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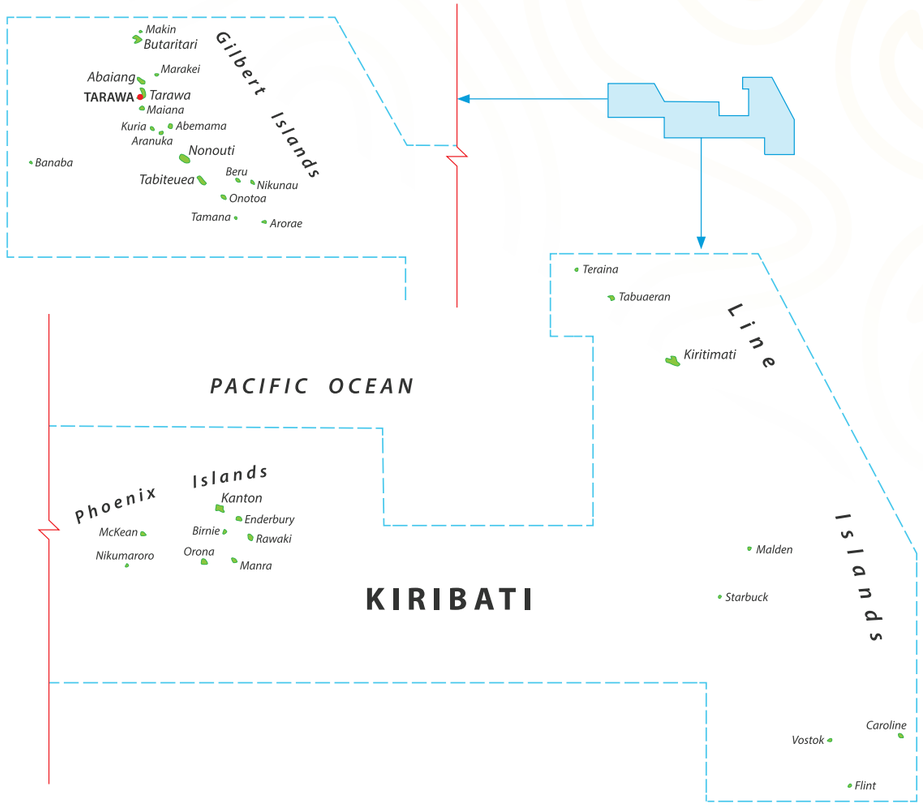
KIRIBATI
CLIMATE SECURITY RISK ASSESSMENT PROFILE

adelphi

Overview

Security in the Pacific context takes on a more varied form from security's more traditional conceptions. While traditional concepts of security remain important in this context, the region is unique for expanding that concept to be inclusive of other, no less consequential risks. That conception has been shaped and crafted through various country and regional level initiatives, statements, and declarations, which have collectively embedded **climate change as the single greatest threat** that Pacific Island Countries and Territories (PICTs) face.

This climate security risk assessment for Kiribati is meant to improve understanding of climate-related security risks in the country. It is the first of its kind of assessment and provides an in-depth understanding of the security implications of climate change. It does so by **identifying key climate security concerns** that affect Kiribati, which are presented through five interlocked and interacting pathways. Using these pathways, the profile aims also at formulating the means to respond to them: the overarching **entry points** aim to support I-Kiribati stakeholders to respond to climate-related security challenges.



The climate security analytical framework developed by the think-tank Adelphi outlines the interactions between climate change and security trough different lenses.

Climate Change Lens

What are the main current and projected climate change-related stressors?

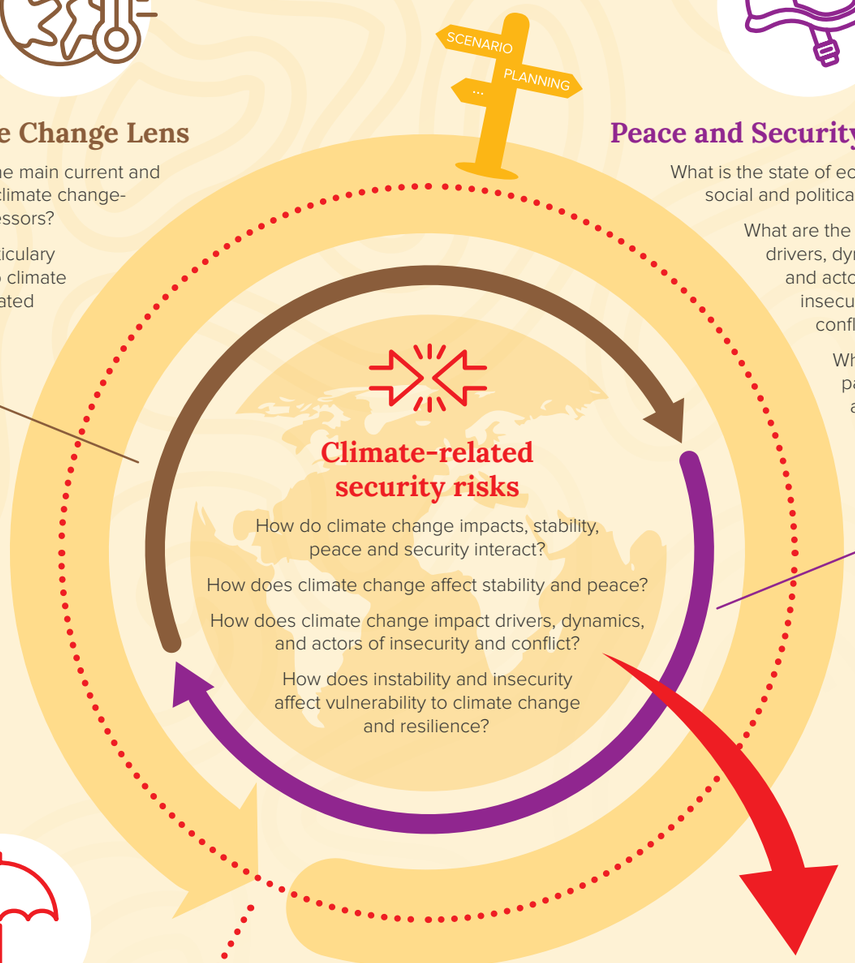
Who is particulary exposed to climate change-related stressors?

Peace and Security Lens

What is the state of economic, social and political stability?

What are the main drivers, dynamics, and actors of insecurity and conflict?

Who is particularly affected by insecurity and conflict?



Climate-related security risks

How do climate change impacts, stability, peace and security interact?

How does climate change affect stability and peace?

How does climate change impact drivers, dynamics, and actors of insecurity and conflict?

How does instability and insecurity affect vulnerability to climate change and resilience?

Context factors shaping vulnerability and resilience

What exacerbates climate and security risks? What mediates climate and security risks?

It is important to not just focus on the factors exacerbating risks, but also on what is making communities, societies and states resilient and peaceful.

- Gender Equality and Social Inclusion, mobility with dignity
- Social Inclusion and realtionships between groups
- Governance and trust in governments
- Access to livelihood opportunities and public services such as health and education
- Institutions for conflict management
- Agents of change
- Health

Possible pathways

- Natural resource competition/conflicts
- Livelihood insecurity
- Migration and displacement
- Food security/prices
- International tensions
- Unintended, negative impacts of climate change and military/security policies

Climate Risks

The following climate change projections provide an overview of climate change impacts in Kiribati under two different climate change scenarios[1]: **RCP2.6** represents a **low emissions scenario** that aims to keep global warming likely below 2°C, and **RCP6.0** represents a **medium to high emissions scenario.**

**Please note that, due to complexities and challenges in predictions, uncertainties remain high.*

Air temperature: Air temperatures over Kiribati are projected to rise. Compared to pre-industrial levels, the median climate model temperature increase over Kiribati will amount to approximately 1.5 °C by 2030 and 1.6 °C by 2050 under the low emissions scenario RCP2.6. Under the medium to high emissions scenario RCP6.0, air temperature will increase by around 1.4 °C by 2030, and 1.7 °C by 2050. In the long run, the temperature increase will strongly depend on the emissions pathway: Under RCP2.6, the multi-median stabilizes at an increase of around 1.5 °C after 2050, while under RCP6.0, temperature will continue increasing, though with rising uncertainty. In consequence, air temperature will very likely increase by between 1.7 and 2.8 °C (best estimate of 2.5 °C) in 2080 (very likely range).

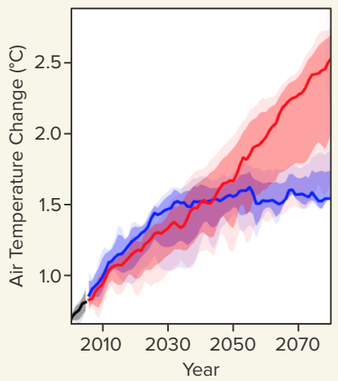
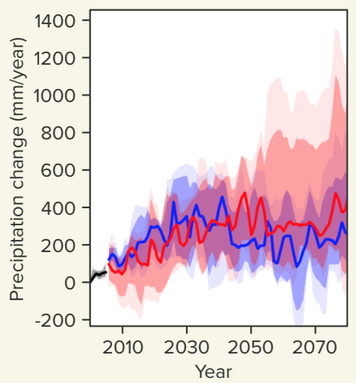


Figure: Air temperature projections for Kiribati for different GHG emissions scenarios, relative to year 1876 temperature levels (Gleixner, 2022).

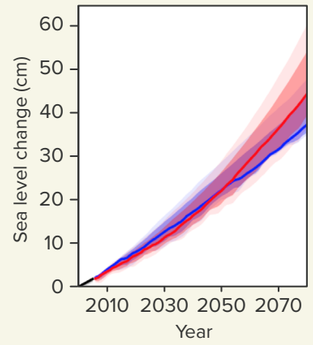
Precipitation: Rainfall across the region can overall be expected to increase. By 2030, precipitation amounts will rise under both emissions scenarios. The projected increase in rainfall ranges from 60 mm to over 630 mm under RCP2.6, and from 77 to 447 under RCP6.0 by 2030, as compared to the year 2000 (very likely range). Extreme rainfall events are projected to increase in both, frequency and intensity across all three islands' chains under both, low and high emissions scenarios (RCP2.6 and RCP6.0).



Annual mean precipitation projections for Kiribati for different GHG emissions scenarios, relative to the year 2000 (Gleixner, 2022)

[1] The climate-modelling community has developed four Representative Concentration Pathways (RCPs). The four RCPs span a large range of future global warming scenarios. RCPs are space and time and dependent trajectories of future greenhouse gas concentrations and different pollutants caused by different human activities. This assessment only focuses on RCP2.6 and RCP6.0

Sea level rise: Climate change will lead to further sea level rise off the coasts of Kiribati. Under RCP2.6 and compared to the year 2000 levels, the multi-model median projects a sea level rise of 12.6 cm in 2030, 23 cm in 2050, and 38.8 cm in 2080. According to the median projections under RCP6.0, the sea level is projected to rise by 11.3 cm and 22 cm until 2030 and 2050, respectively. While the best estimate projects a rise of 44.3 cm, sea level rise ranges between 36.7 and 60.2 cm in 2080, according to the very likely range, and compared to the year 2000. In Kiribati, the projected risk of rising sea levels put the most densely populated regions at a severe risk of inundation. Under the RCP2.6 scenario, almost 30 % of the population in Tarawa will be exposed to permanent inundation.



Tropical cyclones: According to the latest scientific findings, globally, the frequency of tropical cyclones is likely to either decrease or remain unchanged, but the intensity of future tropical cyclones is very likely to increase in response to climate change. For Kiribati, information about future storm and cyclone occurrences is largely lacking. According to ThinkHazard, the risk of a potentially damaging cyclone affecting Kiribati within the next 10 years is considered low.

Droughts: In line with a general overall increase in rainfall across Kiribati, projections that exist for Kiribati suggest a decrease in the frequency of droughts across all three island chains. According to the Australian Bureau of Meteorology and Commonwealth Scientific and Industrial Research Organisation, under both, a low and a high emissions scenario, the incidence of mild, moderate, and severe drought will decrease while the occurrence of extreme drought will remain stable under both, high and low future emissions. Drought durations might remain at today's levels for all Islands and drought categories, except for the duration of extreme droughts which will increase across the Line Islands.

Coastal flooding and inundation: In Kiribati, the projected sea level rise in itself is projected to significantly increase coastal inundation in the future. Furthermore, future sea level rise will increase wave-driven flooding, allowing larger waves to reach the shorelines and inundate land areas. Such flooding will significantly increase the salinity of soils and groundwater lenses and threaten the availability of freshwater resources. If storms coincide with high king tides, those compound effects are projected to drastically increase the populations' exposure to inundation thus resulting in drastic flooding and inundation. According to ThinkHazard, the risk of future coastal flooding as well as tsunami occurrence for Kiribati is high.

How to read the line plots

historical · RCP2.6 · RCP6.0 · best estimate · likely range (central 66%) · very likely range (central 90%)

Pathways

This section identifies and explains how climate change impacts livelihoods, politics, and society and contributes to insecurity. To do so, five key and interrelated climate security pathways for Kiribati have been identified.

**Please note that the findings are provisional and the pathways are still being finalized.*

LAND, WATER AND FOOD SECURITY: Climate impacts threaten **vital natural resources** in Kiribati. Key impacts include sea level rise and coastal erosion, as well as shifting rainfall patterns and high tides. Together, these threaten water, food and land, which produce negative consequences for **livelihoods, health, and the well-being** of i-Kiribati. This pressure is leading to **social tensions** within family units and between communities. Social norms, which normally encourage **cooperation and resource sharing,** are starting to be eroded under increasing pressure from climate change. The erosion of these norms is most evident in **urban areas,** where other factors contribute to this process, such as urbanization and proliferation of informal settlements. Without adequate attention being given to resource stress and norm erosion, **instability** could increase, especially in urban spaces where pressure is already high.

CHALLENGES TO THE BLUE ECONOMY: Climate change directly threatens **vital economic sectors** in Kiribati. **Oceanic and near-shore fishing,** as well as **agriculture**, are most at risk. This vulnerability is exacerbated by Kiribati's small market, limited physical and digital infrastructure, and reliance on food and energy imports as well as remittances and foreign aid. The resulting **livelihood insecurity and reduction in government revenue** can exacerbate existing individual vulnerabilities and adequate state provision. Taken together, the societal implications are concerning. First, **social pressures** within and between families can undermine **social cohesion.** Second, increasing reliance on the government, which itself has less capacity, can expose it to criticism and skepticism from the public, **undermining society's trust** in it.

CLIMATE INDUCED MOBILITY: Mobility has always been a part of i-Kiribati life. People typically move **internally,** especially from rural to urban areas. The main reasons for movements are **employment,** better **education** and/or better **health,** among many other reasons. Movements from urban to rural areas can also have an impact on climate security, and issues arising from such internal drifts need to be highlighted and further examined. Increasingly, climate stress is exacerbating these pull factors, which do provide opportunities for those who move, such as **remittances.** However, mobility comes with risks, which can range from **overcrowding and unmitigated urbanization** to feelings of **'placelessness'** and **dislocation.** Mobility can represent an adaptation strategy, but without proper planning and foresight, the risk becomes higher than the benefit. Consequences of poor planning could be critical in the near term, as pressure builds in increasingly **crowded urban areas,** exacerbating other climate and security risks, such as higher exposure to **extreme weather events or conflicts over resources.**

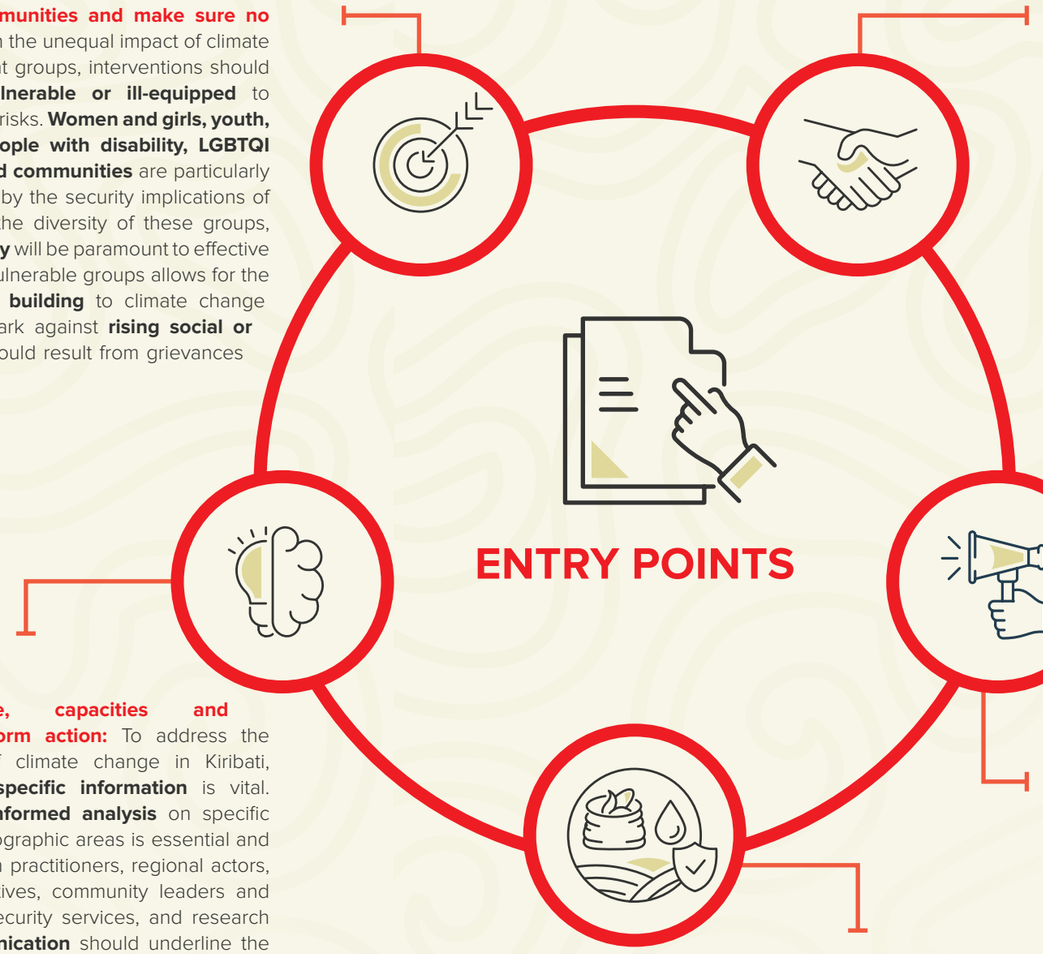
CLIMATE-INDUCED DISASTERS: Kiribati is vulnerable to extreme weather events including **king tides** and associated **flooding and droughts.** According to the latest projections, disaster events will become **more frequent,** and some will **intensify.** Firstly, they can lead to a loss of life and significant **damage to physical assets**, such as personal property and infrastructure. Women are especially susceptible to disaster risks and insecurity following disasters, including increased instances of **gender-based violence.** Secondly, disasters play an important role in exacerbating **livelihood, land, food, and water insecurity.** And thirdly, disasters challenge governments with potential long-term consequences for **political stability**. The government, together with NGOs and the church, is an important actor in mitigating disaster risks but due to the high cost of preparing for and responding to repeating disasters, it faces the challenge of having to make **tough trade-offs** between disaster response and preparation, and other public services given limited financial capacities. In the long term, this can lead to grievances and risks eroding **trust in government**, contributing to discontent, and **political instability.**

TERRITORIAL INTEGRITY AND REGIONAL COOPERATION: While sea-level rise threatens permanent inundation of land, the risk posed to the **habitability** of some of Kiribati's islands and atolls is immediate. Strategies around **sovereignty and statehood**, both national and regional, to shore up against these risks are important but not without their own risks too, given the contentious nature around relocation and baselines. **Regional cooperation**, essential to mitigate and manage some of those risks, remains relatively robust, but pressures are increasing, and fault lines are emerging. Additional pressure is posed by renewed **geostrategic attention**, as external powers try to foster their own strategic interests. National stakeholders are planning to explore technical and legal actions that can support the regional effort on **maritime issues relating to climate security.**

Entry points

The entry points included in the country profile are meant to provide decision-makers in the climate and security-related spaces an outline of how interventions can address climate security concerns and what activities can be concretely undertaken in support. By supporting the how and the what, I-Kiribati actors are given a comprehensive framework to ensure that the security implications of climate change are mitigated and prevented through a more targeted and comprehensive approach.

** Please note that the findings are provisional and the analysis are still being finalized*



Target vulnerable communities and make sure no one is left behind: Given the unequal impact of climate security risks on different groups, interventions should target **those most vulnerable or ill-equipped** to confront climate security risks. **Women and girls, youth, urban poor, elders, people with disability, LGBTQI people, and outer island communities** are particularly vulnerable and affected by the security implications of climate change. Given the diversity of these groups, **sensitivity and specificity** will be paramount to effective intervention. Targeting vulnerable groups allows for the simultaneous **resilience building** to climate change and developing a bulwark against **rising social or political tensions** that could result from grievances felt by them.

Improve knowledge, capacities and communication to inform action: To address the security implications of climate change in Kiribati, **detailed and context-specific information** is vital. **Detailed and locally informed analysis** on specific sectors, themes and geographic areas is essential and needs to be shared with practitioners, regional actors, government representatives, community leaders and community members, security services, and research and academia. **Communication** should underline the risks that climate change poses for **security and stability** while simultaneously acknowledging the **resilience of island communities** and providing positive ways forward. New approaches to **dissemination** should be considered, including the use of multimedia, to reach a larger, more digital audience, while at the same time promoting face-to-face conversation to approach **outer island communities.** Framework and architecture governing crucial sectors, such as **national policies and frameworks**, should be updated and upgraded with new knowledge in mind.

Improve water and food security: Exacerbated by land loss, **water and food insecurity** have serious health consequences, and collectively, these pose major threats to **I-Kiribati's human security.** It is essential to identify how the risks play out between outer islands and urban islands, and among **people and groups** such as women, men, youth, and other stakeholders. For example, in the outer islands, food and water security are particularly threatened by natural hazards such as **king tides** and **droughts.** In the urban areas of South Tarawa, on the other hand, **environmental degradation, increasing pollution,** and **population growth** put enormous stress on food and water resources. These interlinked risks must be targeted with a broad range of interventions, including adopting strategies which ameliorate **food and water insecurity,** as well as **conflict mitigation measures.** Specific support must be directed to the **health sector,** which needs to be strengthened to be properly equipped to deal with the downstream effect of climate change on other sectors. Activities need to integrate climate change adaptation, livelihoods and insecurity, therefore simultaneously "solving the problem" and providing space for **conflict management and prevention.**

Avoid mal-adaptation and mitigation through climate and conflict-sensitive approaches: Ambitious mitigation actions and local adaptation practices are essential to reduce and manage the effects of climate change **on human security** in Kiribati. To avoid negative outcomes, responses need to consider a variety of consequences by being **context, gender, conflict and environmentally sensitive.** Activities around **migration, land reclamation, infrastructure development and disaster** relief should be especially handled with care as these areas can be fraught with contestation. All initiatives need to be specifically designed for the **I-Kiribati context** addressing the different needs across the country but also within communities. In the search for alternatives too, a thorough understanding of the tradeoffs and opportunity costs. International actors must avoid approaches that create **dependency and reliance** on foreign aid. To avoid maladaptation and unlock transformative potential, all adaptation processes need to be **inclusive and locally led** and create a **sense of ownership** among affected communities. At the same time, **transparent** tracking of how climate, security, and development finances are spent should also be reinforced.

Promote and work with local knowledge and approaches to build resilience: In Kiribati, like many countries in the Pacific, a breadth of **experience and knowledge** on how to work with climate and environmental factors exists and can be drawn from to **improve resilience** against quickly changing circumstances. Tapping into knowledge around f**ood and water systems, early warning** and **disaster management and conflict resolution mechanisms** rooted in customary tradition is essential. When promoting local knowledge, it is important to bring forward practices which **dismantle vulnerability** rather than reinforce it. **Customary approaches and knowledge** should be front and center in decision-making also to promote **agency and ownership**, as well as to provide renewed skills to generations at risk of losing them. Knowledge must continue to be passed down from generations to encourage the **continuation of resilient activities** to work around climate change.

NEXT STEPS: This preliminary summary report outlines the key findings and priorities to be addressed in Kiribati in relation to the security implications of climate change. The final report will be available in January 2023 to support the government of Kiribati and its partners to better prepare for and respond to climate security challenges through informed decision-making.

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