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REPUBLIC OF THE MARSHALL ISLANDS

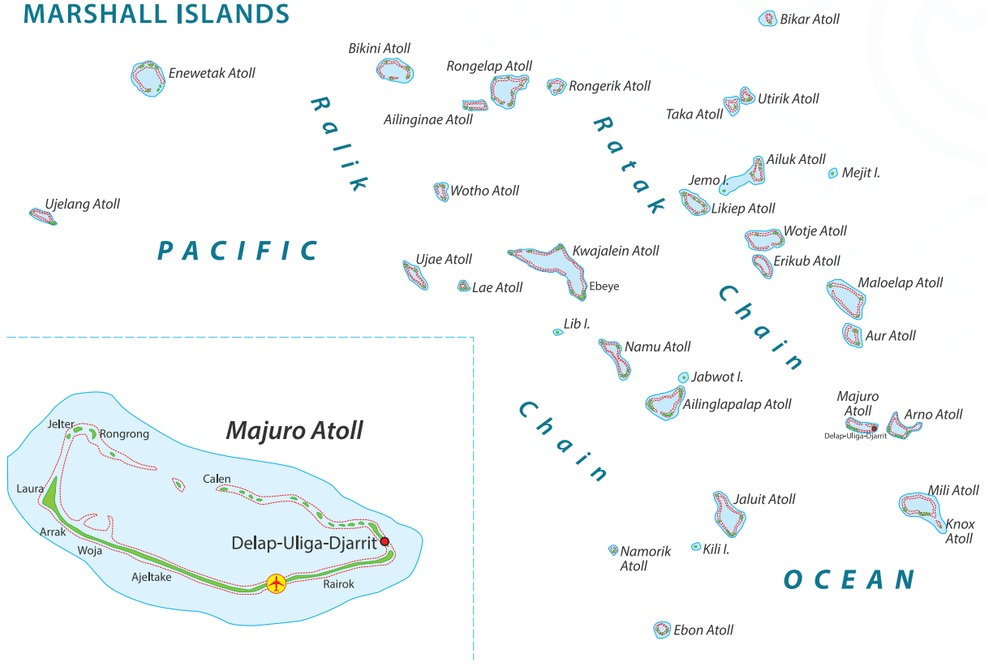
CLIMATE SECURITY RISK ASSESSMENT PROFILE

adelphi

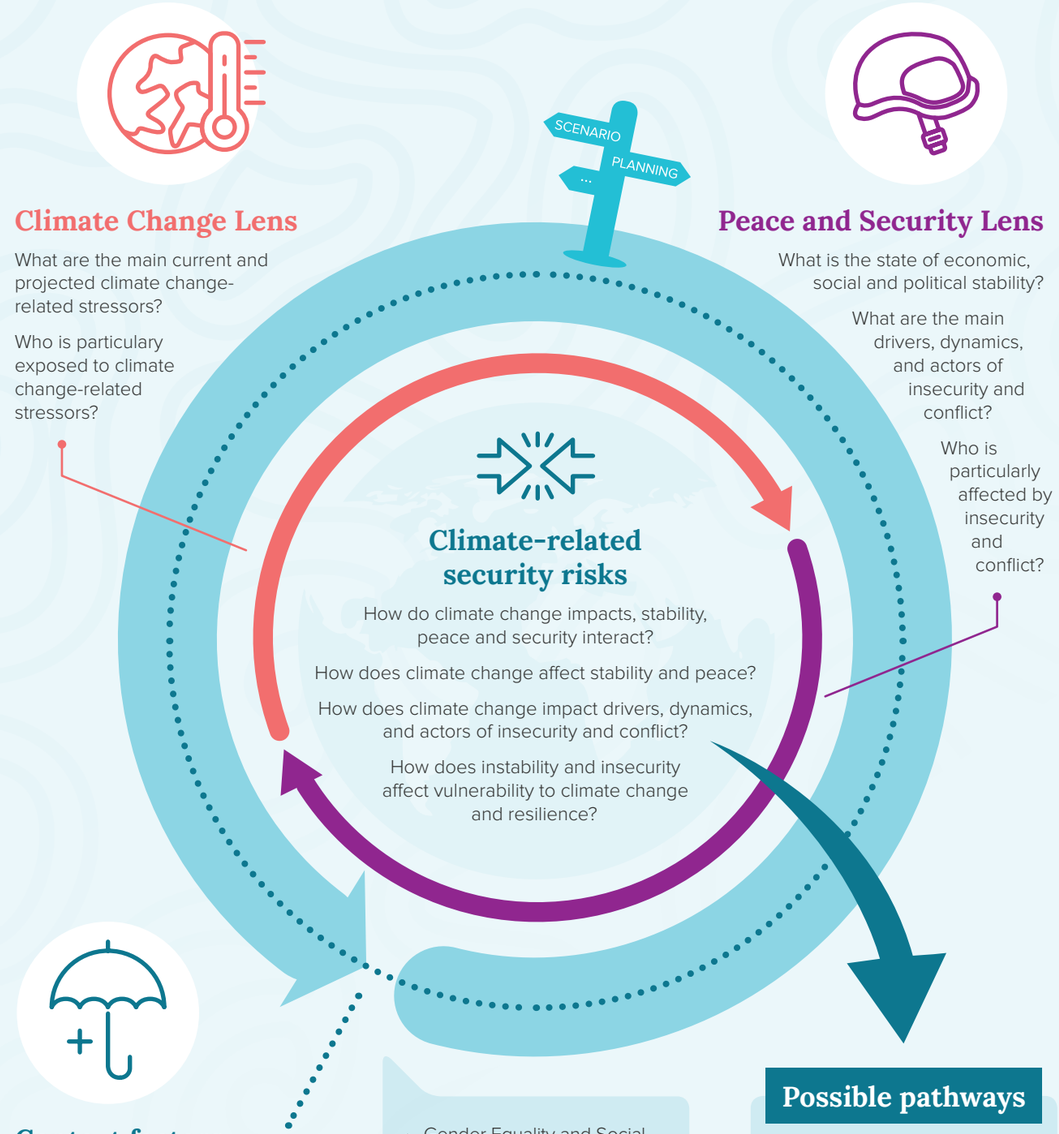
Overview

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



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

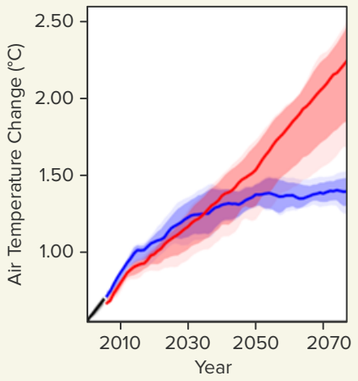
- Natural resource competition/conflicts
- Livelihood insecurity
- Migration and displacement
- Food security/prices
- International tensions
- Unintended, negative impacts of climate change and military/security policies

Climate Risks

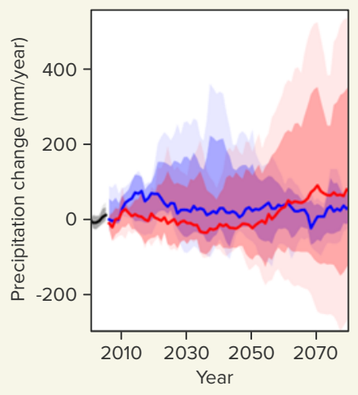
The following climate change projections provide an overview of climate change impacts in RMI under two different climate change scenarios[1]: **RCP2.6** represents a **low emissions scenario** that aims to keep global warming likely below 2°C, and **RCP6.0** represents a **medium to high emissions scenario.**

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

Air temperature: As a result of increasing greenhouse gas (GHG) concentrations, air temperature over RMI is projected to rise with high certainty. Compared to pre-industrial levels, air temperatures will be very likely to rise by 1.0 to 1.3 °C by 2030 and 1.3 to 2.6 °C by 2080. Median climate model temperature increases over RMI amount to around 1.2°C in 2030, 1.4°C in 2050 and 1.4 °C in 2080 under the low emissions scenario RCP2.6. In contrast, under the medium to high emissions scenario RCP6.0, emissions will increase much more, median climate model temperature increases amount to 1.2°C in 2030, 1.5°C in 2050 and 2.3°C in 2080.

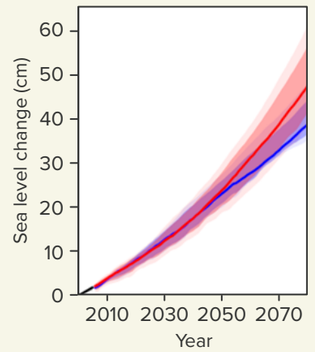


Precipitation: Overall, the long-term average rainfall over RMI is projected to increase, with a greater increase under the medium to high emissions scenario. Different models underlying those predictions differ substantially in the projected precipitation amounts and the directions of change for both RCPs. These diverging model results translate into an extremely high range of projected changes, amounting to between -25 to +147 mm/year until 2050, and -6 to +93 mm/year by 2080 under RCP 2.6 (likely range). Under RCP6.0, though the best estimate projects a significant increase in rainfall (around 750 mm by 2080) uncertainties are even higher, as one model predicts an extremely high increase in precipitation, while a different model projects a strong decrease. Projections also point towards an increase in heavy precipitation events.



[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: As a consequence of global warming, the sea level off the coast of RMI is projected to rise with high certainty. As compared to the year 2000, and depending on the GHG emissions scenario, sea levels will very likely rise by around 9 to 15cm by 2030, by 19 to 30cm by 2050 and by 35 to 61cm by 2080. Under RCP2.6 and compared to the year 2000 levels, the multi-model median projects a sea level rise of 13cm by 2030, 23cm in 2050, and 39cm in 2080. Under RCP6.0, projections show similar rises until 2030 and 2050, as the sea level will increase by 12 cm and 24 cm, respectively.



Tropical cyclones: According to the latest scientific findings, globally, the frequency of tropical cyclones is likely to either decrease or remain unchanged, while the intensity of future tropical cyclones is very likely to increase in response to climate change. Existing projections on the number of future tropical cyclone formations affecting the RMI also show a decreasing trend. There is an estimated 64% chance that about 100 people will be displaced by cyclones in the next 50 years.

Droughts: Overall, high variations in future drought occurrences can be expected across the Pacific Islands States. Drought projections based on rainfall only suggest that under the low emissions scenario (RCP2.6), the frequency of mild drought in RMI will remain stable, while models indicate a decrease in moderate, severe, and extreme droughts. Drought duration is expected to remain at current levels under both scenarios. Other projections suggest that the southern atolls are more likely to experience severe droughts in the future.

Coastal flooding and inundation: The effects of the joint drivers on coastal flooding and inundation projected changes in wind-driven wave heights point to a decrease during the winter season. On the other hand, sea level rise is projected to increase wave-driven flooding in the future. Those compounding impacts are projected to cause increased coastal erosion and inundation, with a significant increase in magnitude, duration, and frequency from 2050 onwards. This will severely impact RMI freshwater resources. The risk of future coastal flooding for the RMI is high, meaning that the probability of potentially damaging coastal flooding occurring within the next 50 years lies at over 20 %.

How to read the line plots

historical	best estimate
RCP2.6	likely range (central 66%)
RCP6.0	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 RMI have been identified.

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

LAND, WATER AND FOOD SECURITY: Land, water, food, and health are all interconnected in RMI and all are threatened by the compounding impacts of climate change. **Land usability** is increasingly under pressure due to **coastal erosion** from sea level rise in combination with storm surges worsened by **increased extreme weather events,** which work together to put **pressure on land resources,** especially in urban areas. **Freshwater resources** are already scarce and are under further threat from **drought** and **saltwater intrusion.** Because water management occurs at the household and community level, **social bonds** are critical for sustainable management, but also come **under pressure** in times of scarcity. Lack of water resources threatens the viability of subsistence agriculture, in turn undermining **food security** and increasing Marshallese reliance on imports. This has a knock-on impact on **health**, because of increased rates of obesity and malnutrition. Climate impacts, like extreme heat and flooding, also increase the prevalence of vector-borne diseases. Taken together these threats to water and food security and health impacts threaten **human security** in RMI and undermine future resilience.

CHALLENGES TO THE BLUE ECONOMY: Livelihoods in RMI are already vulnerable because of low human capital development, an under-diversified economy, and heavy reliance on ecosystem services. Climate change poses threats to livelihoods, especially **agricultural production** and **subsistence,** and **commercial fishing**. The depletion of these opportunities undermines **human security** and the **future resilience** of the Marshallese, particularly given few alternatives currently exist. Loss of livelihoods puts more **pressure on social structures** and norms of sharing and cooperation and acts as a migration push factor. Finally, the **loss of economic opportunities and government revenue** from fisheries also has an impact on government's ability to deliver vital services, like healthcare and education, and provide public sector jobs. In the long term, these dynamics can also undermine **trust in government** and contribute to grievances and **political instability.**

CLIMATE INDUCED MOBILITY: Climate change is likely to increase current **mobility** trends. Migration takes two main forms: internal migration among RMI's islands and external migration to other countries. Unmanaged internal migration to already **overcrowded urban centers** increases **competition** for scarce resources and can contribute to unemployment. This kind of environment can generate **discontent**, particularly when compared with conditions on lower density islands. External migration can similarly be a positive adaptation strategy, but migrants face risks in the US and other receiving countries, as well as **dislocation and cultural loss. Remittances** increase the adaptive capacity of the Marshallese but can also exacerbate cycles of disadvantage if wealthier groups are more likely to migrate and send remittances.

CLIMATE-INDUCED DISASTERS: RMI is already vulnerable to **extreme weather events,** including **cyclones, storms, coastal flooding, and droughts**, some of which are likely to increase in intensity due to climate change. Weather-induced disasters pose a **severe risk to human security** in the form of death and injury. They also threaten **physical infrastructure** in RMI, including homes, buildings, and transport infrastructure, making it more difficult to deliver disaster response and demanding significant investment in reconstruction. The impact of disasters is likely to fall more heavily on **vulnerable groups**, in particular women, poorer families and communities, and people with disabilities. Poor disaster response, because of limited funding and capacity, has the potential to lead to **discontent** among the population and perceptions of **unfair distribution of resources.**

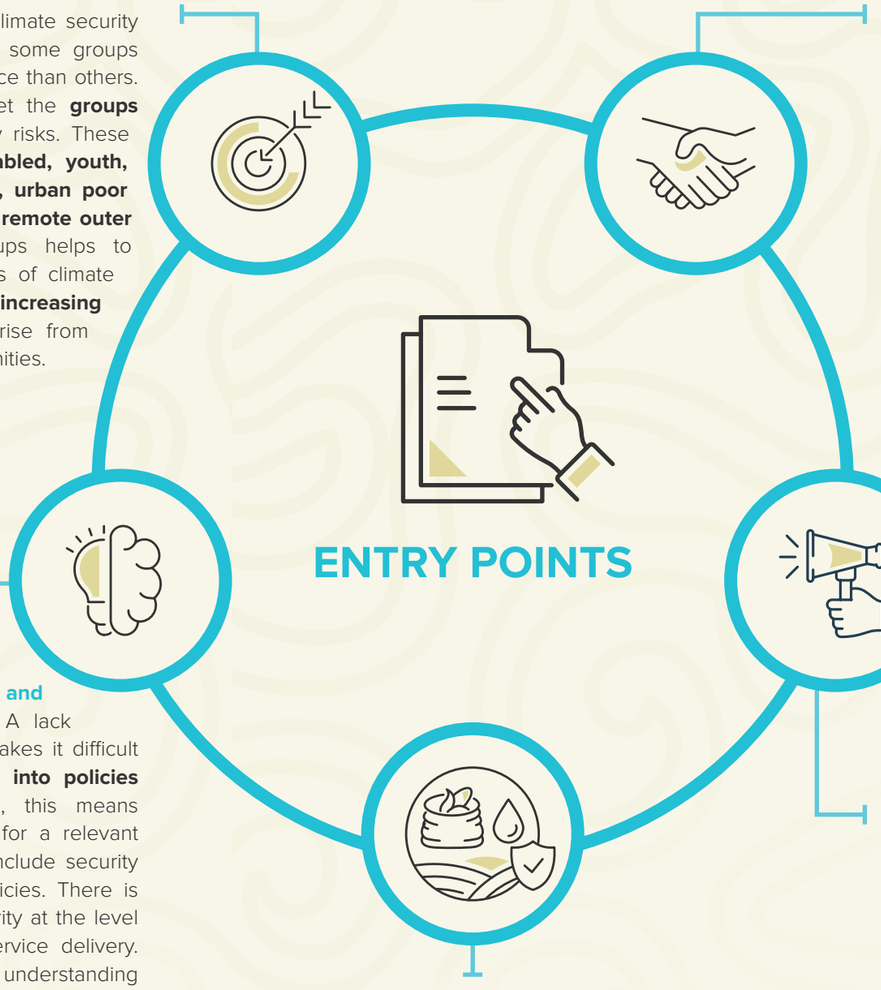
TERRITORIAL INTEGRITY AND REGIONAL COOPERATION: Some of the most profound security consequences of climate change in RMI relate to the potential impact of sea level rise on the country's **maritime boundaries, sovereignty, identity and risk of relocation.** Mass relocation in the event of severe climate impacts would threaten RMI's sovereignty and echo past relocations of Marshallese communities under colonial rule. Because of these risks, RMI has moved to protect its maritime entitlements and has strongly resisted the prospect of large-scale migration, preferring adaptation in place. There is deep uncertainty surrounding these potential outcomes, but they highlight the deep climate security risks RMI faces as a product of its **unique location, vulnerability, and history.**

Entry points

The following entry points and suggested actions provide actors with recommendations in two main ways: helping to outline how interventions can address climate security concerns and what activities can be concretely undertaken in support. By supporting the how and the what, Marshallese actors are given a comprehensive framework to contribute toward this goal.

**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: The impact of climate security effects is **unfairly distributed,** with some groups having a greater capacity for resilience than others. Interventions should therefore target the **groups most vulnerable** to climate security risks. These include women and girls, the **disabled, youth,** recent **migrants, unemployed men, urban poor communities,** and **people living on remote outer islands.** Targeting vulnerable groups helps to alleviate some of the worst impacts of climate change and it helps to protect against **increasing social or political tensions** that arise from grievances felt by vulnerable communities.



Improve knowledge, capacities and communication to inform action: A lack of knowledge on climate security makes it difficult to integrate climate security issues **into policies and planning.** In practical terms, this means **local stakeholders** may not apply for a relevant piece of climate finance or fail to include security considerations in the design of policies. There is also limited capacity in climate security at the level of implementation and everyday service delivery. **Community leaders** also require an understanding of climate security issues to help to **mediate** between groups. Better information needs to be accompanied with **comprehensive, measured, and cautious** communication on scientific evidence to ensure that this knowledge is disseminated to those that need to know. Communication needs to underline the risks that climate change poses for **security and stability** while simultaneously acknowledging the resilience of islanders and their communities and providing a positive vision of the future. Reaching a broader set of stakeholders, the society at large, and especially youth, requires **new approaches to dissemination,** including the use of multimedia, to reach a larger, more digital audience.

Improve land, water, and food security: The interaction between **water, agriculture, food availability and health** implications are some of the most pressing issues facing communities in RMI, in particular on remote islands. In all instances, these three compounding climate security risks are highly relevant in terms of **insecurity and instability** and must be targeted with a broad range of interventions. Not only does that mean adopting strategies and activities which bolster against land insecurity or ameliorate food and water insecurity, but also **conflict mitigation** measures must be in place to allow for the resolution of conflicts borne from these compounding risks. Activities need to integrate climate change adaptation, livelihoods and insecurity, this means they need to simultaneously "solve the problem" and provide space for **conflict management and prevention.**

Avoid mal-adaptation and mitigation through climate, conflict-sensitive and peacebuilding approaches: To avoid mal-adaptation, climate change mitigation and adaptation initiatives should be cognizant of **RMI's unique history, culture, and political and social context.** Wherever possible, they should draw on **traditional approaches** to manage environmental and social risks, which are familiar to communities and encoded centuries of learned **resilience.** International actors also risk generating mal-adaptation if climate finance and adaptation projects create structures of **dependence on foreign aid** or support. Wherever possible, projects should be designed to support **existing grassroots initiatives** and be implemented by **local actors.** Tracking the success and/or failure of adaptation and mitigation projects and **increasing transparency** about how climate, security, and development finances are spent can prevent the perception that support is unfairly distributed.

Promote and work with local knowledge and approaches to build resilience: Tapping into **RMI's traditional knowledge** will help support **resilience** on various fronts, including food and water insecurity, disaster management and preparation and the resolution of conflicts stemming from stress on livelihoods and resources. Areas of particular focus should include agricultural practices, ecological regeneration and preservation and traditional forms of community relations, especially in **conflict resolution. Customary approaches and knowledge,** therefore, should be front and center in decision-making related to confronting **climate security risks.** Furthermore, doing so can help reinforce **agency and ownership** over activities and approaches which can help lead to better results. Knowledge must continue to be passed down from generation to encourage the **continuation of resilient activities** developed over long periods to work with the climate.

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

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