal macro-economic framework, setting out specific economic growth, balance of payments, exchange rate, inflation or credit growth forecasts to guide the development of budget fiscal forecasts. MFED does have access to economic forecasts prepared by the Asian Development Bank (ADB), the International Monetary Fund (IMF) and a range of international commercial and government organisations but, according to the EU Draft Roadmap to Budget Support, these generally have a limited influence on policymaking.

The government has limited reserves. In addition, unlike many other countries, the government is unable to draw on conventional monetary policies to influence the level of economic activity due to the absence of a central bank and an independent monetary policy. These constraints limit the government's ability to provide macro-economic support, particularly during periods of economic weakness. The impacts of the latter constraints are reflected in the estimated increase in the incidence of poverty from 22% in 2006 to 28% in 2009, following the recent global crisis. Consequently, macro-economic policy and control of aggregate demand is driven by fiscal considerations.

A modest increase in tax revenue is forecast as a result of a proposed tightening in the compliance regime for company tax and personal income tax. Increased effort in ensuring compliance with import duty rules is planned to help address declining import duty revenue.<sup>xiii</sup>

The government continues to implement a pro-poor bias in its expenditure, with a focus on improving the quality and delivery of services in health, education, outer island development and public utilities. The projected wages and salaries share of recurrent expenditure, however, increased from 48.5% in the 2010 budget to 52.1% in the 2011 budget.

#### Revenue Equalization Reserve Fund (RERF)

To help balance future recurrent budgets in the expectation of limited revenues, the RERF was established with AUD 556,000 in 1956. The Government of Kiribati is both the trustee and the beneficiary and therefore has sole authority over the investment, distribution and utilisation of RERF resources. A reserve fund committee, comprising the Minister for Finance and Economic Planning, Secretary to the Cabinet, Chief Accountant and two others appointed by the Minister, is responsible for overseeing and managing the RERF.

Initially the government followed a conservative policy of capital accumulation and investment, under which the RERF grew to AUD 69 million by 1979. In the early 1990s, as other revenue sources waned and overall fiscal expenditure steadily increased, there was mounting pressure to draw on the fund. In response, the government set an informal annual draw-down limit, which required the real value of the fund not to fall below the real 1996 level of AUD 4,500 per capita.<sup>(vi)</sup>

Since 2003, RERF withdrawals have increased, averaging AUD 35 million from 2006 to 2008, to finance sustained high budget deficits. The IMF estimated in 2009 that draw-downs should be no more than 6%–7% of GDP, yet from 2002 to 2008, annual draw-downs were over 14% of GDP on average. The per capita value of the RERF was estimated to be AUD 5,600 in 2009, which was significantly below its peak of AUD 7,132 in 2000 and its 1996 real value per capita. This situation is worsened by the slump in global financial markets, which reduced the market value of the RERF by an estimated 20% in 2008. A continuation of this trend could undermine the fund's capacity to fulfil its role as a permanent source of budget support. A more prudent approach to government expenditure is needed to reduce the drain on the fund. The RERF also provides strong asset backing to government borrowing, though the government has not been an active borrower in recent years, preferring to use RERF funds directly.<sup>x</sup>

The government is currently addressing three key fiscal policy topics, namely the RERF, the governance of public enterprises, and tax revenues. The IMF has recently reviewed the RERF and changes are likely to be made soon in the way the fund is managed to help ensure that the real value of the RERF on a per capita basis is maintained. Significant subsidies continue to be given to public enterprises; these amounted to AUD 7.9 million in 2010. The ADB is assisting the government in working towards a long-term reduction in the value of these subsidies. The government will have to adopt an overall prudent fiscal stance in the medium term to ensure public debt remains at a manageable level.<sup>xiv</sup>

#### Aid delivery and donor support

Kiribati receives significant support from its development partners that finances almost all the government's development expenditure. External grants in 2010 were estimated at AUD 55.8 million. The government also borrowed AUD 4 million for development projects in 2010. No donor provides direct budget support at present. The proportion of aid flows that are managed using national procedures is relatively low.

A debt sustainability analysis undertaken jointly by the IMF and the World Bank in 2010 demonstrated that, despite relatively current low external public debt, Kiribati is at high risk of debt distress. Kiribati's debt outlook is projected to deteriorate in the future as Kiribati undertakes infrastructure investment and meets the fiscal costs of climate change.<sup>x</sup>

The Kiribati government holds a biennial Development Partners Forum. The first Forum was held in March 2010, and the second in July 2012. Recent experience in education and health has demonstrated how the existence of sector strategic plans can promote improved donor coordination.

Donor coordination features prominently in the 2011 draft PFM plan for Kiribati. Achieving an increase in donors' use of the Kiribati PFM system is one of the five strategic objectives set out in the draft PFM plan.

## RESPONSE TO CLIMATE CHANGE

### Current and future climate

#### Current climate

Overall, Kiribati has a hot, humid tropical climate. In the case of Tarawa, annual maximum and minimum temperatures are consistently high throughout the year with a range of less than 1°C. There is a large variation in mean annual rainfall across Kiribati. A notable zone of lower rainfall, less than 1500 mm per year exists near the equator and extends eastwards from 170°E. On average, Tarawa receives just under 2100 mm, while the islands of Butaritari only 350 km to the north receive in the vicinity of 3000 mm. Driest and wettest periods in the year vary from location to location.<sup>xv</sup>

There is a strong relationship between the El Niño-Southern Oscillation and Kiribati climate. El Niño is generally associated with above normal rainfall and strong westerly winds, while La Niña is associated below normal rainfall.

The impact of droughts, usually associated with La Niña, can be very severe in Kiribati. For example 1971, 1985, 1998 and 1999 annual rainfall was less than 750 mm. The recent drought from April 2007 to early 2009 severely affected the southern Kiribati islands and Banaba. During this period, ground water turned brackish and the leaves of most plants turned yellow. Copra production declined, which is the main income source for people in the outer islands. During the 1970–1971 drought, the complete loss of coconut trees was reported at Kenna village on Abemama in central Kiribati. Other important extreme events include storm surges and extreme sea levels<sup>xvi,xvii</sup>

#### Expected future climate<sup>xviii</sup>

Future projections of climate change for Kiribati generally show the following changes over the next 20 to 30 years: (i) average air temperature will increase by 0.30C to 1.30C; (ii) increase in the number of very hot days; (iii) decrease in the cooler weather; (iv) increase in average annual and seasonal rainfall; (v) increase in sea surface temperature; (vi) increases in ocean acidification; and (vii) sea level will continue to rise. Projections about the future behaviour of El Niño-Southern Oscillation are uncertain at the moment.

Table 1: Climate change projections for Kiribati for 2030 and 2055 under the high emissions scenario (A2). In the summary table differences in projections are noted Gilbert Islands (G), Phoenix Islands (P) and Line Islands (L).

Climate variable	Expected change	Projected change by 2030 (A2)	Projected change 2055 (A2)	Confidence level
Annual surface temperature	Average air temperature will increase	+0.3 –1.3°C G +0.4–1.2°C P, L	+1.6 ± 0.6°C G +1.6 ± 0.5°C P +1.5 ± 0.5°C L	Moderate
Maximum temperature (1 in 20 year event)	More very hot days	N/A	+1.5 ± 0.6°C G +1.5 ± 0.8°C P +1.6 ± 0.9°C L	Low
Minimum temperature (1 in 20 year event)	Decline in cooler weather	N/A	+1.5 ± 2.0°C G +1.5 ± 2.1°C P, L	Low
Annual total rainfall	Annual rainfall will increase	+7 ± 21% G	+23 ± 34% G +22 ± 41% P	Low

		+8 ± 21% P +6 ± 19% L	+13 ± 40% L	
Wet season rainfall	Wet season rainfall will increase	+5 ± 25% G +6 ± 31% P +6 ± 23% L	+18 ± 40% G +20 ± 54% P +13 ± 41% L	Low
Dry season rainfall	Dry season rainfall will increase	+12 ± 25% G +12 ± 31% P +6 ± 18% L	+31 ± 47% G +29 ± 73% P +13 ± 41% L	Low
Sea-surface temperature	Sea surface temperature will increase	+0.8 ± 0.6°C G +0.8 ± 0.5°C P +0.7 ± 0.4°C L	+1.5 ± 0.7°C G +1.5 ± 0.6°C P +1.4 ± 0.6°C L	Moderate
Annual maximum acidification (aragonite saturation)	Ocean acidification will continue to increase	+3.4 ± 0.2 $\Omega$ ar	+3.1 ± 0.1 $\Omega$ ar	Moderate
Mean sea level	Sea level will continue to rise	+9 (5 to 14) cm	+19 (10 to 28) cm	Moderate

### Kiribati Intended Nationally Determined Contribution (INDC)

Kiribati is a Least Developed Country (LDC) SIDS with limited resources, and is extremely vulnerable to climate change impacts. Nonetheless, Kiribati commits to reduce its emissions by 13.7% by 2025 and 12.8% by 2030 compared to a Business as Usual (BaU) projection. The BaU projection is based on an extrapolation of historic data covering the period 2000-2014.

Current (2014) greenhouse gas emissions from Kiribati are approximately 63,000tCO<sub>2</sub>e/year. This is extremely small: representing approximately just 0.0002% of global emissions.

Kiribati also has very low per capita emissions, at just: 0.6tCO<sub>2</sub> per person in 2014. This is less than the average per capita emissions of sub-Saharan Africa (0.8tCO<sub>2</sub>/capita), and less than half of the estimated level required to stay below 2°C of warming, of around 1.5tCO<sub>2</sub>e/capita.

### Institutional arrangements for climate change

Historically, climate change issues in Kiribati were the mandate of the Ministry of Environment, Lands and Agriculture Development (MELAD). MELAD headed the national team under the Pacific Islands Climate Change Assistance Programme and was responsible for preparing both the National Communication (1999) as well as the Climate Change National Implementation Strategy (2003). MELAD secured a National Adaptation Program of Action (NAPA) grant in early 2004 and the NAPA team was mobilised to prepare a NAPA in accordance with United Nations Framework Convention on Climate Change (UNFCCC) guidelines.<sup>xix</sup>

Whilst MELAD included the bulk of the technical expertise on climate change, it lacked institutional leverage to influence the programmes of other vital sectors, such as public works, internal affairs, fisheries and natural resources. This was recognised both within Kiribati, as well as regionally. During early consultations on the Kiribati Adaptation Programme (KAP-I), it was therefore decided that the Office of the President would chair the KAP's National Adaptation Steering Committee, and the MFED would execute the project. This arrangement worked well in mainstreaming adaptation into economic planning, but it worked less well in mobilising the technical experts necessary to prioritise adaptation investments.

The situation in 2012 sees the KAP Steering Committee re-established under a new name, National Adaptation Steering Committee (NASC), under the Office of the President. The KAP Project Management Unit is the Secretariat for the Steering Committee. The NASC oversees the joint work programme for the NAPA and KAP.<sup>xx</sup> The existing NAPA team became the Climate Change Study Team, the technical team for the unified programme, reporting to the steering committee. The NAPA Management Unit of MELAD has been acting as the Secretariat for the Climate Change Study Team which has recently finalized the second National Communications to the UNFCCC.

Thus two separate project management units exist, with the Office of the President having responsibility for the overall supervision of the unified climate work. The Strategic Risk Management Unit within the Office of the President has as part of its mandate: to develop and coordinate the national policy on climate change, including the coordination of implementation at the broad national level.

The National Framework on Climate Change and Climate Change Adaptation<sup>xxi</sup> outlines the broad functions of the Strategic Risk Management Unit and provides national guidance in addressing the issue of climate change. The six broad elements of the Framework include:

- 1) mainstreaming into national planning and institutional capacity
- 2) external finance and technical assistance
- 3) population and resettlement
- 4) governance and services
- 5) survivability and self-reliance
- 6) mitigation.

In November 2012, the Government of Kiribati made a request to SPC and the Secretariat of the Pacific Regional Environment Program (SPREP) for support to develop a joint national action plan on climate change and disaster risk management; now called the Kiribati Joint Implementation Plan (KJIP).

In 2014, the KJIP was developed following the recent endorsement of two key strategic frameworks; the Disaster Risk Reduction Management Plan; and the National Framework for Climate Change and Climate Change Adaptation. The process of developing the KJIP was led by the government of Kiribati, which has established a Kiribati National Expert Group (KNEG) on Climate Change and Disaster Risk Management encompassing experts from the Office of the President (OB), line ministries and non-state actors.

### On-going and recently completed Climate Change Adaptation Activities/Projects

Title and Timeframe	Description, country focus and agencies responsible
<p><b>EU Adapting to Climate Change Sustainable Energy (ACSE) Project</b></p> <p><b>2014 - 2020</b></p>	<p>The objective of the ACSE Programme are to enhance sustainable livelihoods in Pacific Countries, strengthen countries' capacities to adapt to the adverse effects of climate change and enhance their energy security at the national, provincial and local/community levels.</p> <p>ACSE is funded under the 10th European Development Fund (EDF 10) Pacific regional envelope.</p> <p>Implementing agency: SPC, GIZ, USP</p>
<p><b>ACP-EU Building Safety &amp; Resilience in the Pacific (BSRP) Project</b></p>	<p>The project's purpose is to strengthen the capacity of PICs to address existing and emerging challenges with regard to the risks posed by natural hazards and related disasters, while maximising synergies</p>

<p><b>2013 - 2019</b></p>	<p>between Disaster Risk Reduction (DRR) strategies and Climate Change Adaptation (CCA).</p> <p>The overall objective of the project is to reduce the vulnerability as well as the social, economic and environmental costs of disasters caused by natural hazards, thereby achieving regional and national sustainable development and poverty reduction goals in ACP Pacific Island States (PICs)</p> <p>Implementing agency: SPC</p>
<p><b>Intra-ACP GCCA+ Pacific Adaptation to Climate Change and Resilience Building (PacRES)</b></p> <p><b>2018 - 2022</b></p>	<p>The overall objective is to increase the resilience of Pacific ACP countries to climate change and achieve the UN's Sustainable Development Goals in particular Goal 13 "Take urgent action to combat climate change and its impacts" in order to reduce poverty and promote sustainable development.</p> <p>The specific objective is to ensure better regional and national adaptation and mitigation responses to climate change challenges faced by Pacific ACP countries at operational, institutional and financial levels.</p> <p>Agencies responsible: SPREP (lead agency), SPC, PIFS &amp; USP</p>
<p><b>Pacific Adaptation Project (PAP): Institutional Strengthening in Pacific countries to adapt to climate change (ISACC)</b></p> <p><b>2015 – 2020</b></p>	<p>The goal of the regional project is to strengthen the national institutional capacity of Pacific island countries (PICS) to effectively plan for, coordinate and respond to the adverse impacts of climate change.</p> <p>Key result areas:</p> <ol style="list-style-type: none"> <li>1. Integrated institutional frameworks and national capacity strengthened to support multi-sectoral approaches to climate change and disaster risks.</li> <li>2. Access to new climate change finance enhanced through improved capacity, systems and tools.</li> <li>3. Regional cooperation and coordination strengthened through augmented national capacity delivered through shared learning to support PIC's address climate and disaster risks.</li> </ol> <p>Agencies responsible: SPC in partnership with SPREP and PIFS</p>
<p><b>New Zealand Partnership on Ocean Acidification</b></p> <p><b>2015 - 2019</b></p>	<p>Aims to build resilience to ocean acidification in Pacific Island communities and ecosystems.</p> <p>Implementing agency: SPREP</p>
<p><b>Climate and Oceans Support Program in the Pacific (COSPPac)</b></p> <p><b>2012 - 2018</b></p>	<p>COSPPac works with Pacific Island stakeholders to analyse and interpret climate, oceans and tidal data to produce valuable services for island communities. This information helps island communities to prepare for, and mitigate the impacts of severe climate, tidal and oceanographic events.</p> <p>Its aim is to enhance the capacity of Pacific Islands to manage and mitigate the impacts of climate variability and tidal events.</p>

	Implementing agency: Australian Bureau of Meteorology (BOM) , SPREP
<b>Institutional Strengthening in Pacific Island Countries to Adapt to Climate Change Project</b>	The goal of the regional project is to strengthen the national institutional capacity of countries to effectively plan for, coordinate and respond to the adverse impacts of climate change. The project will build on multi-sector, whole-of-island approaches that have been implemented successfully by regional climate change projects and that continue to be sustained by a range of partners through pooling of resources and expertise.
<b>2015 - 2020</b>	Implementing agency: SPC, SPREP, PIFS
<b>Synergistic Impacts of Global Warming and Ocean Acidification on Coral Reefs</b>	This project develops equations describing changes in coral growth rates response to increase temperature and ocean acidification. These data are necessary for developing and refining models evaluating the future impact of climate change on Pacific coral reefs communities. Results will help define appropriate management responses and prioritize interventions at the most vulnerable sites.
<b>2013 – 2019</b>	Implementing agency: Kiribati Government
<b>USAID Adaptation to Climate Change (Abaiang, Kiribati) Project</b>	A ‘whole-of-island’ integrated approach to climate change adaptation and disaster risk management aiming to improve water resources capacity in Abaiang. The project will enable communities on the atoll to manage their water supply and better understand the vulnerabilities they are facing from climate change and non-climate change related risks.
<b>2013 – 2015</b>	Implementing agency: SPREP
<b>Coping with Climate Change in the Pacific Island Region (CCCPIR) Project</b>	Enhance the competence and capabilities of the local population, the national governmental authorities and regional organizations – SPC and SPREP – in order to cope with the effects of climate change and combat its causes. It includes reviewing policies and integrating adaptation considerations into them, and focuses on the management of land and coastal natural resources, as well as tourism.
<b>2012 – 2015</b>	Implementing agency: SPC-GIZ
<b>Kiribati Adaptation Program Phase III - Increasing Resilience to Climate Variability and Hazards</b>	Project objectives include: 1) Improve climate resilience of Kiribati’s government and communities by strengthening their capacity to manage climate change effects and improve the management and governance of water resources and infrastructure; 2) Increase the availability and quality of water at the community level; 3) Protect targeted coastal areas from storm waves and flooding.

<b>2011 - 2016</b>	Implementing Agency: World Bank
<b>USAID – Pacific Islands Coastal Community Adaptation Project</b>  <b>2012 -2016</b>	Project objective is to build the resilience of vulnerable coastal communities in the Pacific region to withstand more intense and frequent weather events and ecosystem degradation in the short term, and sea level rise in the long term.  Project actions include: 1) Rehabilitating and constructing new, small-scale community infrastructure; 2) Building capacity for community engagement for disaster prevention and preparedness; 3) Integrating climate resilient policies and practices into long-term land use plans and building standards.
<b>Global Climate Change Alliance: Pacific Small Island States (GCCA: PSIS) project</b>  <b>2011 - 2016</b>	The overall objective of the European Union funded GCCA: PSIS project is to support the governments of nine smaller Pacific island states in their efforts to tackle the adverse effects of climate change. The purpose of the project is to promote long-term strategies and approaches to adaptation planning and pave the way for more effective and coordinated aid delivery to address climate change at the national and regional level.  Implementing agency: SPC

**National climate change priorities**

The Kiribati government’s climate change strategies focus on two objectives: firstly, adapting to and, secondly, relocating from climate change. There is little justification for Kiribati contemplating actions to mitigate climate change due to its extremely low level of CO<sub>2</sub> emissions, the second lowest level reported in the world in 2005.

Work began on Kiribati’s NAPA in 2004 and it was completed in 2007. The Kiribati Adaptation Program (KAP) also commenced in 2003–2004 and just completed its third phase (KAP III), with priority given to activities in the areas of freshwater supply and coastal protection. In the meantime, Kiribati also developed a Climate Change Adaptation Plan and Strategy, which is now being updated in the form of a National Framework for Climate Change and Climate Change Adaptation. Kiribati also recently completed its second national communication to the UNFCCC in 2013, and its activities in the climate change arena align with its priorities under the Kiribati Development Plan (KDP, 2016–2019).

The Kiribati Climate Change Policy strategically guides and supports decision-making processes and sets the direction for enhanced coordination and scaled-up implementation of climate change adaptation, mitigation and disaster risk reduction.

The joint national summit on the Kiribati Development Plan (2016–2019) and The National Framework for Action on Climate Change and Climate Change Adaptation, carried out in May 2011, have paved the way for this work.<sup>xxii</sup> The Kiribati government recognises that, with climate change threatening the long-term survival of Kiribati, the relocation of its people may be inevitable. The concept of 'migration with dignity' is part of the Government’s relocation policy. The relocation strategy of the Kiribati Government has two key components. Firstly, to create opportunities to enable the migration of those who wish to do so now and in the future. This is to assist in establishing expatriate communities of I-Kiribati, to absorb and support greater numbers of migrants in the longer term and benefit those who remain by increasing the level of remittances. Secondly, the objective is to raise the standard of qualifications of I-Kiribati to a level equivalent to those in countries such as Australia and New Zealand. This will make qualified I-Kiribati more attractive as migrants, and will also improve the standards of services available locally.

## Challenges to effective adaptation

As mentioned previously, Kiribati is comprised of mostly low-lying coral atolls, with highly vulnerable environmental systems that are relied upon for food sources, the subsistence economy, and for national exports. Kiribati faces a daunting range of environmental challenges, including loss of biodiversity, degradation of critical habitats, threats to fresh-water resources and marine-water quality, degradation and overuse of coastal and marine resources, unsustainable forestry and land-use practices, and increased generation of non-biodegradable wastes. Many of these challenges are exacerbated by climate change and climate variability, with food, water security, and coastal impacts being of primary concern. Effective planning, monitoring and response to these challenges over time will be key in implementing effective adaptation measures.

The government of Kiribati highlighted its priority needs for adaptation to climate change in the KDP, KJIP, Kiribati Climate Change Policy and Adaptation Framework and other documents. Kiribati has made good progress in addressing climate change issues with the support of its regional and international development partners starting with KAP project and now being furthered through several projects including SPC-GCCA: PSIS and SPC GCCA+ SUPA that is guided by the Government of Kiribati.

Learning from past projects, the following challenges need to be addressed to ensure future long term efforts are effective. Of particular note are capacity constraints. There is a general lack of highly skilled personnel, in permanent positions, to take on the task of managing climate change risks over the near and long term, with most key staff in country having too many different tasks and undertaking frequent duty travel. Short term personnel and project personnel only go some way to addressing this gap. There has been limited uptake of interns and technical assistance offered under externally funded programmes. Other constraints such as space to accommodate a staff member, transport for them to do their work, mandate, or sustainability may need to be taken into account. Sometimes partners require that these positions be hired in line with capped government pay-scales, and this is not attractive to qualified applicants. The lesson learnt is that even if funding support is available for in-country engagement one has to find systems that work without that person being in place. Climate change education at primary, secondary and tertiary levels, short term training, on-the-job training and job attachments are critical to address the capacity gap. So too is the need to develop innovative ways to retain skilled personnel in country through appropriate levels of remuneration and other means.

Raising public awareness about climate change risks is another important activity that needs to be implemented through a planned process thereby moving away from ad hoc approaches.

Given that many of climate change activities implemented in Kiribati are project based, with 3-5 year time frames, the results and outcomes may not always be sustainable. Kiribati is already making efforts and considering ways to prepare a financing strategy for disaster risk management and climate change activities and to tailor new projects to address specific gaps in their national agenda, and this approach needs to be maintained and expanded.

Integration of climate change into national, sector and community programmes, projects and activities is needed on a continual basis over the long term and there is a need to create an enabling environment for engaging with both local communities and national level government.. Several partnerships are apparent in Kiribati based on the range of organisations and funding envelopes from ADB, PACCSAP, IWRM, EU, UNICEF and SPC/GIZ supporting related activities. The partnerships based on the technical assistance provided by regional and global programs generally lack synergy of actions with local community groups, with involvement often being limited to government implementing partners. Linkages can take many forms. An accounting of linkages in the many forms such as provision of support and resources, capacity building, coordination and collaboration that can range from informal, personal relationships to formal agreements may prove valuable in highlighting limitations of enabling mechanisms towards partnership fatigue and overlap.

Another key challenge for Kiribati is to ensure that gender-sensitivity and disability inclusiveness is addressed in its climate change programmes, projects and activities. Climate change affects communities and individuals in different ways and it is important to ensure that climate change activities are fully inclusive of these special groups. However, thus far there is very little documentation on specifics about the engagement process or specific climate change responses to measure impacts and benefits of the adaptation activities both at national and community level.

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<sup>i</sup> The human development index (HDI) is a comparative measure of life expectancy, literacy, education, and standards of living for countries worldwide. It is a standard means of measuring well-being, especially child welfare. It is used to distinguish whether the country is a developed, a developing or an under-developed country, and also to measure the impact of economic policies on the quality of life. The HDI score gives Kiribati a rank of 134 out of 189 countries with comparable data and below the regional average of 0.612.

<http://hdr.undp.org/sites/default/files/Country-Profiles/KIR.pdf>

<sup>ii</sup> Access to improved or unimproved drinking water sources available to segments of the population of a country. *Improved* drinking water - use of any of the following sources: piped water into dwelling, yard, or plot; public tap or standpipe; tubewell or borehole; protected dug well; protected spring; or rainwater collection. *Unimproved* drinking water - use of any of the following sources: unprotected dug well; unprotected spring; cart with small tank or drum; tanker truck; surface water, which includes rivers, dams, lakes, ponds, streams, canals or irrigation channels; or bottled water.

<sup>iii</sup> Sanitation facilities available to segments of the population of a country. *Improved* sanitation - use of any of the following facilities: flush or pour-flush to a piped sewer system, septic tank or pit latrine; ventilated improved pit (VIP) latrine; pit latrine with slab; or a composting toilet. *Unimproved* sanitation - use of any of the following facilities: flush or pour-flush not piped to a sewer system, septic tank or pit latrine; pit latrine without a slab or open pit; bucket; hanging toilet or hanging latrine; shared facilities of any type; no facilities; or bush or field.

<sup>iv</sup> <http://www.spc.int/DigitalLibrary/Get/owbuh> .

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