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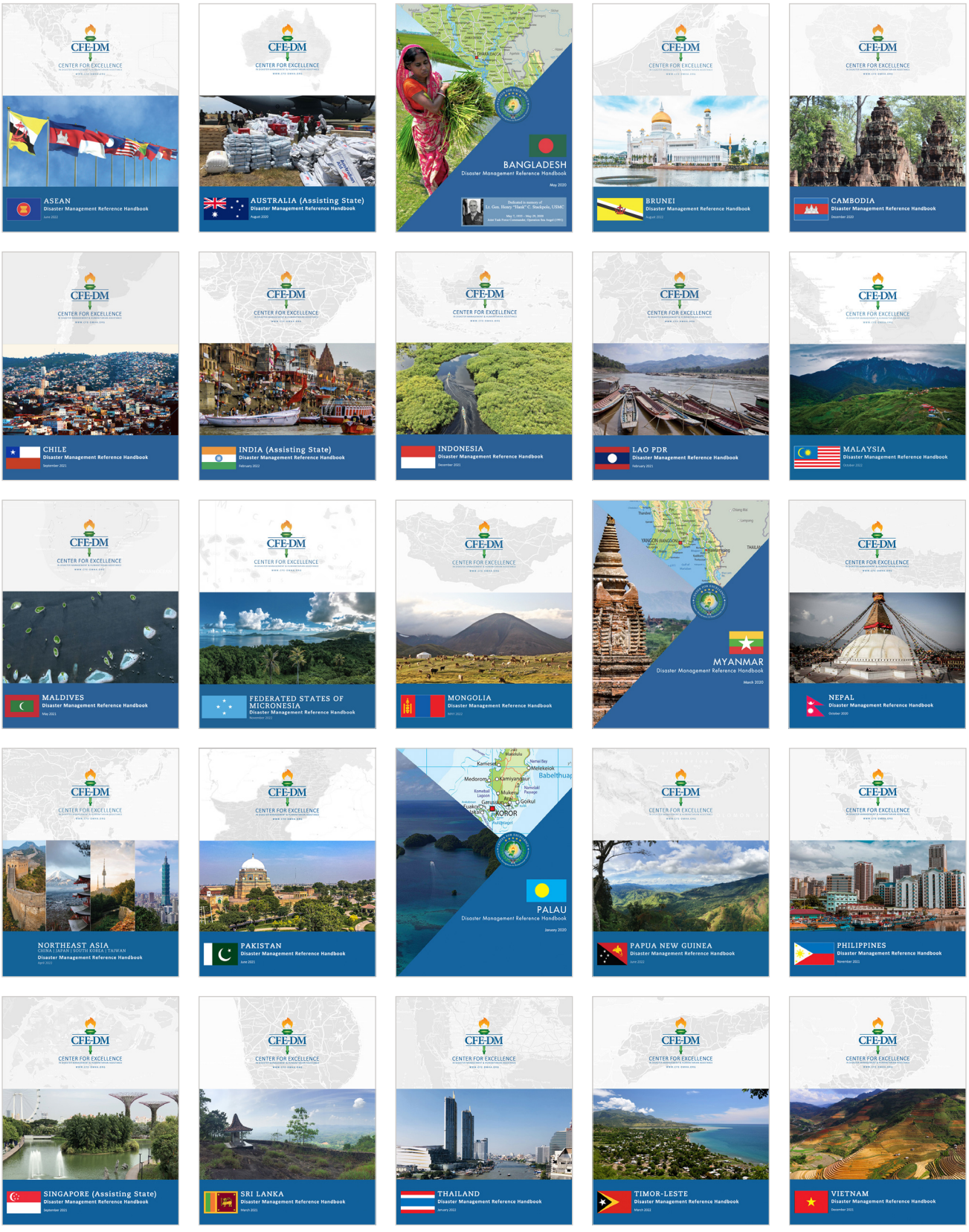
REPUBLIC OF THE MARSHALL ISLANDS

Disaster Management Reference Handbook

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Acknowledgements

Front Cover

Coral reefs, Kwajalein Atoll, Republic of the Marshall Islands. Photo by Pacific Coastal and Marine Science Center.
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Disclaimer

This handbook has been prepared in good faith based on resources available at the time of publication. Information was gathered from the public domain, from local and government sources, as well as from subject matter experts. Where possible, a link to the original electronic source is provided in the endnote (reference) section at the end of the document. While making every attempt to ensure the information is relevant and accurate, the Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) does not guarantee or warrant the accuracy, reliability, completeness, or currency of the information in this publication. Each handbook is a working document and will be updated periodically as new and significant information becomes available. We hope that you find these handbooks informative, relevant, reliable, and useful in understanding disaster management and response. We welcome and appreciate your feedback to improve this document and help fill any gaps to enhance its future utility. For feedback, comments, or to request a printed copy please email cfe.dmha.fct@pacom.mil. Please visit our website to download copies of this publication and other products (https://www.cfe-dmha.org). All parts of this publication may be reproduced, stored in retrieval systems, and transmitted by any means without the written permission of the publisher.

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Letter from the Director

The Republic of the Marshall Islands (RMI) is already one of the world's countries most vulnerable to natural hazards, and climate change poses a serious threat to the islands over the short, medium, and long terms. For these reasons, RMI's government and people have increased efforts to bolster all-hazards preparedness. In its National Strategic Plan 2020-2030, RMI frankly confronts the stark choice that climate change-influenced hazards are forcing on the country: relocate or implement adaptation options.

The current disaster management approach is arranged in an eight-cluster national coordination structure under the National Disaster Committee and National Disaster Management Office. Beyond its own domestic structure, RMI participates in regional frameworks and strategies for climate security, and, like others in the region, it is vocal on the global stage in pressing major greenhouse gas emitters and developed countries for concrete commitments to curbing emissions and funding climate change adaptations that fit within the long-term disaster preparedness framework.

The United States (U.S.) has been increasing security assistance in the broader Pacific region. The Compact of Free Association (COFA) that governs the bilateral relationship between the U.S. and RMI has allowed the two countries to build a strong long-term partnership, and U.S. federal programs support health, education, and infrastructure, as well as the RMI's ability to perform maritime security functions and strengthen climate change resilience. The U.S. Agency for International Development's Bureau for Humanitarian Assistance (USAID/BHA) takes the lead in providing humanitarian assistance from the U.S. government to RMI in the event of a disaster. However, the U.S. Department of Defense (DoD) is also active in the country as it has a significant presence at Kwajalein Atoll, and the U.S. Department of Energy oversees major programs related to the sequelae of mid-20th century nuclear testing in the islands.

This Handbook focuses on RMI's disaster management framework and partnerships, and it highlights disaster risk reduction strategies and plans. It also provides an overview of the country's government, geography, demographics, social cultural practices, history of natural disasters, and the current state of its disaster risk and response management. It is hoped that this handbook will serve as an initial source of information for individuals preparing for disaster management, response, and risk reduction activities or immediate deployment with RMI partner responders in a crisis.

Sincerely,

Joseph D. Martin, SES
Director

About the Center for Excellence in Disaster Management & Humanitarian Assistance

Overview

The Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) is a United States (U.S.) Department of Defense (DoD) organization comprised of nearly 30 subject matter experts that provide academic research, civil-military coordination training, and operational insights to support decision making before, during, and after crises. The Center is designed to bridge understanding between humanitarians, civilian, and military responders. CFE-DM partners with a diverse group of governmental and nongovernmental actors, as well as academic institutions to increase collaborations and capabilities in humanitarian assistance and disaster response. While maintaining a global mandate, the Indo-Pacific region is our priority of effort and collaboration is the cornerstone of our operational practice. The Center is a direct reporting unit to U.S. Indo-Pacific Command (USINDOPACOM) and is located on Ford Island, Joint Base Pearl Harbor-Hickam, Hawaii.

Vision

The Joint Force, allies, and partners are fully prepared to conduct and support foreign humanitarian assistance.

Mission

CFE-DM builds crisis response capacity in U.S. and partner militaries, enhances coordination and collaboration with civilian and foreign partners, and strengthens those relationships to save lives and alleviate human suffering before, during, and after humanitarian crises.

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EXECUTIVE SUMMARY

Climate change and natural hazards pose serious threats to the Republic of the Marshall Islands (RMI) over the short, medium, and long terms. RMI is already one of the most vulnerable nations in the world to natural hazards, including tropical storms, droughts, and flooding. Climate change has the potential to raise the frequency and intensity of these threats and entails new threats, particularly in the form of sea level rise. With most land only minimally above sea level, rising waters threaten to make numerous parts of the country uninhabitable by 2050.

Climate change is expected to affect the country's coastal resources through increased ocean acidification, sea level rise, and coral bleaching. In its National Strategic Plan 2020-2030, RMI recognizes the threat to its people that sea level rise poses. It frankly confronts the reality that RMI faces a stark choice: relocate or find adaptation options. The country is considering whether it is possible or desirable to relocate all citizens or whether it should focus on accelerating disaster risk reduction (DRR) and climate change adaptation (CCA) processes. RMI's people and government leaders are attempting to understand risks atoll by atoll to allow adaptation measures to be established with local atoll and village groups.

The current disaster management approach is arranged in accordance with the 2019 National Disaster Risk Management Arrangement (NDRMA) and eight-cluster national coordination structure. The National Disaster Committee (NDC) oversees policy and strategy and reports to the President, while the National Disaster Management Office (NDMO) is primarily responsible for disaster management activities. As one of several small Pacific Island states affected by climate change, RMI has participated in regional frameworks and strategies for climate security, and, like others in the region, RMI approaches the issues of climate change, DRR, and disaster management in an integrated manner.

The Compact of Free Association (COFA) is an agreement governing the bilateral relationship between the U.S. and RMI. It confers some measure of autonomy to RMI in exchange for a U.S. defense commitment, significant economic assistance, and other benefits. The current COFA agreement is being renegotiated as of preparation of this handbook ahead of the COFA's expiry. While the bilateral relationship is mostly positive, the issue of compensation for the 1946-1958 nuclear testing program is one source of disagreement. Beyond this negotiation, agencies and communities of RMI and the U.S. continue to work together. The U.S. Agency for International Development's Bureau for Humanitarian Assistance (USAID/BHA) takes the lead in providing humanitarian assistance from the U.S. government to RMI in the event of a disaster. Moreover, Marshall Islanders have visa-free access to live, work, and study in the U.S. through the COFA.

The effects of environmental loss and economic stagnation as well as a search for jobs, education, and health care have seen many Marshallese depart the islands in the first two decades of the 21st century. The 2021 national census showed only 39,262 people in the country, a 26% drop over 2011 numbers.[1] Emigration – mostly to the U.S. – is the most significant driver of the decrease.

RMI's economy is small with a small labor force. The annual Gross Domestic Product (GDP) is only US$221 million,[2] and contributions to GDP are approximately 44% from the public sector with remittances and COFA-related grants and budgetary aid also making up a large percentage. In practice, the economy combines a small subsistence agriculture sector in the outer islands with a modest urban sector in Majuro and Kwajalein. The RMI government is the country's largest employer, and the U.S. Army Garrison – Kwajalein Atoll (USAG-KA) is the second largest employer.

COUNTRY OVERVIEW

RMI comprises 29 shallow atolls and five islands, small dots of land in a massive area of ocean just north of the equator. Geographically remote and home to fewer than 50,000 people, RMI is burdened by poverty and the enduring health and environmental effects of the U.S.'s decade-long nuclear weapons testing program. The economy is small and relies on imports as well as the financial inflows linked to the COFA that has linked the islands to the U.S. since 1986. The country is exposed to risks related to typhoons and fluctuations in rainfall that can drive drought, but the most significant long-term hazard is climate change-induced sea level rise.

History

Micronesian seafarers, who were skilled navigators and made long canoe voyages throughout the Pacific, began settling what are the modern Marshall Islands 3,000-4,000 years ago.[3] Carbon dating conducted on artifacts thought to represent the earliest permanent settlements date to between 30 BCE and 50 CE.[4] The early societies on the islands and atolls developed independently from each other although they shared various characteristics in that they were generally matrilineal and were governed by chiefs.[5]

In the first half of the 16th century, Spanish navigators spotted but did not map the islands. Between then and the latter 18th century, Europeans made occasional contact with various islands' people, but there was little effort to exploit their resources. Two British naval captains – John Marshall and Thomas Gilbert – partially explored the region in 1788, and more substantial mapping was done by two Russian expeditions (1803 and 1815-1823). By the time the Russian missions ended, U.S. whalers had begun frequenting the islands. They were followed in the 1850s by Protestant missionaries who sought to convert the islanders.[6]

In 1878, Kabua Kabua and Letabalin, local chiefs, signed a treaty with Germany. In the agreement, the islanders granted Germany exclusive use of Jaluit harbor and trading protections.[7] Germany established a coaling station on Jaluit Atoll and, in 1886, by agreement with Great Britain, established a protectorate over the Marshalls.[8] German administration was carried out by the Jaluit Gesellschaft, a trading company, from 1887 until 1902, after which time the German government assumed direct administrative control. For the most part, German control was focused on economic matters and resolving conflicts among foreigners or between foreigners and local chiefs. Social, health, and educational change was implemented by missionaries.

Japan seized the islands in 1914, and the Japanese military governed the islands until 1918 when agencies of the Japanese civilian government joined military administrators. In 1922, Japan gained the League of Nations mandate to administer the islands, and this arrangement lasted until Japan withdrew from the League of Nations in 1933. Although it no longer held recognized authority, Japan retained control over the Marshall Islands until late in World War II. The Japanese empire sought a combination of social and economic outputs from the Marshalls. Economic development would support the use of the islands as a colony for resettling Japan's rapidly increasing population, and these changes would come alongside "Japanization" of the islanders through education, language training, and enforced cultural change. Marshallese themselves saw little improvement in their lives.

In the early 1930's, Japan began to construct military fortifications on the islands of Kwajalein, Jaluit, Wotje, Mili, and Maloelap. Islanders were conscripted to labor on these projects and underwent forced resettlement to atolls where this work was located.[9] During World War II, the fortified islands became targets of Allied attacks. The U.S. Central Pacific Campaign began with the Gilbert Islands, which mostly make up the

modern state of Kiribati, south of the Marshalls, and the November 1943 capture of the Gilberts was followed by Operation Flintlock, a plan to capture the Marshall Islands. The U.S. 5th Fleet left Pearl Harbor in January 1944 with the goal of putting 53,000 assault troops ashore on two atolls: Roi and Namur. Meanwhile, using the Gilberts as an air base, U.S. planes bombed Kwajalein, the Japanese administrative and communications center. By 31 January, Kwajalein was devastated. By 3 February, U.S. infantry overran Roi and Namur. The Marshalls were effectively in U.S. hands,[10] but two years of harsh treatment and warfare had left one in every 10 Marshall Islanders dead.[11] The U.S. fortified Enewetak and Kwajalein atolls as military bases[12] and administered the captured islands via the military until 1947 when the whole of the Marshall Islands were made part of the United Nations (UN) Trust Territory of the Pacific Islands (TTPI), which also included what would become the Federated States of Micronesia and the Republic of Palau, under jurisdiction of the United States.[13]

Between 1946 and 1958, the U.S. conducted 67 atmospheric nuclear bomb tests in the northern Marshalls, including the November 1952 "Mike" Shot, the first thermonuclear bomb test, on Enewetak Atoll. During the testing period, islanders living in test areas were relocated, but communities downwind from the immense March 1954 "Castle Bravo" hydrogen bomb test were also exposed to deadly radioactive ash. Thirty years later, the U.S. government struck an agreement with the RMI to pay US$150 million in compensation, facilitated by a Nuclear Claims Tribunal, for any loss of property and damage to health. Bikini and Rongelap atolls were rendered uninhabitable, a circumstance that created a seemingly permanent population of nuclear fallout-caused displaced persons.[14]

After voting to separate from the other entities of the TTPI in 1978, the Marshall Islands drew up a constitution that voters approved in 1979. The republic instituted internal self-government under President Amata Kabua. The government signed the COFA with the United States, and voters approved the agreement, which was ratified by the Marshall Island's parliament and came into effect in 1986. The Compact required that the U.S. remain responsible for defense and external security and provide financial assistance for the republic; it also entitled the U.S. to use the missile testing range that had been founded in 1959 on Kwajalein Atoll and provided for the republic to become fully independent and to alter its status with the U.S. at any time, subject to residents' direct vote and approval. In 1983, before the COFA had come into effect, the islanders did reopen negotiations on the Compact's provision regarding compensation for the people of the four atolls affected by nuclear tests. Via the Section 177 Settlement Agreement, the U.S. agreed to set up a separate fund for the people of the four atolls and established an open-ended fund to cover personal injury claims among the islanders; it also agreed to set up a joint U.S.-Marshallese claims tribunal. A further agreement set up a fund to improve living conditions on Ebeye Island, where all Micronesians working on the Kwajalein missile range and base resided.

The entirety of the TTPI was dissolved in 1990 with the approval of the UN Security Council, and on 17 September 1991, the Marshall Islands became a member of the UN.[15] In 2003, the COFA was amended to, among other things, provide for continued U.S. financial and program assistance to RMI and payments for U.S. military use of Kwajalein over a 20-year period. Furthermore, the amended Compact established a trust fund to provide revenue to the RMI beyond 2023.[16] The Compact and the Section 177 Settlement Agreement constitute the full settlement of all claims, past, present, and future, of the government, citizens, and nationals of the Marshall Islands related to the Nuclear Testing Program. The United States has provided more than US$600 million to the affected communities. This includes direct financial settlement of nuclear claims, resettlement funds, rehabilitation of affected atolls, and radiation related health care costs.[17]

After President Kabua's 1996 death in office,

he has been succeeded by Presidents who have been elected from among members of the parliament and who transferred authority either by regular election or due to a vote of no confidence in the parliament. Given the small number of parliament members and a tradition of parliamentarians shifting from government to opposition or vice versa, it can be difficult to muster and maintain a majority of support in the parliament, and a President can face a vote of no confidence at any time. The most recent such occurrence was in early 2016 when President Carsten Nemra lost a confidence vote and Dr. Hilda Heine was elected to complete the Presidential term.[18] After elections in late 2019, Dr. Heine was not re-elected to the Presidency but maintained her seat in Parliament, and members of parliament elected David Kabua who began his Presidential term in January 2020.[19]

Culture and Demographics

Micronesian sailors and settlers who were the ancestors of today's Marshall Islanders migrated into the islands of the modern RMI from other areas of Southeast Asia and Oceania at least 2,000 years ago and seemingly settled the islands starting in the north and moving southward.[20] Figure 1 shows the location of the Marshall Islands within the broader Micronesia region of the Pacific.[21]

Although each atoll and island society has its own peculiarities, they all broadly tend toward matrilineal and hierarchical organization. Historically, at the top were the Irooj (chiefs), with nobles and laborers occupying the second and third tiers. All land belonged to the Bwij (clan) with rights to land use handed down through the mother's line and an individual's place within the bwij dictating the type and location of land exploitation. Irooj were responsible for leading community work, sailing expeditions, and war. Although chiefly power was normally limited to one atoll – or even a part of one atoll – especially successful war chiefs could gain control of several atolls. The importance of sailing to Marshallese societies lingers in the navigating and canoe-building skills that are valued although not as widely practiced among today's Marshallese.

Without a written language in pre-colonial times, skills, knowledge, and histories were passed down orally. Thus, stories, chants, and songs were common and important. Among the most important of the skills passed down was how to live on the resources of the sea and land by tending and harvesting breadfruit, papaya, pandanus, banana, coconut, taro, and arrowroot, and by fishing. All men were required to learn how to fish, and there is evidence of more than 20 traditional fishing methods. Beyond sustenance, one of the most important lessons

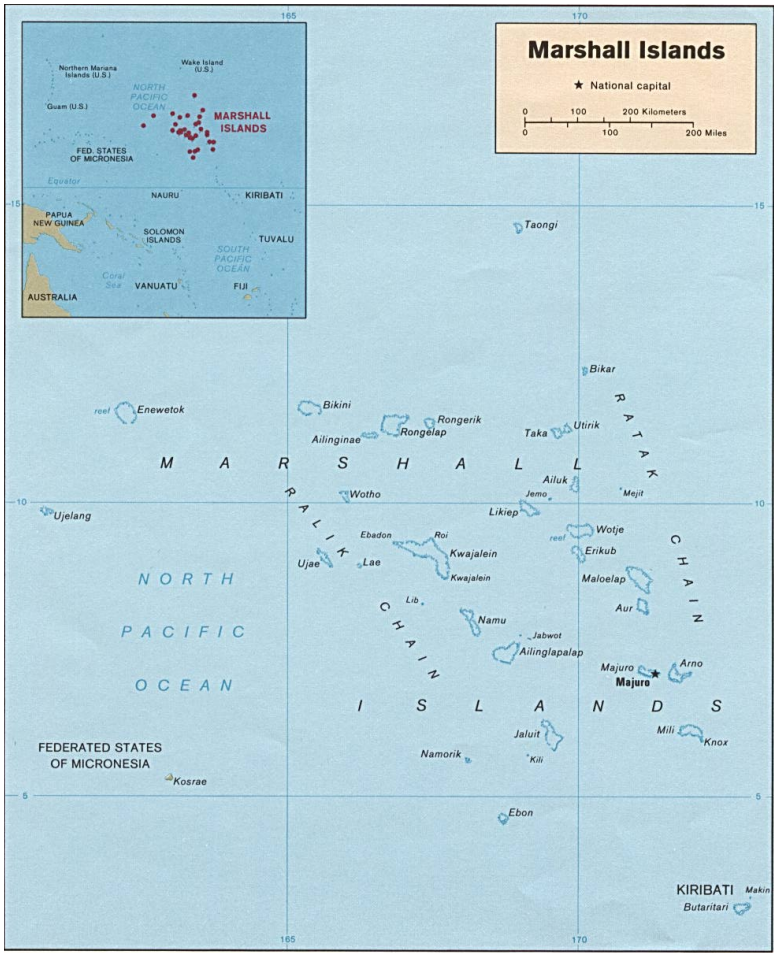


Figure 1: The Marshall Islands and the Micronesia Region

taught to men was navigation, which involved memorizing hundreds of star courses among the atolls using marks, cloud shapes, winds, and the flight of birds. The use of stick charts was essential to understand seaways, marks, and islands. Any man who mastered navigation skills was awarded a high title and land. Finally, weaving was a key skill passed down to both women and men. Clothing and mats were usually made by weaving pandanus and hibiscus leaves while other materials could be used for nets, sails, or rope.[22]

Most estimates find that there were approximately 10,000 Marshallese in the decades leading up to World War II, and the population grew swiftly in the latter half of the 20th century. Nonetheless, the effects of environmental loss, economic stagnation, and a search for education and health care have forced many Marshallese to depart in the first two decades of the 21st century. The Marshall Islands' 2021 national census showed a 26% drop in the population. The previous iteration, in 2011, counted 53,158 people in the country, but 2021 data showed a decline to 39,262. Outmigration – mostly to the U.S. – is generally the most significant driver of the decrease. Marshall Islanders have visa-free access to the U.S. through the COFA. While outer islands have historically lost people to internal migration, the 2021 census showed that departures had also begun to impact Majuro and Ebeye, the major population centers and areas that had seen seven decades of growth. Based on preliminary data, the biggest percentage drop was noted at Lae Atoll, which had 348 people in 2011 but only 55 in 2021. Meanwhile, Majuro's population declined from a high of 27,797 in 2011 to 20,483 in 2021.

In the first census, conducted by the U.S. in 1958, there were 13,928 Marshallese in the islands. Numbers grew steadily over the decades, even seeing a large jump in the 1988 census when 43,380 people were counted. At that time, demographers predicted that there could be more than 80,000 people living in RMI by the 2020s, and the government launched a major family planning effort to slow its 4% annual birth rate. Although the 1999 and 2011 headcounts still showed growth, it had slowed. By the 2011 count, live births were already falling from their peak of over 1,500 per year in the preceding decade, and this number declined to a 20-year low of 980 births in 2019 before rising only slightly to 1,002 births recorded by the Ministry of Health and Human Services in 2020. On top of this falling birth rate, the "loss" of people to outmigration between 2011 and 2021 was more than double the out-migration rate from 1999 to 2011.[23] Migration out of RMI increased after the COFA went into effect in 1986 because of visa-free provisions that allowed easy mobility between the islands and the U.S. As of 2020, there were an estimated 30,000 Marshallese living in the U.S.[24]

Ethnic Makeup

More than 90% of Marshallese are of local Marshallese (Micronesian) origin with another 5-6% being of mixed Marshallese ethnicity (with other Oceanian or other backgrounds). Approximately 2% of Marshallese are from an "other," non-Micronesian background.[25]

Key Population Centers

There are 24 inhabited atolls. More than 20,000 people – more than half of the entire resident population – live in Majuro (atoll), the capital,[26] which is made up of 64 islets.[27] Together, the residents of Majuro (atoll) and Ebeye (island), located in Kwajalein Atoll, make up more than two-thirds of the population. Ebeye is one of the most densely populated locations in the world[28] with a reported 15,000 people on the island's 0.36 square kilometers (km^2; 0.14 square miles) of land in 2016.[29] The rest of the population lives in traditional villages on the outer islands where there may be just a few dozen or a few hundred people.

Language

RMI has two official languages: Marshallese and English. Marshallese is the first and more widely spoken of the two languages. Marshallese does incorporate two major dialects, named for the two island chains – Ratak and Ralik.

There are lexical and phonetic differences that distinguish the two dialects, but they are broadly the same syntactically and are mutually intelligible. Like English, Marshallese is written in the Latin alphabet. The language was first transliterated by missionaries, but there are changing orthographies. A more modern (and to many ears, more faithful) transliteration has been developed and is beginning to supersede the missionary-introduced orthography.[30]

Religion

Most modern Marshallese identify as Christian. Major church denominations include the United Church of Christ (formerly Congregational), whose congregation accounts for more than 47% of the population, the Assemblies of God (16.2%), the Roman Catholic Church (8.5%), the Church of Jesus Christ (7%), and Bukot nan Jesus (a religious group that split from the Assemblies of God; 5.4%). Other small congregations include Full Gospel, Baptists, Seventh-day Adventists, Jehovah's Witnesses, Iglesia ni Cristo (Church of Christ), non-denominational Christians, Jews, Ahmadi Muslims, Hindus, Baha'is, and atheists. Most non-Christians appear to be foreign born.

The RMI constitution provides protections for religious freedom with "reasonable restrictions" to ensure public order and the rights of other individuals, and it also incorporates the rights to freedom of thought, conscience, and belief, and to the free exercise of religion. Nonetheless, the dominance of Christian sects means that government events usually begin and end with an ordained minister from the United Church of Christ or other church official delivering a Christian prayer. Moreover, most extracurricular school events begin and end with an inter-denominational Christian prayer delivered by a church minister. Locals tend to view this pervasiveness of prayer as a cultural practice. In addition, church leaders wield significant influence over parishioners who occasionally report pressure to contribute significant sums of money at the risk of losing social standing if they do not. Meanwhile, Muslim islanders do report cases of bullying or harassment.[31]

Christianity was introduced in the mid-19th century by Protestant missionaries, and their proselytism succeeded in supplanting the indigenous Marshallese religion, which is now attested to only by fragmentary accounts that indicate some of the contours of the Marshallese conceptions of gods, spirits, death, afterlife, rituals, and magic. It is understood that the Marshallese believed in many gods with a high god over all the other gods. The Marshallese offered the high god tributes of breadfruit, coconut, fish, or other natural products. Moreover, during war or ahead of important events, including a fishing expedition, people would make an offering to the gods. Non-god spirits could appear in dreams or possess a person, and these spirits could be good or evil. Death was conceived of as a passage to the island of the dead, Eorerok, although the dead could continue to interact with the living, often sanctioning people who misbehaved or protecting close relatives or favorites. In pre-Christian eras, the Marshallese conducted sacred rituals before going to war, burying a high chief, getting married, or getting a tattoo. When a chief died, people gathered for 7-10 days with the chief's family so that they could prepare the body before it was laid to rest.[32]

Vulnerable Groups

The risk of suffering adverse effects from a natural disaster is linked to vulnerabilities among individuals or communities; these vulnerabilities can be related to individual characteristics – e.g., sex, age, disability status, or place of residency. Such vulnerabilities can exacerbate the impact of disasters and affect the pace and means of recovery. A particular problem in RMI is that remote communities have limited access to various public services, including utilities and information; these lacks exacerbate other vulnerabilities linked to urbanization, socio-economic inequality, and societal changes that have eroded traditional community-based social protection systems. The groups highlighted in this section are not comprehensive but highlight

some of the vulnerabilities that put individuals and communities at heightened risk.

Women

Traditionally, all Marshallese are part of a Bwij (clan), which owns land under the leadership of the clan head. Multiple bwij form a unit that is led by a Irooj (chief). Within the clan, both matrilineal and patrilineal heirs have land rights. However, the permanent authority is primarily determined and passed down along the maternal line. Based on this matrilineal system, women's influence has historically been strong, albeit informal. Moreover, while Marshallese women nominally have considerable rights to land, women are now less likely to live on their own land, and husbands are less likely to move to join their wives' families after marriage. As women are more likely to live away from their own land – where they enjoy respect, power, and protection – and move to their spouses' land and communities, they may be isolated from their support systems. This shift may increase the vulnerability of women during disasters due to reduced adaptive capacity from declining authority, power, and access to resources.

Domestic violence and gender-based violence (GBV) are prevailing issues. There are strongly rooted perceptions of women's role in Marshallese society, and these perceptions are drivers of violence against women. A 2014 government survey of women found that, among ever-partnered women, 48% reported experiencing physical violence from a partner in their lifetime, with 16% of women reporting this violence in the previous 12 months. Approximately 21% of ever-partnered women reported that they had been sexually abused by a partner during their lifetime, and 6% of women reported experiencing sexual violence from a partner in the previous 12 months. An additional government Family Health and Safety Study during the 2015-2016 drought found that 65% of women believed it was acceptable for their partner to beat them if they did not complete their chores. The threat of GBV increases during crises as pervading beliefs combine with increased time burdens to complete tasks.[33]

In addition to dislocation from traditional resource and social structures, women are either absent or grossly under-represented at the highest levels of government where they could bring visibility to the impacts not only of GBV but also of departures from tradition in terms of land tenure, labor, and social systems. In the most recent general election (2019), two Senate seats (of 33) went to women. One of the female Senators, in her first term, was subsequently appointed Minister of Education, Sports, and Training, meaning that women held one of the 13 executive branch positions. The other female Senator was Dr. Hilda Heine, in her third term in the Senate. Dr. Heine is a past President of the Republic. She was elected as the first (and heretofore only) female President in 2016, and she served until 2020.[34]

The RMI has ratified several human rights conventions, including the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) as well as key additional protocols, but gender outcomes remain poor. In its 2021 Report of the Working Group on the Universal Periodic Review to the UN Human Right Council, RMI reiterated that there are no legal barriers to female political or economic participation, but it also agreed that social barriers and practices prevail. These barriers range from a lack of female role models to failures to deliver basic services; an example of the latter is that many women in RMI lack basic health education and care that means the country continues to have a very high teenage pregnancy rate.[35] The upshot of such shortcomings is that women have fewer opportunities to participate. Men dominate formal employment, with 66% of men considered to be economically active compared to only 33% of women. This disparity is also present for unemployment rates, with women having a national average unemployment rate of 37% compared to 28% of men.[36]

The government did establish a National Gender Mainstreaming Policy in 2015 and passed the Gender Equality Act in 2019, but supporting policies and practices are still lacking.

Among the missing programs are maternity leave policies and property inheritance and pension reforms. RMI has laws criminalizing domestic violence; however, a lack of capacity impacts the police domestic violence unit's response as well as the Attorney General's prosecution.[37]

Children and Youth

Recent censuses have found that more than 48% of RMI's population is below the age of 20,[38] and youth unemployment stands at 63%. In its first effort to address this challenge, the government created the RMI National Youth Policy 2009-2014 and a National Action Plan on Youth Employment 2017-2019.[39] A new youth policy for 2021-2025 was awaiting adoption as of latter 2021,[40] and there are hopes that this policy can help address the high rate of youth (41%, or more than 3,200 people ages 15-24 years) who are not in employment, education, or training. Young women are more likely than young men (45.2% versus 37.1%) and rural youth are more likely than urban youth (45% versus 40.4%) to not be in employment, education, or training.[41]

In addition to the challenges imposed by remoteness and small communities, hazards impact education in RMI. Schools occasionally close due to drought impacts, such as a lack of drinking water and reduced access to sanitation. When schools reopen, students may not be able to attend as they are needed by their families to help clear or rehabilitate homes.[42] Already, the unavailability of school – particularly secondary schools – in remote atolls is a barrier to education as one in four teenagers is unable to access secondary school within reasonable daily travel from their homes. Those who can become boarders at schools far from their homes experience crowding in accommodations in Majuro and Ebeye or challenges associated with living with extended family groups.

In its 2018 Concluding Observations, the UN Committee on the Rights of the Child raised concerns about the prevalence of customary child marriages in RMI, where child marriage – particularly among girls – remains common on outer islands. Indeed, the UN Committee on the Elimination of Discrimination against Women expressed concerns that Marshallese customary marriages are exempt from the legal minimum age limit of 18 years, and that women and girls are regularly forced into customary marriages, especially if they are pregnant.

The prevalence of migration – internal and to the U.S. – by working-age adults means that many children live separately from at least one if not both of their biological parents. A 2020 survey found that one-third of children under the age of four years do not live with a biological parent, and more than one in 10 have one or both parents living outside RMI.[43] In its 2017 survey, the UN Children's Fund (UNICEF) noted that commercial sexual exploitation of girls remained a problem, generally linked to foreign shipping vessels that dock in Majuro, and there had been reports of some Marshallese children being transported to the U.S. and subjected to sexual abuse. Nonetheless, the country had a strong legal framework for child protection.[44] In addition, RMI established a National Child Protection Task Force and initiated consultation on developing a Child Protection Policy in 2020. The expectation is to improve the experience of children with the country's judicial system and to improve protection for children at risk of being trafficked or abused.[45]

People Living in Poverty

An estimated 7.9% of the population lives below the poverty line. Poverty varies by geographic location, education level, and labor market characteristics of the household. People living in rural areas are much more likely to be poor than people in urban areas. The highest rate of poverty is for those in rural areas, 22.1%, and the rate is much lower in urban areas, 2.3% in Majuro and 5.8% in Kwajalein.[46] A complicating factor in poverty is that some 10% of female-headed households live below the poverty line while 7% of male-headed households do so. This difference is thought to relate to lower female labor force participation rates and inequalities in terms of the types of employment that women do take up.[47]

Poverty correlates positively with a lack of access to public utilities nationally. While an estimated 70% of all households do not have access to a metered water connection, there is a dramatic difference between urban and rural areas – 78.6% access in Kwajalein, 25.8% access in Majuro, and non-existent in rural areas where more than one-fifth of households live in poverty. Households that source drinking water from rainwater tanks have the highest poverty rates at nearly 10%. In contrast, less than 4% of households with access to piped water, a public tap, or finances that allow use of bottled water for drinking, live in poverty.

Residents of Nuclear Test Areas

The nuclear testing carried out by the U.S. government in the Marshall Islands in the mid-20th century increased vulnerability for both the country and for the communities displaced from testing site atolls, Bikini and Enewetak, and downwind atolls, Rongelap and Utrik (also sometimes spelled Utrōk or Utirik). The nuclear tests caused environmental contamination and long-term adverse health impacts among residents due to fallout.[48] The vicinity of these atolls and the estimated fallout pattern from the 1954 "Castle Bravo" event are shown in Figure 2.[49] Under the COFA, together with its related agreements, the U.S. recognized the effects of its testing and accepted its responsibility regarding the people of the Marshall Islands pertaining to the sequelae of the nuclear tests. The U.S. Department of the Interior, primarily through the Office of Insular Affairs (OIA), has administered several programs and payments of funds that, as of 2021, included key projects related to health and education for the populations of Bikini, Enewetak, Rongelap, and Utrik.

Through the Four-Atoll Health Care Program, the OIA Technical Assistance Division

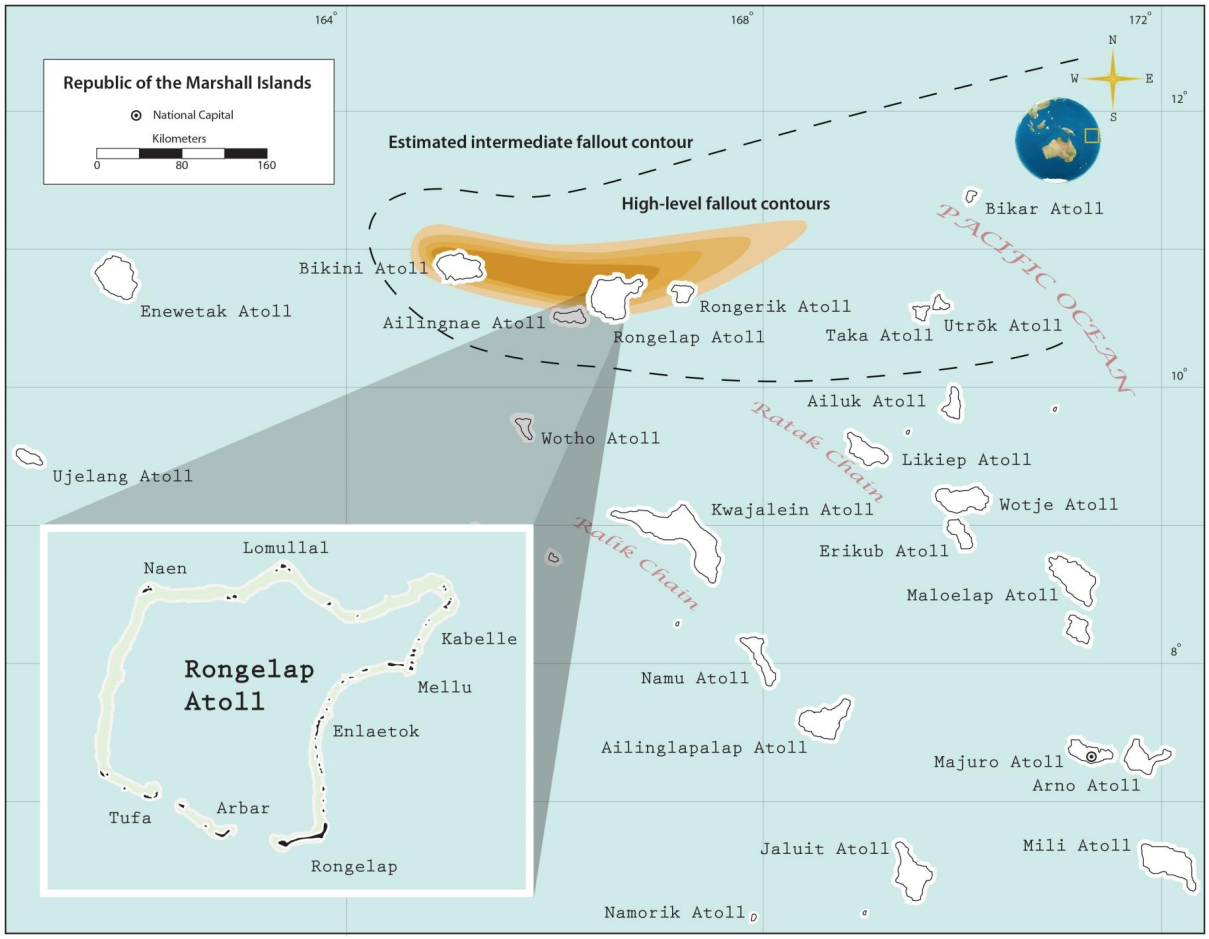


Figure 2: Map of Atolls Impacted by U.S. Nuclear Testing with 1954 "Castle Bravo" Event Fallout Pattern

supports healthcare clinics on Majuro, Bikini, Enewetak, Rongelap, and Utrik to support over 20,000 people from the four nuclear-affected atolls. According to a 2018 census, the targeted populations include 2,088 patients in the four atolls and 18,782 patients who have migrated from those atolls to Majuro.[50] OIA funding covers – for each atoll – a full-time, primary-care physician, who works in collaboration with a full-time, island-based health assistant, and the funding allows for drinking-water quality tests. The Marshall Islands Ministry of Health provides local support to this OIA-funded program.[51]

As the above numbers reveal, most would-be residents of the contaminated atolls are displaced, mostly within RMI but also internationally, mostly to the U.S. There have been instances when residents allowed to return, but they subsequently departed or were removed due to residual radiation. At the 60th anniversary of the "Castle Bravo" test, some residents reflected that it was not simply physical displacement that left them more vulnerable. A councilwoman in Bikini's local government said, "As a result of being displaced we've lost our cultural heritage – our traditional customs and skills, which for thousands of years were passed down from generation to generation."[52] The following narratives detail the contexts that surround the displacement experiences of each set of atoll residents.

Bikini

Twenty-three nuclear devices were detonated on Bikini atoll between 1946 and 1958 with a combined fission yield of 42.2 Megatons (Mt). The most significant contaminating event was the "Bravo" test on 1 March 1954; this ground-surface test had an estimated explosive yield of 15 Mt. Regional fallout from that test caused widespread contamination over Bikini and forced the evacuation of people from Rongelap and Utrik.[53] As for Bikini Atoll itself, three of its islands - Bokonijien, Aerokojlol, and Namu - were completely vaporized by the nuclear blasts and disappeared.[54]

Detailed monitoring surveys have been used to develop predictive dose assessments that are essential in helping identify radionuclides and radiological exposure pathways and in assisting the U.S. Department of Energy and the Bikini Council in making more informed decisions about resettlement. Predictive dose assessments indicated that the most significant pathway for human exposure to residual fallout contamination was ingestion of cesium-137 contained in locally grown crops such as coconut, breadfruit, and pandanus.[55]

At the time of removal from the atoll, there were some 150 residents who initially relocated 201 kilometers (km; 125 miles) eastward to the uninhabited Rongerik Atoll, but by 1948, the islanders were starving and were moved to Kwajalein, which proved inhospitable for them. After six months, the Bikinians moved to Kili Island, 644 km (400 miles) south of Bikini and one of the smallest islands in the Marshall Islands. In 1968, the U.S. Atomic Energy Commission (AEC) began clearing radioactive debris from Bikini Island. The AEC determined that the coconut crabs on the island retained high levels of radioactivity and could not be eaten. By 1970, the U.S. allowed 160 Bikini islanders to return, but by 1978, tests revealed an 11-fold increase caesium-137 within their bodies, along with elevated levels of plutonium-239, plutonium-240, and strontium-90. Women were experiencing miscarriages and stillbirths, and there was a high incidence of genetic abnormalities in children. This prompted the U.S. to evacuate them once again, this time to Majuro Atoll, 966 km (600 miles) from Bikini. In 1975, Bikinians filed a class action lawsuit against the U.S., and the case resulted in a payment of US$75 million in damages and the creation of a US$90 million trust fund to pay for medical expenses and cleanup, and to give each islander approximately US$550 per year.

As of February 2013, there were 4,880 Bikini islanders; of them, 1,250 were living on Kili, 2,150 on Majuro, 280 on Ejit, 350 on other Marshall Islands, and 850 in the U.S. and other countries.[56] These communities do not, however, stay in one place. By 2017, surveys found that Kili hosted only 550 people,[57] and there were an estimated 500 Bikinians on Ejit in 2020.[58] On

Bikini, 4-6 Bikinians reside there as caretakers[59] alongside the handful of Bikini Project Department construction workers and some U.S. Department of Energy staff.[60]

Enewetak

In December 1947, in preparation for a series of new nuclear tests, inhabitants of Enewetak Atoll were relocated to a new home on Ujelang Atoll, 217 km (135 miles) southeast of Enewetak. Operation Sandstone commenced during April 1948 and included three tests located on the islands of Enjebi, Aomen, and Runit. An additional four near-surface tests were conducted as part of Operation Greenhouse during 1951. Operation Ivy, in 1952, set the stage for the first test of a large thermonuclear device. The "Mike" event of 31 October 1952 had an explosive yield of 10.4 Mt and vaporized the island of Elugelab. Early analysis of "Mike" fallout debris showed the presence of two new isotopes of plutonium and led to the discovery of the new heavy elements, Einsteinium and Fermium. Operation Castle involved a single nuclear test on Enewetak in 1954, and 11 tests were also conducted on Enewetak in 1956 as part of Operation Redwing. In 1958, the U.S. anticipated the international acceptance of a call for suspension of atmospheric nuclear testing and assembled a large number of devices for testing before the moratorium came into effect. From April through August 1958, 22 near-surface nuclear denotations were conducted on Enewetak Atoll on platforms or barges or underwater. Most nuclear tests conducted on Enewetak Atoll were detonated in the northern reaches of the atoll and produced highly localized fallout contamination of neighboring islands and the atoll lagoon.

Enewetak Atoll continued to be used for defense programs until the start of a cleanup and rehabilitation program in 1977. The Defense Nuclear Agency settled on a plan that called for removing all radioactive and non-radioactive debris, removing or amending soil depending on amounts of plutonium per gram of soil, and disposing and stabilizing all accumulated radioactive waste into a crater on Runit Island and capping it with a concrete dome. During the Enewetak Radiological Support Project, 73,000 cubic meters (2.6 million cubic feet) of surface soil from six different islands on Enewetak Atoll was recovered and deposited in "Cactus crater" on Runit Island.[61] The Cactus Crater containment structure, familiarly referred to as "Runit Dome," is shown in Photo 1.[62]

The people of Enewetak remained on Ujelang Atoll until resettlement of Enewetak Island in 1980. Between 1980 and 1997, the resettled population was periodically monitored for internally deposited radionuclides by scientists from the Brookhaven National Laboratory (New York, U.S.). More recently, the U.S. Department of Energy designed and built a radiological laboratory on Enewetak Island, and the Department continues to help develop the necessary local resources and technical expertise to maintain and operate the facility on a permanent basis, a cooperative effort finalized in 2000. The laboratory facility incorporates both a permanent whole-body counting system to assess radiation doses from internally deposited cesium-137 and a clean space for collecting in-vitro bioassay samples. Scientists from the Lawrence Livermore National Laboratory (California, U.S.) support the operation of the facility and are responsible for systems maintenance, training, and quality assurance.[63] As of 2017, there were 664 people living on Enewetak.[64]



Photo 1: Cactus Crater Containment Structure ("Runit Dome")

In its 2020 assessment, the U.S. Department of Energy found that the people on Enewetak are not being exposed to levels of fallout contamination of concern to human health in relation to the Runit Dome. Since 2000, the Department of Energy and the Enewetak Ujelang Local Government have developed a comprehensive individual radiological protection monitoring program using the Enewetak Radiological Laboratory. The monitoring results indicate that the people of Enewetak are being adequately protected from exposure. The main safety concern associated with leakage of radioactive waste from the Cactus Crater containment structure is the uptake of fallout radioactivity in marine foods. The potential does exist for contaminated dome groundwater to flow into the subsurface marine environment and possibly form highly localized contamination regimes in the lagoon or on the ocean reef. Additional physical security measures were requested in early 2019 when the RMI Ministry of Justice asked the U.S. Department of Energy to build a fence around the perimeter of Runit Island after reports of people accidentally going ashore there.[65]

In addition to still high levels of radioactivity, there are concerns about the stability of the Runit Dome on Enewetak. With sea level rise, the dome may be damaged and radioactive leaks could occur.[66]

Rongelap

The 1 March 1954 "Castle Bravo" nuclear test on Bikini Atoll led to widespread fallout contamination over inhabited islands of Rongelap Atoll. A total of 64 people living on Rongelap received significant exposure to "fresh" (highly) radioactive fallout and had to be evacuated to Kwajalein for medical treatment. The Rongelap community spent three years living on Ejit Island (Majuro Atoll) before returning to Rongelap in June 1957. However, growing concerns about possible long-term health effects associated with exposure to residual fallout contamination prompted residents to relocate again to a new home on Mejatto Island on Kwajalein in 1985. The people of Rongelap remain resident on Mejatto although parts of the community have moved to Ebeye Island (also in Kwajalein Atoll) and Majuro Atoll.

Through the Rongelap Resettlement Act, the United States Congress approved and continued a 1996 resettlement agreement between the U.S. and the Rongelap Atoll Local Government, and Congress extended distribution authority to advance resettlement. As a part of a 1996 resettlement agreement, a Phase I resettlement program was initiated in 1998. The U.S. Department of Energy, the Rongelap Atoll Local Government, and the RMI national government have since signed a Memorandum of Understanding that outlined shared provisions in support of resettlement. Under this agreement, scientists from the Lawrence Livermore National Laboratory were tasked with developing individual radiation protection monitoring programs for resettlement workers and to verify the effects of the remedial actions.

As of 2014, Phase I resettlement of Rongelap Island was nearing completion. At that time, Rongelap Island had gained electrical power, a freshwater supply, a modern field station, paved runway, several bungalows for tourists and other visitors, a whole-body counting facility and adjoining health physics laboratory, and a large concrete pier.[67]

Utrik

Utrik Atoll is 500 km (310 miles) east of Bikini Atoll. Utrik experienced significant radioactive fallout deposition from atmospheric nuclear weapons tests, the most significant of which for Utrik was the "Castle Bravo" test of 1954. The 167 residents at the time of the blast received significant external and internal exposures to "fresh" fallout contamination and were evacuated to Kwajalein Atoll. The community returned to their home atoll by mid-1954, but the community continues to seek assurances from the U.S. Government that the atoll is safe for habitation. The U.S. Department of Energy originally assigned responsibility for the internal dosimetry program to the Brookhaven National

Laboratory. Through the 1990s, Brookhaven conducted periodic whole-body counting missions to determine the burdens of gamma-emitting radionuclides. More recently, the U.S. Department of Energy in agreement with the Utrik Atoll Local Government and national RMI government established a permanent whole-body counting system on Majuro. With the cooperation of the Utrik Atoll Local Government, this facility serves the general public, especially those residents and visitors who return from the northern Marshall Islands and who are concerned about being exposed to residual fallout contamination. Under supervision from scientists from the Lawrence Livermore National Laboratory, the Utrik Whole Body Counting Facility on Majuro is maintained and operated by Marshallese technicians.

Exposure to residual fallout contamination on Utrik represents only a small fraction of the dose that people receive from natural sources of background radiation. The radiological dose delivered to inhabitants is dominated by external exposure and ingestion of cesium-137 (and to a lesser extent, strontium-90) contained in locally grown coconut, breadfruit, and pandanus. Nonetheless, justification for establishing a permanent whole body counting system on Majuro for use by the Utrik community comes from renewed concerns about high-end doses to maximally exposed individuals and that the associated health risk may exceed current guidelines adopted by the Marshall Islands Nuclear Claims Tribunal for cleanup of radioactively contaminated sites.[68]

As of 2017, surveys found that 436 people were living on Utrik.[69]

Persons Living with Disabilities

According to United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), persons with disabilities are "the first to be forgotten and the last to be remembered" of all marginalized groups in times of emergency. Article 11 of the Convention on the Rights of Persons with Disabilities (CRPD) obliges states parties to the Convention to take all necessary measures to ensure the protection and safety of persons with disabilities in situations of risk, including humanitarian emergencies and natural disasters. However, UNESCAP's 2021 overview of Pacific countries' compliance with CRPD finds that disaster and climate legislation typically fails to attend to the needs and rights of persons with disabilities by being silent on those needs and not including these people on disaster-related agencies. RMI is among those countries that fall short on this element.[70]

According to UNESCAP's disability report from 2015, RMI is home to 6,210 persons living with disabilities. Since 1990, the government has run a disability pension social insurance scheme to ensure access to basic income support for this group. It is intended to guarantee income support for insured persons who are no longer able to work due to disability.[71]

The Marshall Islands established the Disabilities Coordination Office in 2015, following the country's adoption of the Rights of Persons with Disabilities Act.[72] This all occurred in the same year that RMI ratified the CRPD.[73] A legislative review was conducted in 2018 in an effort to comply with the Convention; it resulted in a bill containing proposed amendments. Although the bill was introduced into Parliament in August 2019, time constraints meant that it could not be presented in full. The bill was under review with a view to being reintroduced as of December 2020.[74]

The Disability Coordination Office provides support for the Marshall Islands Disabled Persons' Organization (MIDPO), which includes assistance in accessing funding. MIDPO promotes and protects the rights and interests of persons with disabilities and serves as the central point to combine efforts for disabled persons throughout the Marshall Islands. To this end, MIDPO coordinates its efforts and works with the Ministry of Internal Affairs, the Public Service System, and the Marshall Islands Disability Task Force.[75] MIDPO also receives support and funding from the Disability Rights Fund, a global organization that aims to change attitudes, environments, and rights frameworks

for individuals with disabilities. MIDPO received a Fund grant to advance knowledge and support of the CRPD, to increase CRPD awareness among persons with disabilities living in the outer islands, and to ensure that National Disability Policy accords with the CRPD.[76]

Within the school system, an inclusive education policy has been developed to enable school-age children with disabilities and their peers without disabilities to be in the same classroom, with a special education teacher assigned to assist.[77] In 2020, RMI's schools reported accommodating 421 children with disabilities; further statistics indicated that more than 80% of these students spent more than 80% of their school day in class with their peers rather than in separate learning environments. The government also implements assistance programs to children living with disabilities; these programs include school meals and funding to defray extra costs associated with transport for children with mobility challenges.[78] There are two Deaf Education Centers, one in Majuro, established in 2013, and one in Ebeye, established in 2014, for students who are deaf or deaf-blind.[79]

Economics

RMI's economy is small with a small labor force. The annual Gross Domestic Product (GDP) is only US$221 million, per capita GDP is US$4,056, and the real GDP growth rate is 3.5% (all 2020 data).[80] For several years leading up to the Coronavirus Disease 2019 (COVID-19) pandemic, growth had averaged 3.0%,[81] but long-term growth averaged only 1.5% with deep recessions in 2008 and 2011-2012 offset by growth spurts in 2009-2010 and 2015-2019. This volatility is illustrated in Figure 3.[82] Contributions to GDP are approximately 44% from the public sector and 31% from the private sector[83] with the remainder made up with grants and other budgetary aid. In practice, the economy combines a small subsistence agriculture sector in the outer islands with a modest urban sector in Majuro and Kwajalein. The RMI government is the country's largest employer (46% of the labor force), and the U.S. Army Garrison – Kwajalein Atoll (USAG-KA) is the second largest employer.[84] The labor force has only approximately 13,000 people with nearly twice the number of men (8,500) as women (4,600) participating in the formal economy. In the end, only 40-41% of the resident population participates in the formal economy; more than half of adult males participate while less than 30% of adult females do so.

Geography has always presented a challenge to economic development. Geographic isolation, limited natural resources, and narrow production and export bases have been and will remain determinant factors in the future shape and scope of the economy. Only since the installation of submarine fiber-optic cable in 2010 has the country had the opportunity to build connectivity, and it is hoped that improved telecommunications will help diversify some areas of the economy while providing opportunities for human development.[85] Due to the constraints on the overall economy, households have limited opportunities. According to the 2011 census, 39% of households reported income below the poverty threshold, and 11.92% reported no monetary income. Income in urban areas is generated mainly through wage income from the services sector. In the outer islands and rural areas, subsistence

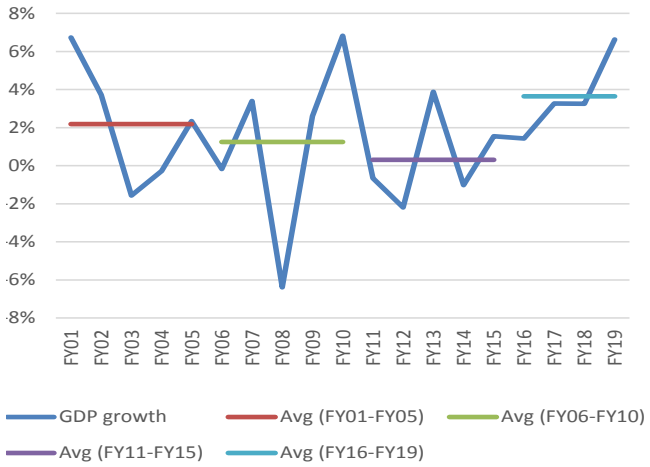


Figure 3: Real GDP Growth, Annual Percent Change, and Periodic Growth Averages, RMI

farming, fishing, copra (the kernel inside of coconuts) production, and handicrafts contribute to household income generation.[86] Because of these limitations, thousands of Marshallese citizens take advantage of the provisions of the COFA with the U.S. under which they are entitled to live, attend school, and work in the United States visa-free as "nonimmigrant residents." Accordingly, many skilled and professional workers migrate to the U.S. for higher wages and standards of living. Thus, there is a shortage of people with professional, medical, management, and other special labor skills within the Marshall Islands.[87] Overseas Marshallese laborers do remit money to their home communities. The sum of remittance flows has increased steadily from US$22 million in 2010 to US$31 million in 2019 (14.3% of GDP), and approximately half of RMI's rural households, one-third in Majuro, and two-thirds in Kwajalein report receiving remittances of US$400-600 annually.[88]

In the end, the Marshallese economy remains dependent on donor funding that has equaled 35% of GDP.[89] Since 2004, based on the amended COFA, the U.S. has provided over US$800 million in direct assistance, subsidies, and financial support, equivalent to approximately 70% of the country's total GDP during the period 2004-2020. With the renegotiation of the Compact's direct grant assistance approaching in 2023, the Marshall Islands' government is increasing its efforts to attract foreign investment and recognizes its important role in promoting private sector development. Most local government officials encourage foreign investment, though attitudes may differ from island to island. The government particularly encourages foreign investment in fisheries, aquaculture, deep-sea mining, manufacturing, tourism, renewable energy, and agriculture, and provides certain investment incentives for foreign investors. In addition to the U.S., the Marshall Islands has received aid from Australia, the European Union (EU), Japan, Taiwan, Thailand, and the United Arab Emirates, and organizations such as the Asian Development Bank (ADB).

There are key obstacles to growing foreign investment. These obstacles include laws that prevent non-Marshallese from purchasing land, the high cost of doing business due to the country's remoteness, dependence on imported materials and services, and limited infrastructure, especially transportation links. Finally, due to RMI's very low elevation, the potential threats of climate change and sea level rise make attracting foreign investments more difficult. Major foreign direct investments are and likely will remain concentrated in the fisheries sector, including tuna processing, and the majority of foreign-backed fishing companies are owned by investors from China and Taiwan.[90]

Agricultural production (excluding fisheries) represents a small proportion of the RMI economy (4% of GDP) but is a critical source of livelihoods, especially on the outer islands. Fisheries are the most commercially valuable natural resource;[91] government revenues from fishing licenses alone rose from US$1.5 million (1% of GDP) in 2009 to US$30 million (13% of GDP) in 2020, one of the largest sources of government revenue. Figure 4 displays the change in sector contribution to GDP over the last two decades.[92] Fish, coconuts, breadfruit, bananas, taro, and pandanus cultivation constitute the subsistence sector. Primary export products include frozen fish (tuna), tropical aquarium fish, ornamental clams and corals, coconut oil and copra cake, and handicrafts. The RMI continues to rely heavily on imports.[93] The

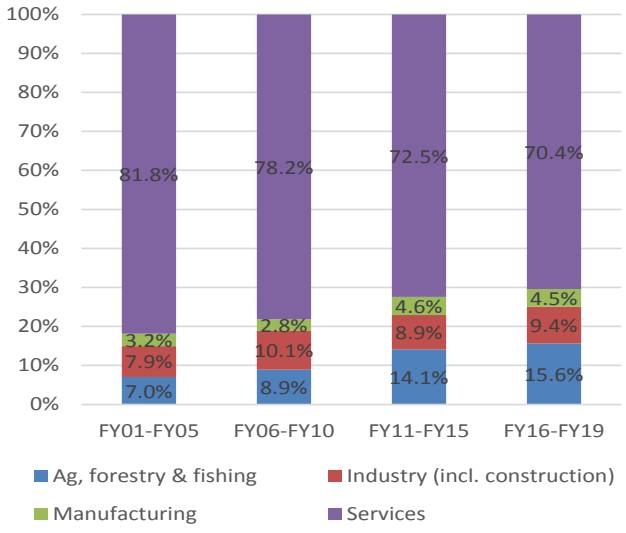


Figure 4: Composition of GDP by Industry (2001-2019)

national import bill is dominated by fuel, food, and beverages, with food imports accounting for approximately 30% of the cost of imports. The country runs a deep trade deficit, which is covered by inflows on income and transfer accounts, especially Compact grants and land-use payments associated with the U.S. military base at Kwajalein Atoll.[94] The U.S., China, South Korea, Japan, Germany, and the Philippines are the Marshall Islands' major trading partners.

Major industries – energy, transport, information and communications technology (ICT), agriculture, and banking – are dominated by state-owned enterprises (SOE). The SOE sector comprises 11 public enterprises, all of which have been assessed as in need of reform. Air Marshall Islands, Marshall Islands Resort, and Tobolar Copra Processing Authority all have negative cash flows and require subsidies each year. The Marshall Islands Marine Resource Authority (MIMRA) is the only SOE to be a net revenue provider, but long-term future support for MIMRA from the fisheries sector cannot be taken for granted. In 2015, the parliament passed the State-Owned Enterprises Act, which set standards for the formation and operation of SOEs, specifically regarding the structures of boards of directors and minimum reporting requirements.[95]

Key considerations related to anthropogenic climate change include sea level rise, unpredictable weather, and changing social mores in countries upon which RMI relies as markets or donors. RMI is heavily reliant on imports because agricultural production is primarily subsistence-based and small-scale industry is limited to handicrafts, tuna processing, and copra. Agriculture, including the subsistence production of taro, coconuts, breadfruit, and pawpaw, and the commercial production of copra are highly dependent on fresh ground water supplies. Any change in ground water resources – through either overuse, drought, or saltwater intrusion – would have a significant impact on land use. Although tourism is not a major source of foreign exchange, the industry accounts for about 10% of the local labor market. Tourist arrivals in RMI peaked at just over 9,000 in 2005 and have declined since. Low numbers mean that tourism has had a lessened impact on the environment, but even the current state of tourism causes pressure on technology, food, and consumer items. Long-term challenges to the tourism development plans include the dual threats of rising sea levels and coastal erosion, which could reduce the quantity and quality of available beach space and, without significant adaptation measures, could reduce the attractiveness of the country as a destination. In addition to direct physical impacts, climate change may affect the tourism sector through global efforts to mitigate climate change. Two possible manifestations are increased cost of already expensive international flights and reduced willingness of some tourists to undertake long-haul flights due to fuel usage and a lack of carbon offsets.[96]

As the immediate health risks posed by the COVID-19 pandemic recede, policymakers are refocusing attention on inclusive growth, sustainability, and resilience. The case for sustainable investing is premised on the shortcomings of financial markets in pricing long-term climate risks. RMI, like the Federated States of Micronesia and Palau, has aligned its public pension and trust fund investment strategy with its climate goals. Climate change commitments and financing strategies laid out in RMI's Nationally Determined Contributions are centered on supporting direct interventions in resilience, for which estimated costs are considerable; the International Monetary Fund (IMF) estimated in 2021 that the country will require US$14-42 million each year during this decade and US$16–$58 million each year by the 2040s, for coastal protection alone.[97]

Government

RMI is a mixed parliamentary-presidential republic in which the president is both the chief of state and head of government.

The parliament, Nitijela, is unicameral; it consists of 33 members (senators), all of whom

sit for 4-year terms. Of senators, 19 are directly elected in single-member districts, and 14 are elected from five multi-member districts (2-5 seats each). The president is elected by the legislature from among sitting Nitijela members, and the presidential term also runs for four years. The president nominates fellow lawmakers to serve as cabinet ministers, and they are formally appointed by the Nitijela speaker.

Judges are appointed by the cabinet on the recommendation of the Judicial Service Commission, and the Nitijela confirms the appointments. High Court and Supreme Court judges can only be removed by a two-thirds vote in the Nitijela, and the removal must be made for clear failure or inability to perform duties or for serious crimes or abuses.[98] The Supreme Court is the court of last resort and has final authority to adjudicate all cases brought before it. The High Court is the highest court at the trial level and has jurisdiction over controversies of law. The Traditional Rights Court supports the High Court at the trial level and is a special jurisdiction court of record; its judges are selected to include fair representation of all classes of land rights. The Traditional Rights Court has jurisdiction over land rights and other legal interests in relation to customary law and traditional practices. While the Constitution states that the decisions given by the Traditional Rights Court are to be given substantial weight, they are not binding unless the High Court agrees. There are Community Courts on the outer islands; they have limited jurisdiction for the local government area.[99]

The constitution endows the Council of Iroji, a body of chieftains from both island chains, with an advisory role. The Council's 12 members can offer joint opinions and request reconsideration of any bill affecting customary law, traditional practices, land tenure, or related matters.[100]

The relationship between the national government and local governments is governed by the Local Government Act of 1980[101] that lays out requirements for district or municipalities, of which there are 24.[102] The Constitution guarantees "the people of every populated atoll or island that is not part of an atoll" the right to a system of local government. These governments must have a Council with ordnance-making powers and that is renewed by election no less frequently than every four years. In addition, the local governments must have an executive council, chaired by a single head of the local government. The local governments submit to oversight by the national government in terms of budgets and audits.[103]

The COFA between RMI and the U.S. entered into force in 1986. While RMI is a sovereign nation and is, therefore, free to conduct its own foreign relations, it does so under the terms of the Compact. The U.S. has full authority and responsibility for security and defense of the Marshall Islands, and the Government of the Marshall Islands is obligated to refrain from taking actions that would be incompatible with these security and defense responsibilities.[104]

Environment

Lying just north of the equator, RMI is located halfway between Hawaii and Australia. Most of the Marshall Islands are true atolls, consisting of an irregular, oval-shaped coral reef surrounding a lagoon; the islets lie along the coral reef. The largest atoll in the group and in the world is Kwajalein, the land area of which is less than 1% of the size of the lagoon. The climate is tropical, with variations in annual precipitation. Several of the northern atolls are uninhabited owing to insufficient rainfall.

Geography

The Marshall Islands is composed of 29 coral atolls with more than 1,200 islets, and five coral islands. The islands are coral caps on the rims of submerged volcanoes rising from the ocean floor. They form two roughly parallel chains running northwest to southeast: the eastern Ratak (Sunrise) chain and the western Rālik (Sunset) chain.[105] Figure 5 shows the islands and atolls of RMI in their two chains.[106] The entire RMI territory covers more than 2.1 million km^2 (1.3 million square miles) of ocean but only 181 km^2 (70 square miles) of land. The capital is

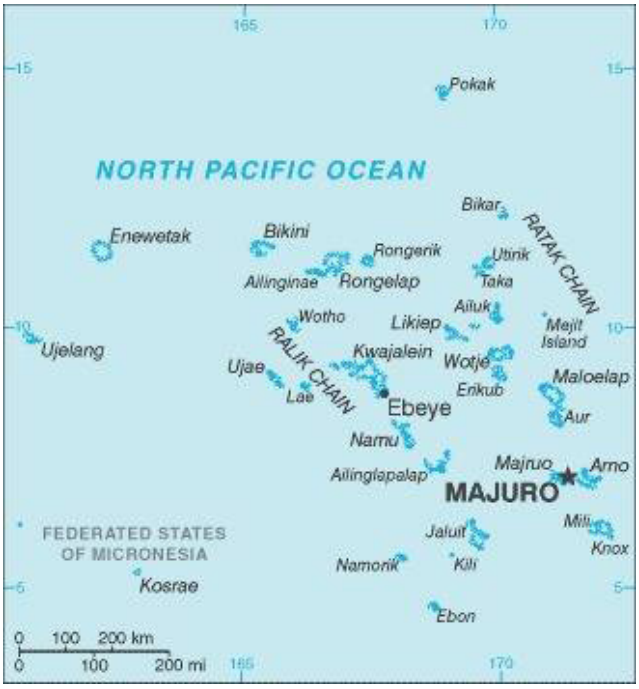


Figure 5: The Islands and Atolls of RMI

Majuro, in the Ratak Chain. Kwajalein lagoon is the largest of its kind in the world; it covers 2,176 km^2 (840 square miles), but its 90 islets have only about 6 km^2 (15.5 square miles) of land.[107] Most of the Marshall Islands are atolls with low coral limestone and sand islets located between an outer barrier reef and a central lagoon. Some of the lagoons are huge but have maximum water depths of 10-100 meters (m; 33-330 feet). The highest elevation is on Likiep Atoll, which rises to about 10 m (33 feet).

The Marshall Islands' ocean territory and claimed maritime territory consist predominantly of huge volcanic complexes, 34 of which are capped by atolls and reefs. However, most are flat-topped seamounts with summits submerged in 900-2,100 m (2,950-6,890 feet) of water although some seamounts are capped by submerged reefs, and others are capped by carbonate sediment or have volcanic rocks exposed at the surface. These extinct volcanoes, formed by hot-spot volcanism, delineate at least four separate hot-spot traces.

The five islands – Jemo, Majej, Kole, Jebat, and Ellep – are low-lying carbonate platforms surrounded by fringing reefs. They are thought to be partly drowned atolls composed of a still emergent islet around which a fringing reef developed. The thickness of reef and limestone caps varies 350-1,400 m (1,148-4,593 feet), and under the caps lies volcanic bedrock.[108]

Borders

None of the islands or atolls of RMI include a land boundary with any other state. RMI's claimed maritime territory abuts the maritime territories of Wake Island, Kiribati, Nauru, and the Federated States of Micronesia.

Climate

The weather is tropical. It is hot and humid year-round, but the heat is tempered by trade winds most of the year. The trade winds are frequently interrupted during the summer by the movement of the Intertropical Convergence Zone,[109] which circles the Earth, near the equator, and is the zone where the trade winds of the Northern and Southern Hemispheres come together buoying the air and stimulating almost perpetual thunderstorms. The Zone shifts seasonally, thereby driving the wet and dry seasons of the tropics.[110] The recorded annual temperature averages since 1948 show hardly any fluctuation from about 28 degrees Celsius (°C; 82 degrees Fahrenheit [°F]). As the country is broad (north to south), rainfall varies greatly. In the wet, southern atolls, rainfall is heavy and can average as much as 1,524 millimeters (mm; 160 inches) per year, while the dry, northern atolls may only average 508 mm (20 inches). The wettest months are between May and November. Pacific typhoons generally develop east of the Marshall Islands, but the RMI is only occasionally subjected to the full force of a typhoon with the northern atolls more exposed than the southern atolls. Historically, a major storm impacts the atolls approximately once every 4-7 years and corresponds with El Niño-Southern Oscillation (ENSO) events that warm the ocean waters and provide conditions that promote typhoon formation.[111]

DISASTER OVERVIEW

According to the Emergency Events Database (EM-DAT), also described as the International Disaster Database, during the period 1970-2021, RMI has experienced six disaster events, including droughts (two), floods (two), and tropical cyclones (two). Of the 34,344 people impacted by these events, droughts caused the most harm, as displayed in Figure 6.[112] Of note, EM-DAT defines a "disaster" as a situation or event, which overwhelms local capacity, necessitating a request to national or international levels for assistance.[113]

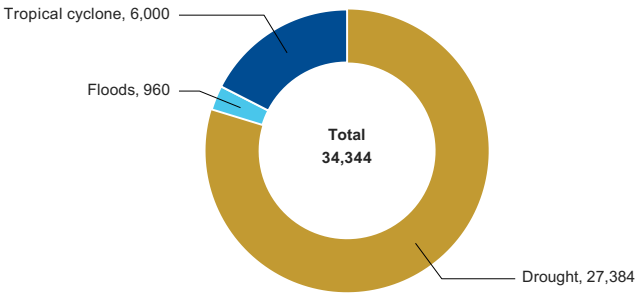


Figure 6: Number of RMI Residents Impacted by Disaster Events (1970-2021)

In addition to damaging droughts and floods, RMI is vulnerable to cyclone and tsunami impacts. The country is affected by cycles of ENSO, which increases hydrometeorological hazards by influencing sea surface temperatures and making rainfall highly variable from year to year. In addition to its already high exposure to climactic variations, RMI is highly vulnerable to the impacts of climate change, especially sea level rise.

Climate Change

Climate change is expected to affect the country's coastal resources through increased ocean acidification, sea level rise, and coral bleaching. The sea level around RMI has risen by an average of 7 mm (0.28 inches) every year since 1993 and is expected to rise by another 9 centimeters (cm; 3.5 inches) by 2030; such a rise will pose a serious risk of more devastating coastal flooding and storm surges.[114] In its National Strategic Plan 2020-2030, RMI recognizes the threat sea level poses to Islanders. The Plan frankly confronts the reality that RMI faces a stark choice: relocate or find other adaptation options. RMI is considering whether to relocate all citizens or to accelerate DRR and CCA processes. RMI's people and governments are attempting to understand risks atoll by atoll to allow adaptation measures to be established with local atoll and village groups.[115]

RMI also continues to call for strong and decisive global action. Recognizing the significant existential threat posed by climate change, RMI is a vocal member of international fora, including the United Nations Framework Convention on Climate Change (UNFCCC) as well as the Vulnerable Twenty (V20) Group of countries most at risk from climate change. It was the first country to submit a slate of National Determined Contributions (NDC) to help mitigate the adverse impacts of climate change in 2015 and the first to submit an enhanced NDC in 2018. This enhanced NDC sets a more ambitious target to reduce greenhouse gas (GHG) emissions to at least 32% below 2010 levels by 2025 and to at least 45% below 2010 levels by 2030, and it commits to a gender-responsive and human rights-based approach in planning, programming, and implementation. A further enhancement in 2020 specified a commitment to reduce GHG emissions from domestic shipping to 40% below 2010 levels by 2030 and fully decarbonize the sector by 2050. In 2018, the Marshall Islands launched its Tile Til Eo 2050 Climate Strategy, which envisions net-zero emissions and 100% renewable energy use by 2050, and the country committed to developing a national action plan for climate change adaptation and resilience.[116]

According to its Second National Communication to the UNFCCC, RMI is one of four countries that consist entirely of low-lying atolls and islands and that face urgent climate change impacts, among which the

most immediate is flooding from sea level rise in combination with storm surges. Local sea level already shows variation as influenced by ENSO. A continued increase in mean sea level for the Marshall Islands is projected through 2100, with a high degree of confidence, and with similar values across different Representative Concentration Pathways (RCP).[117] The RCPs try to capture future trends in temperature, sea level, and extreme weather, and they make predictions of how GHG concentrations in the atmosphere will change because of human activities. The four RCPs range from very high concentrations of GHG (RCP8.5) to very low concentrations (RCP2.6), and each of the RCPs (2.6, 4.5, 6.0, and 8.5) plots a different emissions trajectory (pathway) and signifies the cumulative GHG concentrations in the atmosphere in the year 2100.[118] Thus, sea levels within the Marshall Islands are all but certain to increase up through the year 2100 regardless of climate change mitigation policies or actions taken by the world's emitters.

Increased wave height and increased intensity of storm surges are both likely to cause erosion of RMI coastlines. Some islands enjoy greater coastline stability than do others; those islands with extensive fringe sand or conglomerate rock and natural beach rock accumulations are better protected than those without as these deposits offer temporary resistance to erosion. Yet even this resistance is expected to succumb over time. Indeed, shoreline erosion caused by sea level rise is already a significant problem on some islands. Erosion of the coastline of Majuro is occurring at a considerable rate as coconut trees and coastal vegetation fall over as soils are washed away from underneath them. This situation is not helped by the amount of dredging and sand mining that is happening, especially around the capital's airport area.[119]

Under the country's Disaster Risk Management (DRM) architecture, the Climate Change Directorate acts as an advisory body to the President, Cabinet, Ministries, and agencies on environmental planning and policy, including on climate change. It also serves as the focal point in coordination, management, and implementation of international environmental programs, and it acts as the national point of contact in all negotiations with external partners and lending institutions on programs of assistance. The Office of the Environment, Planning, and Policy Coordination (OEPPC) prepares strategies to mitigate the negative impacts of climate change and prepares adaptation plans. It is the Secretariat of the National Climate Change Committee (NCCC).[120]

Hazards

RMI experiences the following hazards: cyclone, drought, flooding, heatwave, and tsunami. Although it is in the Pacific "Ring of Fire," the country is at relatively low risk of volcanic or seismic activity.

Cyclones

The height of the typhoon season runs from September to November. Storms tend to form further northwest in the Pacific and tend to have degraded by the time they reach RMI. The country has experienced intense cyclones in the past. Cyclone Anne (aka "Typhoon Roy") destroyed 350 homes, killed one person, and left as many as 3,500 people homeless in January 1988. Typhoon Zelda struck in 1991 and damaged 90% of the buildings on Ujae and Lae and 60% on Ebeye, where 5,000 people were left homeless.[121] In 1997, Typhoon Paka caused US$80 million of damage to crops and affected 70% of houses on Ailinglaplap Atoll.

The tropical cyclone archive of the Northern Hemisphere indicates that between the 1977 and 2011 seasons, 78 tropical cyclones developed within or crossed through the Marshall Islands' Exclusive Economic Zone (EEZ), and 18% of them became severe events (Category 3 - 165-224 km/hour [100-140 miles/hour] – or stronger). Tropical cyclones were most frequent in El Niño years (50 cyclones per decade) and less frequent in La Niña years (3 cyclones per decade); the neutral season average is 18 cyclones per decade. It is estimated that during a 20-year period, cyclones in the Marshall Islands cause an average

of US$63 million in damages per cyclone.

Although the exact influence that climate change will have on cyclones is complex and currently poorly understood, it is known that sea level rise will enhance the damage caused by cyclone-induced storm surges. Modelling of climate change impacts on cyclone intensity and frequency points to a general trend of reduced cyclone frequency but increased intensity along with increased frequency of the most extreme events. As such, the current (low confidence) projection for the Marshall Islands is for a decrease in tropical cyclone frequency for the northern basin.[122]

Drought

Given Marshall Islanders' generally high reliance on rain for drinking water and to water crops, periods of drought can become emergencies due to both food insecurity and the spread of disease that can occur when clean water is unavailable. The most intense disaster of the last 20 years began in 2015 when El Niño triggered a severe drought. By May 2016, almost the entire population had been affected. There are no official statistics to confirm drought-induced displacement, but absenteeism rates for elementary schools on Ailinglaplap and Arno suggested that families were forced to move to other islands during the crisis.[123]

Research done in 2014 on the Western Pacific defines projected changes in the frequency and duration of mild, moderate, severe, and extreme meteorological droughts using the Standardised Precipitation Index (SPI), which is based solely on rainfall (i.e., periods of low rainfall are classified as drought). SPI drought projections for very low and very high emissions scenarios (RCP2.6 and 8.5) and for both the northern and southern Marshall Islands, show that the overall proportion of time spent in drought is expected to decrease. However, it should be noted that complex processes relating to rainfall projections, including the limited consensus of future ENSO influence for the region, hinder the confidence of these projections.

Flooding

Extreme rainfall episodes can lead to significant floods in the Marshall Islands. Single day rainfall is often linked to flash floods of limited spatial extent while multi-day rainfall often results in flooding with a broader spatial footprint. Beyond precipitation-linked floods, wind-driven waves around the Marshall Islands are influenced by trade winds seasonally, and by ENSO interannually. The wind-wave climate of the Marshall Islands shows spatial variability between the northern and southern islands, but generally, wave heights are greater in December–March than June-September.[124]

Flooding events also cause substantial economic impacts, with past events damaging roads, houses, and other infrastructure. In 2008, a State of Emergency was declared when storm surges from a tropical depression impacted Majuro and Ebeye; the surges caused severe damage to roads, homes, and cemeteries (with the latter resulting in sanitation concerns). At least 600 people had to leave their homes and stay in designated shelters, churches, or with other family members. Another storm surge-driven flood in 2013 resulted in seawalls breaking in multiple locations and in flooding on Majuro atoll where the airport was forced to close.[125]

Heatwaves

RMI regularly experiences high temperatures. The mean annual temperature is 27.6°C (81.7°F), and the highest temperatures, generally experienced in September, average 27.7°C (81.9°F). Temperature anomalies are projected to reach +3.1°C (+5.5°F) by 2100. This rise will push temperatures to levels uncomfortable for humans, especially when measured through "heat index," a function of combined temperature and humidity. By 2100, the projected number of days recording Heat Index 35 (a level fatal to healthy people) for the Marshall Islands is 356.9 days per year by the 2090s under RCP8.5. The projected change signals the potential for extremely uncomfortable conditions.[126]

Tsunami

The country is in a relatively quiet seismic area. Although surrounded by the Pacific "Ring of Fire," its seismic hazard risk is very low. No significant earthquakes have been observed in recent history, and the magnitude of any future events would not be expected to cause significant damage to buildings or infrastructure. At the same time, tsunamis can travel long distances following seismic events. RMI is somewhat protected by its coral reefs that dissipate wave energy. Nonetheless, the islands are still vulnerable to significant damage from tsunamis. The maximum wave height that most coastal areas could withstand is estimated to be 1-2 m (3.28-6.26 feet). The effects of a tsunami could also be greatly amplified were it to coincide with a king tide.[127]

History of Natural Disasters

The following is a list of emergency events in RMI in the last ten years; most of the following events did not rise to the level of "disaster" as defined by EM-DAT. However, their cumulative impact has the potential to undermine RMI's coping capacity.

Drought – 2021-2022

The RMI National Weather Service Office (WSO) reported in late December 2021 that the northern Marshall Islands were seeing the early stages of drought. Mostly dry conditions persisted across the northern islands throughout January 2022 when a moderate drought declaration was introduced for Wotje and nearby atolls based on insight from WSO Majuro and the United States Drought Monitoring and U.S.-Affiliated Pacific Islands teams. On 1 February, the National Disaster Management Office (NDMO) activated the National Emergency Operations Center (NEOC) in Majuro. The NEOC initially developed the Immediate Drought Response Plan to address conditions reported on 14 islands (Aur, Ailuk, Jaluit, Lae, Lib, Likiep, Maloelap, Mejit, Wotho, Wotje, Mejjato/Ebadon, Utrok, Ujae, Namdrik, Jabot, Ailinglaplap, and Namu). Led by the Environmental Protection Agency (EPA), the Water, Sanitation, and Hygiene (WASH) Cluster organized a meeting to initiate coordination. Conditions had eased somewhat in May with the onset of heavy rains. However, by June 2022, dry conditions lingered with extreme drought persisting in Wotje and nearby atolls and in islands north of Majuro while moderate drought was affecting Kwajalein and Ailinglaplap. Alongside government and international partners, Marshall Islands Red Cross Society (MIRCS) helped conduct assessments and delivered WASH services to affected communities. These services included procurement and delivery of water containers, service and repair of reverse osmosis units, and hygiene work, including delivery of soap and information campaigns regarding water-borne diseases. More than 9,000 people across the islands were impacted during the drought.[128]

COVID-19 – 2020-2022

The U.S. Centers for Disease Control and Prevention (CDC) is the lead agency on COVID-19 response in the COFA States, including RMI. Under the Coronavirus Preparedness and Response Supplemental Appropriations Act of 2020 and through redirected agency funds, CDC provided support for RMI's health departments early in the pandemic. RMI received US$1.1 million under Public Health Crisis Response Cooperative Agreements that allowed the country to address critical needs, including emergency operations, surveillance, epidemiology, laboratory capacity, infection control, mitigation, communications, and other preparedness and response activities in the early stages of the global response. An additional US$4.9 million was available to RMI epidemiology, laboratory, and health information systems under the Paycheck Protection Program and Health Care Enhancement Act.

Meanwhile, the U.S. Department of Health and Human Services (HHS) Health Resources and Services Administration awarded grants to

health centers under the Coronavirus Aid, Relief, and Economic Security (CARES) Act to address screening and testing needs, acquire medical supplies, and boost telehealth capacity. Under this program, RMI received US$1.1 million to support one health center grantee in Ebeye. RMI also received US$176,158 from the HHS Office of the Assistant Secretary for Preparedness and Response Hospital Preparedness Program cooperative agreement for planning, staffing, purchasing personal protective equipment, enhancing existing surveillance systems, training, and enhancing hospital or health care capacity. CDC, HHS, and the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) also partnered to provide 10 LTV 1200 model ventilators from the U.S. Strategic National Stockpile.

Another early source of U.S. government assistance was the Interior Department's OIA, which provided funding through its Technical Assistance Program, made available under the CARES Act, for COVID-19 preparedness, prevention, and response, including a grant to the Pacific Island Health Officers' Association (PIHOA) to equip the COFA states with on-island COVID-19 testing. Under this program, RMI received US$3.8 million. As Compact sector grants and other U.S. federal programs fund approximately 75% of core operations for RMI's Ministry of Health, OIA concurred with reprogramming US$750,000 of Fiscal Year (FY) 2020 Health Sector Grant Assistance to be used for repair and renovation work associated with COVID-19 at the Majuro Hospital.

Finally, the U.S. Department of Defense strengthened COVID-19 preparedness through in-kind assistance. RMI used USAG-KA to quarantine several RMI citizens returning from overseas.[129]

Despite efforts at preparedness and a low record of COVID-19 transmission throughout most of the pandemic, in early August 2022, the Ministry of Health reported a sudden surge of cases.[130] In the four weeks after the first community transmission was detected in Majuro, more than 15,000 confirmed COVID-19 cases were reported to the World Health Organization (WHO) along with 17 deaths.[131] Consequently, the country proclaimed a State of Health Disaster amidst widespread community transmission in Majuro and Kwajalein Atolls. Schools were suspended, and mandatory mask-wearing was instated. Ports were closed, and movement restrictions were implemented across all impacted islands. MIRCS diverted resources to support local authorities and was, thus, tasked to support the Ministry of Health with coordinating volunteers for deployment to testing and treatment sites, managing Alternative Care Sites run by local volunteers and the Majuro Local Government, coordinating and drafting standard operating procedures (SOP) for the COVID-19 hotline, and organizing volunteers for the 24-hour hotline operation.[132]

Flooding – November 2019

On 27 November, high tides and a wind-driven sea swell caused flooding in Majuro. Reports of waves up to 5 m (16 feet) high were reported in the capital where waters flooded roads, deposited debris on roads and in yards, and temporarily cut off access to the airport. MIRCS opened two evacuation centers in schools,[133] and three church-based centers opened to accommodate 200 residents driven out of their homes by the flooding.[134] MIRCS, the EPA, and the government chief secretary's office conducted damage assessments and found the modest damage mostly involved flooded homes and yards with some debris on roads and in yards.[135]

Dengue Outbreak – 2019-2020

Initial cases of dengue were reported in Ebeye in May 2019, and transmission later occurred to Majuro and outer islands. The peak of the outbreak on Ebeye was in July-August 2019, but infections did not peak until February 2020 in Majuro. Government Exposure Prevention Information Network (EpiNet) teams were activated on 16 July 2019, and a Presidential Declaration of Health Emergency and activation of the NEOC occurred on 6

August. The Health Emergency Declaration was reactivated in October 2020. There were 3,884 cases of dengue-like illness of which 1,987 were lab confirmed as dengue; Ebeye and Majuro remained the epicenter of the infections with 277 and 3,401 suspected cases respectively, and the most impacted age group was people 10-20 years of age. Two deaths were recorded, and one severe dengue patient was evacuated out of the country.[136] Twice-weekly health alert radio broadcasts, regular mass text messages, and the Ministry of Health Facebook page provided information about ongoing activities, situation reports, and warnings during the outbreak. As the situation evolved, a travel restriction was put in place that halted movement among islands and atolls. Public health officials were deployed to outer island health centers to ensure testing and treatment.[137]

King Tides – March 2016

On 10 March, several hundred residents of Kili Island were forced to move when their homes were flooded by a king tide pushed by storm surges. The king tide also impacted parts of Majuro where some roads were flooded and debris was strewn across roads and in local residents' yards. There were some reports of homes flooded in Majuro, but there were no reports of major damage or casualties as waters only reached about 15 cm (6 inches). On the contrary, Kili's Mayor said families from the northern part of the island had moved to town areas because their houses had flooded. U.S. weather officials in Guam warned that flooding could continue for up to a week because of the confluence of king tides and a storm that developed near Wake Island and that was moving through the Marshalls.[138]

Drought – 2015-2016

On 3 February 2016, the RMI President declared a drought emergency in response to intensifying drought conditions across the country as a strong El Niño affected rainfall. From December 2015, rainfall disruptions had been noted, and by February 2016, household water catchment supplies and other water storage on at least 13 atolls were depleted, and communities had run out of water.[139] Following the 10 March elevation of the situation to a state of disaster,[140] on 27 April, the U.S. President declared a disaster under the terms of the COFA.[141] Meanwhile, the RMI government had engaged the World Bank with a request to prepare to conduct a Post-Disaster Needs Assessment (PDNA). In addition to planning for the recovery, the government launched and coordinated various clusters to address specific areas of need (e.g., nutrition, WASH, education, logistics, communication, etc.). Moreover, the government had the lead in mobilizing and delivering water, supplies, and medical relief while the international community provided advice, technical assistance, financial backing, and critical items not found locally (i.e., water tanks and desalination units).[142]

Various international groups were active in responding well before the PDNA was accomplished. In addition to U.S. assistance, the EU utilized some of the €19.37 million (US$19 million) from its Building Safety and Resilience in the Pacific Project, implemented by the Pacific Community (SPC), to send an emergency response vehicle and 208 water tanks that were presented to the NDMO for onward distribution to outer atolls.[143] Moreover, the Government of Japan provided emergency relief goods (jerrycans and water purifiers) through the Japan International Cooperation Agency (JICA) and extended grant aid in the amount of ¥200 million (US$1.4 million) to support securing water supplies.[144] By June, an RMI government vessel headed out to 10 remote atolls and two outer islands with food and other relief items sufficient for 5,000 people and funded by the U.S. Agency for International Development (USAID). The supplies delivered in June were expected to last 4-7 months after which a follow-on assessment would determine the need for additional aid.[145] The International Organization for Migration (IOM) did not complete its drought response supplemental food distribution until March 2017 after an agricultural assessment in November

2016 found that certain food items were taking longer to recover from the drought than expected. The additional distribution delivered food to 2,312 beneficiaries on six affected atolls and islands, and this delivery brought IOM's distributions to over 500 tons of food.[146]

From 1 August 2016, the EU, SPC, the United Nations Development Programme (UNDP), UN, and the World Bank worked together with the RMI government to assess the physical, social, and financial impacts of the drought and to produce a PDNA to guide the formulation of the drought recovery strategy. In terms of economic impact, for 2016 alone, the estimated losses totaled approximately US$4.9 million, due to disruptions to national production in the agriculture, education, and industrial sectors, and increases in the costs of electricity, water and sanitation, and commerce. These losses were estimated to be equivalent to 3.4% of GDP. The PDNA estimated that total emergency and recovery costs would be US$3 million, with US$1.3 million needed for the last quarter of 2016, and the remainder to be used for implementation of activities in 2017-2018. Potentially more important than the monetary losses from crop disruption were the impacts on food security as significant percentages of subsistence food production were damaged or saw decreased yields with breadfruit crops seeing a 42% decrease in year-on-year output and coconut seeing a 40% decrease. In the end, the needs assessment estimated that the drought affected approximately 53,000 persons (the entire population) or 7,738 households across 23 permanently inhabited atolls.[147]

Zika Outbreak – 2015-2016

The RMI Ministry of Health received reports of a traveler who was ill in November 2015 after a several-week stay in Majuro. Following this report, by mid-April 2016, surveillance found 34 additional cases that met expanded surveillance definitions for Zika. Authorities were concerned that there was on-going low-level transmission on Majuro. One infant was born with microcephaly to a woman who had laboratory confirmed Zika. In February, the RMI President declared a health emergency, and Health and Sanitation Teams began household visits, messaging, and mosquito spraying.[148]

Tropical Storm Nangka – July 2015

On 3 July, the storm system that would become Nangka struck Majuro. The high waves and winds smashed boats in the Majuro lagoon, tore roofs off of houses, knocked down trees, and was the cause of a power outage that impacted about half (12,500) of Majuro's residents. The tropical depression had formed within RMI waters between Majuro and Kwajalein, according to the U.S. Joint Typhoon Warning Center, and it departed the country's waters as a tropical storm.[149] During the emergency, the government of RMI activated infrastructure and shelter clusters to coordinate the local, national, and international responses to the storm's impacts.[150]

Tropical Storm Bavi – March 2015

Tropical Storm Bavi moved across the region between 11 and 16 March. It formed south of Majuro, and WSO Majuro reported that Ujae, an atoll west of Kwajalein, was hit by strong winds that damaged breadfruit trees and knocked down several houses. By the morning of 12 March, the depression was located 185 km (115 miles) south-southwest of Kwajalein and had strengthened into a tropical storm. Kwajalein reported small tree damage with winds gusting up to 75 km/hour (47 miles/hour). The damage across Kwajalein amounted to over US$1 million as roofs were destroyed on four buildings and other structures rendered too dangerous to use. There was also some coastal flooding and considerable wind damage on Ebeye.[151]

Chikungunya Outbreak – 2015

In the first half of 2015, RMI experienced its first ever outbreak of chikungunya. The first cases were identified in February, and by April, more than 50 cases had been reported, all in Majuro. The Ministry of Health issued repeated alerts on the radio about preventing the mosquito-borne illness.[152] In addition, a

mosquito spraying campaign was launched in May. However, numbers continued to rise, and by June, more than 800 cases had been reported. While the spread remained concentrated on Majuro (520 confirmed cases), the disease had spread to outer islands.[153]

King Tides – January 2015

On 21 January, a king tide flooded areas of Majuro and several of outer islands, including Mejit, Kili, Utrik, and Ailuk. The flooding caused damage to property and some roads, and there were reports of local schools being evacuated. There were no reports of any casualties.[154]

King Tides / Storm Surge – March 2014

A storm surge combined with an extreme high tide flooded parts of the Marshall Islands, including Majuro, on 3 March. The government reported that some 1,000 people were affected, most of them because they had to evacuate their homes and stay in temporary accommodation.[155] The storm swell was related to a weather system east of Japan and that came at the same time as the regular cycle of king tides.[156] A state of emergency was declared, and the UN Office for the Coordination of Humanitarian Affairs (OCHA) Regional Office for the Pacific said waves washed over shorelines and sent water and debris across roads and properties. There were no reports of fatalities or serious injuries. Preliminary assessments in Majuro indicated damage to 69 homes as well as to Rairok Elementary School, a waste management site, a cemetery, and the airport road. Four evacuation centers established in schools and churches sheltered 800 evacuees, all of whom had returned home within a week of the flooding. In Arno Atoll, 36 homes were damaged and 246 people displaced. A number of outer islands were also affected.[157]

Drought – 2013

A severe drought emerged in RMI in April 2013. On 19 April, the government declared a state of emergency, which was followed by a state of natural disaster declaration on 8 May.[158] After the declaration, a UN Disaster Assessment and Coordination (UNDAC) team with members flown in from Fiji, Japan, Sweden, and Thailand deployed for over three weeks to support the RMI NEOC in Majuro. Early support was provided by USAID and IOM followed by contributions from the ADB, Australia, JICA, New Zealand, the Red Cross movement, OCHA, UNICEF, and WHO.[159] During the response, RMI inaugurated its use of the humanitarian cluster system; at that time, the country began using five clusters, activated depending on need, and through the WASH, health, logistics, food security, and infrastructure clusters, the government coordinated the response.[160]

UNICEF began supporting the government response in May. It shared radio messages that advised affected communities to wash hands, boil drinking water, avoid eating spoiled food, and exclusively breastfeed infants under six months of age. In addition, UNICEF delivered emergency supplies such as hygiene kits, water quality testing kits, and oral rehydration salts.[161] The International Federation of Red Cross and Red Crescent Societies (IFRC) deployed a team to the Marshall Islands where they worked closely with the government, the UN, and other partners to identify the needs of affected communities. In May, a three-person team of water and sanitation specialists from the New Zealand Red Cross deployed to RMI to provide assistance. During their time on Ailuk, Enerjeral, and Ollet, the team used reverse osmosis desalination units to produce over 12,000 liters (3,170 gallons) of water. They also left a machine capable of making 1,440 liters (380 gallons) of fresh water daily. By June, 6,400 people across 15 atolls were surviving on less than one liter (0.25 gallons) of water per person per day, and an estimated 11,000 people had suffered loss of staple crops.[162]

In June, the U.S. President issued a disaster declaration that, in turn, allowed U.S. government agencies to make assistance available to the government of RMI under the COFA.[163] In addition, the United Nations Emergency Relief Coordinator approved a rapid response grant of US$1 million to be implemented by

IOM to assist the Government in its response efforts. The 6-month grant implementation would focus on logistical support and WASH needs. In addition to supporting large-scale deployment of air and sea assets with immediate relief supplies to the affected northern atolls, the grant funding also went to increasing rainwater catchment capacity, deployment and servicing of desalination units, re-planting crops, improved health surveillance and outreach, and repair of water supply systems.[164] In July, the emergency response entered a second phase after some rainfall alleviated water shortages, but food was in short supply. IOM delivered an estimated 45 metric tons (100,000 pounds) of food to 677 households on islands over 640 km (400 miles) from Majuro. USAID paid for transport costs of shipments that consisted of rice, flour, oil, tinned tuna, milk powder, canned fruit and vegetables, sugar, baking powder, and high-protein biscuits. In addition to U.S.-funded food, donations came from local benefactors, the RMI Government, and the Government of Japan.[165]

Country Risks

Risk calculation takes into account exposure to hazards, vulnerability, and coping capacity. Addressing all of these elements is important in reducing and mitigating disaster risk. Various indices emphasize structural or institutional risk while others emphasize hazards or losses (human and economic). Regardless of emphasis, disaster risk calculations use some form of the equation:

Disaster Risk = (Hazard × Vulnerability) / Capacity[166]

Taken from the UN Office for Disaster Risk Reduction (UNDRR) glossary, some definitions will help clarify this formula:

- Capacity - The combination of strengths, attributes, and resources available within an organization, community, or society to manage and reduce disaster risks and strengthen resilience.
- Disaster risk - The potential loss of life, injury, or destroyed or damaged assets, which could occur to a system, society, or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability, and capacity.
- Hazard - A process, phenomenon, or human activity that may cause loss of life, injury, or other health impacts, property damage, social and economic disruption, or environmental degradation.
- Vulnerability - The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of an individual, a community, assets, or systems to the impacts of hazards.[167]

In general, the goal of indexing risk is to help inform decision makers and DRR and CCA practitioners of the level of risk to and underlying capacity of a given community. The various risk calculation models support proactive crisis management frameworks and are helpful for prioritizing allocation of resources and for coordinating actions focused on anticipating, mitigating, and preparing for humanitarian emergencies.

INFORM Country Risk Profile

The Index for Risk Management (INFORM) Risk Index measures the risk of humanitarian crises and disasters in 191 countries. The INFORM model is based on the standard dimensions of risk: Hazards and Exposure, Vulnerability, and Lack of Coping Capacity. The first dimension measures the natural and human hazards that pose the risk. The second and third dimensions cover population factors that can mitigate against or exacerbate the risk; the Vulnerability dimension considers the strength of individuals and households relative to a crisis while the Lack of Coping Capacity dimension considers factors of institutional strength.[168]

INFORM gives each country a risk score of 1-10 (1 being the lowest risk and 10 the highest) for each of the dimensions, categories, and components of risk, as well as an overall risk score. The higher the score the more at risk a country is to disasters. In the 2023 INFORM Risk

Index, RMI had an overall risk of 3.8/10, which INFORM categorizes as the "medium" risk class, and this score ranks RMI as the 83rd most at risk of 191 countries assessed. The Hazards and Exposure dimension score takes into account a combination of both natural and human hazards, and RMI rated 2.0/10 and ranked 130 of 191 countries assessed, and of these hazards, physical exposure to tsunami, 8.6/10, was the highest risk. The Vulnerability dimension score was 4.6/10 or 61 of 191 countries, and Aid Dependency, at 8.1/10, topped list of vulnerabilities. The Lack of Coping Capacity dimension score was 6.2/10 or 38 of 191 countries, and Governance was highest score in this dimension with 7.9/10. Figure 7 shows the INFORM Dashboard for RMI.[169]

World Risk Report

The WorldRiskReport by Bündnis Entwicklung Hilft strives to raise awareness of disaster risk among the global public and political decision makers and to provide practitioners with data to promote faster orientation to complex situations – i.e., societies experiencing disasters. This effort stems from the perception that disaster risks are not solely determined by the occurrence, intensity, or duration of extreme events. Social factors, political conditions, and economic structures play an important role. Thus, this index is based on the assumption that every society can take precautions – e.g., effective disaster preparedness and management – to reduce the impact of extreme events and lower the risk of disasters.

The WorldRiskReport calculates the level of risk a country faces based on a formula of exposure to hazards and vulnerability. It provides an assessment of the risk that countries will confront disasters but does not indicate probabilities for the emergence of disasters, nor does it forecast the timing of future disasters. This index uses 100 indicators that include risk, hazard exposure, vulnerability, and coping capacity (as defined above), and adds two others:

- Susceptibility - The disposition to suffer damage in the event of extreme natural events. Susceptibility relates to structural characteristics and frameworks of societies.
- Adaption - A long-term process that also includes structural changes and comprises measures and strategies that address and try to deal with future negative impacts of natural hazards and climate change. Analogous to "lack of coping capacity," the lack of adaptive capacities is included in the Index.

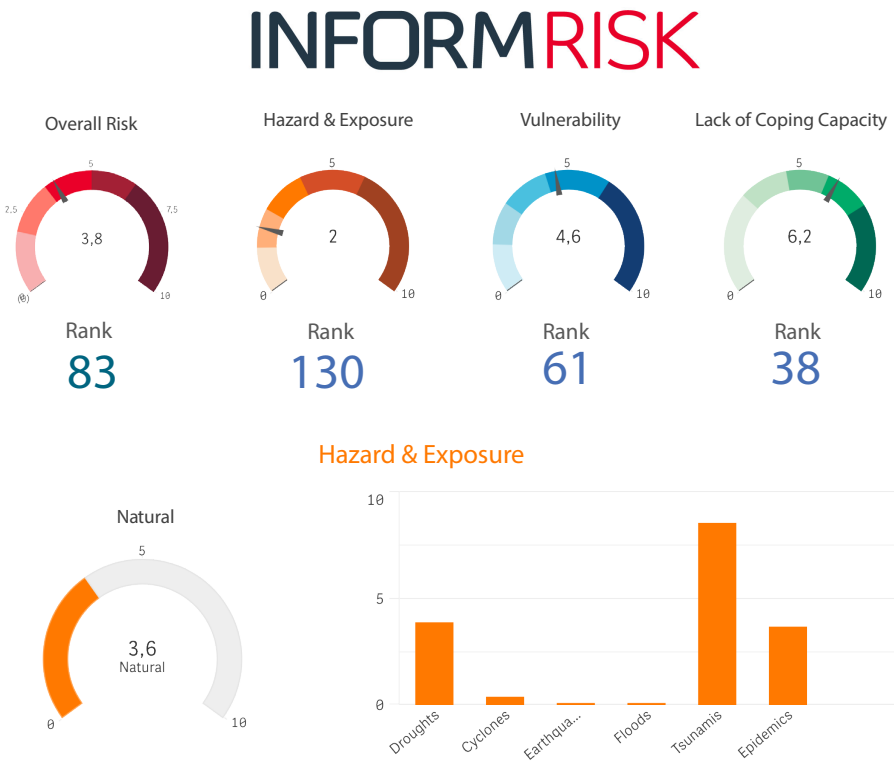


Figure 7: INFORM Risk Index, RMI (2023)

In the 2022 WorldRiskReport, RMI ranked 139 of 192 countries with a "low" risk class score of 2.29 (out of 100 where 0 is the lowest risk and 100 the highest).

- Exposure: 0.5 (low)
- Vulnerability: 10.51 (low)
- Susceptibility: 9.14 (low)

- Lack of coping capacity: 2.86 (low)
- Lack of adaptive capacity: 44.35 (medium)

RMI's risk score (2.29) is below the regional, Oceania, median risk score (4.15) but is the median for the Micronesia sub-region. Indeed, most of RMI's scores are within 2.00 points of the sub-regional median for all measures. Overall, Oceania ranks "second least at risk" behind only Europe even though the Australia/New Zealand and Melanesia median scores are significantly higher than other regions' highest regional values. This peculiarity arises from the fact that four countries in Oceania – Papua New Guinea, Australia, the Solomon Islands, and New Zealand – are in the highest risk class while the Poly- and Micronesian islands of Tuvalu, Palau, and Nauru belong to the lowest risk class due to their location away from cyclone and earthquake zones. The risk classification in Oceania is, thus, decisively shaped by exposure, and RMI shares low exposure scores with some of its neighbors.[170]

Global Climate Risk

The Global Climate Risk Index (CRI) developed by Germanwatch analyzes impacts of extreme weather in terms of both fatalities and economic loss. The index is based on the Munich Re (a re-insurance company) NatCatSERVICE databases, among the most complete databases in the world in these categories of loss. The CRI examines disaster impacts in both absolute terms (e.g., number of fatalities) and in comparative, relative terms that allow analysts to set events and their impacts alongside each other to assess how a given country or community used its strengths or struggled due to its weaknesses in the face of an extreme event. The countries ranking highest on the CRI experience either frequent smaller-scale weather events or rare but extraordinary events. In sum, the CRI allows DRR and disaster management practitioners to consider how exposures and vulnerabilities will be impacted by climate change. The two different CRI measures – most impacted countries in a single year and most impacted countries over 20 years – offer analysts an opportunity to tease apart the effects of rare but major events versus frequent, cumulative events.

The major events examined by the CRI are tropical cyclones (typhoons). The key takeaway is that countries with high exposure to such storms – either frequent small ones or rare massive ones – will be preparing for less predictable, potentially less frequent, but probably more powerful typhoons under climate change scenarios. The CRI cites various DRR and CCA efforts in countries exposed to hydrometeorological hazards, and it points to initiatives like the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), a regional risk pool for DRM and financing solutions for Pacific Island countries. PCRAFI provides insurance against typhoons, earthquakes, and tsunamis in parallel to Pacific Resilience Program initiatives to bolster early warning and recovery capacity. Germanwatch also points to the CRI findings as a clear reason to improve global climate change financing programs to ensure that the most affected countries – many of which are also least developed states – do not experience worsening development outcomes because of disaster losses. The CRI cites outcomes from the COVID-19 pandemic as examples of how simultaneous or consecutive disasters can erode resiliency in the absence of international solidarity funding.

In the 2021 CRI, based on single-year (2019) data, RMI ranked 130 of 180 countries assessed (where the lower the ranking, the more at risk a country is) and had a total CRI score of 118. In the CRI ranking for the entire period 2000-2019, RMI ranked 172 of 180 countries and had a score of 164.83. The CRI country score is calculated by averaging four indicators (death toll, deaths per 100,000 people, absolute losses, and losses per unit of GDP) with both "per" indicators given greater weight than the absolute numbers.[171]

ORGANIZATIONAL STRUCTURE FOR DISASTER MANAGEMENT

The National Disaster Committee (NDC) is the lead body responsible for technical advice and resource support for disaster management (DM) programs while the National Disaster Management Office (NDMO) is accountable for DM activities. The RMI operates an eight-cluster system. The Cluster members include the National Emergency Operations Center (NEOC) and are coordinated by the NDMO. The relationship between the Clusters and national coordination structure is depicted in Figure 8, from UN OCHA.[172] Listed below each cluster is the national lead (and co-lead in lighter blue).

Lead Government Agencies in Disaster Response

The President is responsible for the Chief Secretary's Office (CSO). The Chief Secretary is the Disaster Controller or key DM official with overall DM responsibility.[173] The Chief Secretary oversees the NDC, which is the principal body for endorsing DM policy and setting strategy, as well as the NDMO, which has primary responsibility for DM activities.[174]

National Coordination Structure

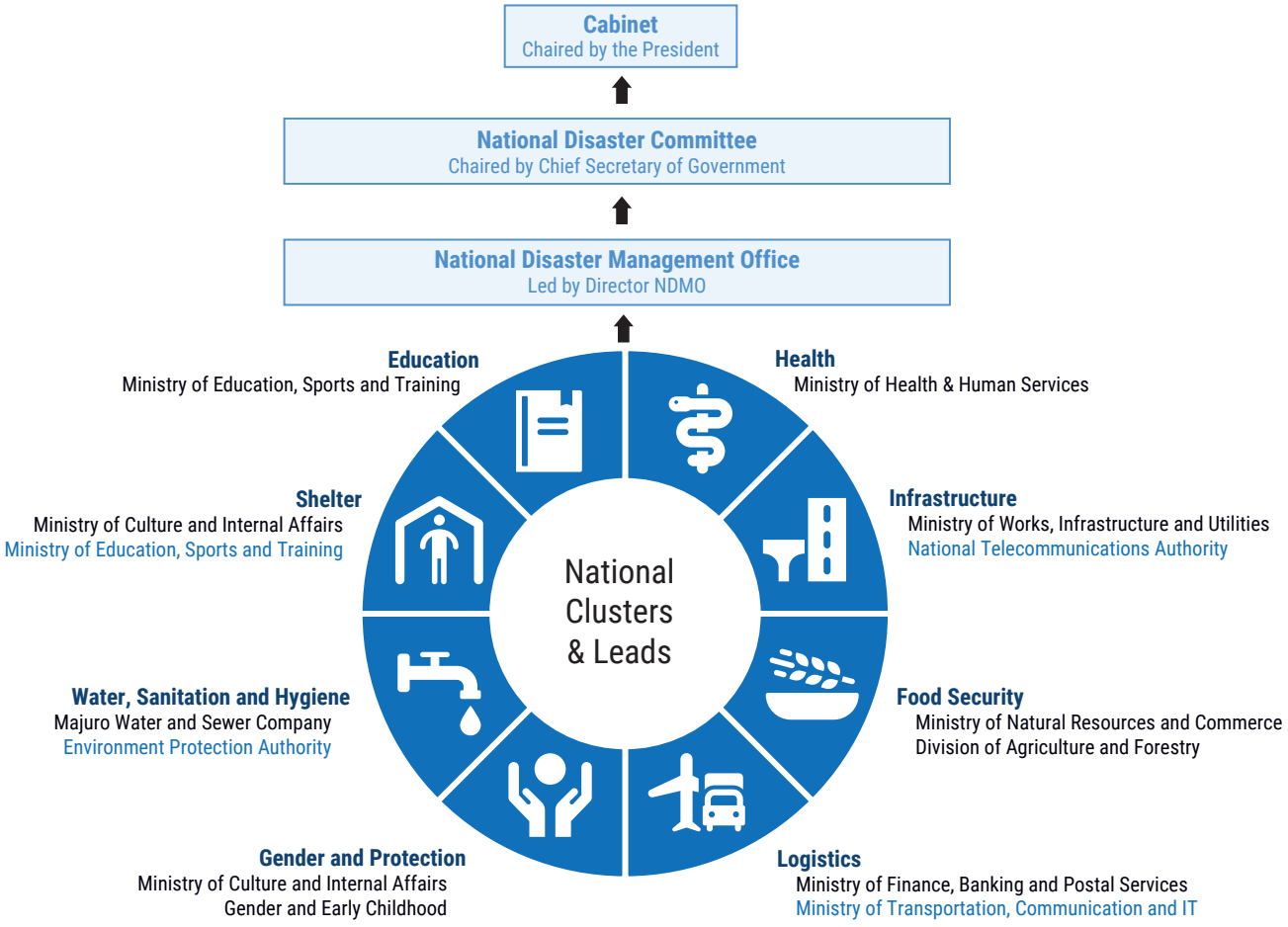


Figure 8: RMI DM Organization, Showing National RMI Clusters and Leads

National Disaster Committee (NDC)

The NDC is the designated lead body for implementing the 2019 National Disaster Risk Management Arrangement (NDRMA), the guiding document for DM in RMI. Chaired by the Chief Secretary, the NDC is directly accountable to the Cabinet and responsible for the provision of technical advice and resource support to facilitate the implementation of DM programs. The NDC is also responsible for ensuring that an adequate and reliable disaster control and coordination mechanism is in place to carry out humanitarian response.[175] The NDC oversaw the country's response to the COVID-19 pandemic.[176]

National Disaster Management Office (NDMO)

The NDMO is the primary office accountable for DM activities, including DRM activities in line with government policy, legislative requirements, and the strategic priorities of the NDC. The NDMO, in partnership with the Office of Environmental Planning and Policy Coordination (OEPPC),[177] plays a pivotal role in ensuring the aims and objectives of national DRM strategy are achieved.

The NDMO's vision is of a safer and more resilient nation and of building resilient communities through DRR and CCA. In support of this vision, NDMO's three objectives are:

1. Establish an NDMO governance framework through reporting, planning, resourcing, legislation, policy, and procedures
2. Improve DRM coordination and communication arrangements with all stakeholders at all levels; and
3. Improve DM operations through prevention, preparedness, response, and recovery phases.

The NDMO's various responsibilities include:

- Representing RMI at regional and international disaster related fora
- Coordinating implementation of the NDRMA
- Monitoring subsequent changes and updates of NDRMA through version control procedures
- Functioning as the liaison point for all disaster related activities with regional and international agencies
- Providing administrative and secretariat support to the NDC
- Developing and maintaining effective relationships with relevant regional bodies to ensure synergies between national, regional, and international DRM programs
- In partnership with the OEPPC, coordinating DRM/CCA/DRR strategies in line with the national risk profile
- Conducting annual audit and reporting to the NDC on the testing and reviewing of plans supporting the NDRMA
- Providing technical support for all DRM related training design and development
- Providing technical assistance in developing and conducting exercise management programs
- Conducting annual audit on ministry, department and agency DRM resources and developing an annual report for submission to the NDC
- Providing technical assistance to all ministries, local governments, departments, and agencies in the development and maintenance of plans supporting the NDRMA
- Providing technical support in the development of public awareness information and programs; and
- Maintaining the NEOC in a state of operational readiness, including the facilitation of training and exercises, post-disaster and post-exercise debriefs, and preparing reports for the NDC highlighting critical areas for improvement.[178]

The NDMO and other DM actors regularly participate in regional disaster preparedness activities. On 11 October 2022, the NDMO coordinated a DM after action review session to review the country's COVID-19 preparedness and response activities, with participating agencies including the Health Emergency Operations Center, NEOC and Cluster Leads, Kwajalein Emergency Operations, and the

NDC.[179] On 3 October 2022, the NDMO and cluster members participated in a 2-day workshop hosted by IOM and focusing on Displacement Tracking Matrix (DTM) Pacific Regional Training as part of response to disaster displacement.[180] The DTM is a system to track and monitor displacement and population mobility by capturing, processing, and disseminating information to provide a better understanding of the movements and evolving needs of displaced populations. The RMI NDMO is one of several Pacific Island DM agencies, along with those of Tonga and Solomon Islands, that work with the IOM and Internal Displacement Monitoring Centre under the Pacific Response to Disaster Displacement project to explore the utility of these tools and methods in the Pacific.[181]

The Marshall Islands Weather Service Office (WSO)

The Marshall Islands WSO delivers risk monitoring and early warning. The WSO is tasked with providing weather forecasts, early warnings on hazardous weather, and other weather-related products to the government for the purposes of protection, safety, and general information. Based in Majuro, the program is administered by the Pacific Region of the U.S. National Weather Service, which falls under the U.S. National Oceanic and Atmospheric Administration (NOAA).[182] WSO activities include:

- Delivering scientific assessment and analytical services
- Undertaking manual surface aviation, synoptic, and upper-air observations, and transmitting data to the Global Telecommunication System/Integrated World Meteorological Organization (WMO) Information System
- Receiving data from outer island focal points (mayors, disaster committees, etc.) using standardized drought monitoring forms
- Receiving and interpreting daily data from partner scientific agencies (especially NOAA) on hazards to generate adaptive weather forecasts and warnings for local constituents
- Advising the NDMO and Chief Secretary on key threats to inform and for consideration of further action (e.g., activation of the NDC or other actions)
- Communicating alerts and warnings to RMI authorities and communities, including advising precautionary action that could be taken; and
- Working with the NDMO to share warnings and alerts as well as designate focal points (particularly the mayors) to receive information on the state of weather on the outer islands.[183]

Disaster Relief and Emergency Response

As climate change impacts continue to drive extreme events that affect RMI, disaster relief and emergency response personnel will have an increased role. Between 1970 and 2021, RMI has experienced six significant disaster events that impacted 34,344 and had an estimated direct cost of US$317 million. In the future, the country is expected to incur US$3 million average annual losses due to earthquakes and tropical cyclones.[184]

Armed Forces Role in Disaster Relief

The RMI has no armed forces.

The national police force is the Marshall Islands Police Department, and there are also several atoll or municipality-based departments. The Police Commissioner of the central Police Department sits on the NDC. The police have generally had limited involvement in disaster response, although they have vessels and vehicles that could be used for response and relief distribution, including two boats on Majuro and one on Kwajalein.[185]

The U.S. provides territorial defense.

The COFA between the U.S. and the RMI entered into force in 1986, reflecting that RMI was a sovereign nation in free association with the U.S. An Amended Compact entered into

force in 2004, under which the RMI and the U.S. agreed that the U.S. has full authority and responsibility for defense and security matters in and relating to the RMI. The Government of the RMI is obligated to refrain from taking actions that would be incompatible with these security and defense responsibilities. Citizens of the RMI can serve in the U.S. Armed Forces, and they volunteer at per capita rates higher than many U.S. states. Eligible RMI citizens can also travel to the U.S. without visas to live, work, and study.

The RMI hosts the U.S. Army Garrison Kwajalein Atoll (USAG-KA), including the Ronald Reagan Ballistic Missile Defense Test Site, a key component of the U.S. missile defense network.[186]

The U.S. DoD's role in disaster response in RMI is the same as it would be in any foreign disaster response. The DoD shall respond to foreign disasters *in support of* the U.S. Agency for International Development (USAID) Bureau of Humanitarian Assistance (BHA), which is the U.S. lead federal coordinator for providing foreign disaster assistance.[187] A prerequisite for U.S. providing foreign humanitarian assistance is for a Declaration of Humanitarian Need by the Chief of Mission,[188] usually the Ambassador or Chargé d'Affaires.[189] All four criteria in the affected country must be met for a Declaration of Humanitarian Need:

1. There is evidence of significant unmet humanitarian need
2. U.S. Government humanitarian assistance will save lives, reduce human suffering, and mitigate the impact of humanitarian emergencies on the most vulnerable
3. The host country requests or will accept international assistance, and
4. Responding aligns with U.S. Government interests and humanitarian objectives.

USAID/BHA maintains partnerships with other U.S. Government agencies that have unique capabilities that can enhance humanitarian assistance operations, including the U.S. DoD from which USAID may request goods and services if needed. U.S military operations in support of disaster relief or other humanitarian assistance in RMI would be conducted in support of USAID/BHA when humanitarian needs exceed the capacity of the host nation and civilian agencies. In foreign disaster relief, the U.S. military most commonly contributes logistical and transportation support, particularly airlift.[190]

Disaster Management Partners

The Pacific Humanitarian Team

The Pacific Humanitarian Team (PHT) is a network of humanitarian organizations that work together to assist the RMI and other Pacific Island countries (Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Nauru, Niue, Palau, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, and Vanuatu) to prepare for and respond to disasters. It was established by OCHA in 2008 to ensure that regional responders coordinate to deliver timely and appropriate humanitarian assistance. The PHT operates under the co-leadership of the UN Resident Coordinators in the Pacific, based in Fiji and Samoa, and includes United Nations agencies, the Red Cross/Red Crescent Movement, regional and bilateral organizations, national and international non-government organizations (NGO), faith-based and community-based organizations, and donor partners. Participating organizations commit to prepare for and act quickly to provide resources on the ground when requested.[191] The PHT works with the RMI government and partners to ensure that necessary arrangements are in place to enable an effective support to nationally led disaster responses. The PHT has been endorsed as a coordinating body by the UN-run platform, the Inter-Agency Standing Committee (IASC).[192]

International Organization for Migration

IOM has a Majuro sub-office, which falls under the regional Head Office based in Pohnpei, Federated States of Micronesia (FSM). The Pohnpei-based Head Office oversees IOM operations across the North Pacific, overseeing sub-offices not only in RMI but also in the FSM States of Chuuk and Yap. One of the ongoing functions of IOM in the region is to assist the

RMI Government as well as the U.S. government in disaster mitigation, relief, and reconstruction activities. IOM also manages a program on behalf of the Australian Government that aims to build the resilience of communities to natural hazards and enable them to adapt appropriately to climate change.

IOM is an implementing partner of USAID, and as its primary relief and reconstruction partner in RMI, forms an important pillar of USAID's disaster mitigation, relief, and reconstruction program in the country. Through this partnership, the IOM helps USAID to maintain a warehouse with pre-positioned relief supply stocks in RMI and to support community and national emergency managers. In 2019, IOM, with USAID support, worked closely with local partners to deploy and install 19 reverse osmosis desalination units in drought-affected atolls across RMI to provide safe drinking water.[193] IOM has participated in responding to various humanitarian crises in RMI, including the 2022 drought response. IOM is a member of the WASH Cluster.[194]

Women United Together Marshall Islands

Women United Together Marshall Islands (WUTMI) has a large presence in RMI's civil society. WUTMI is a registered NGO dedicated to promoting gender equality and the empowerment of women. Disaster management-relevant work by WUTMI includes addressing increasing awareness of gender in relation to climate and disaster risk management. WUTMI implements a wide range of programs such as strengthening parenting and outcomes for children, addressing substance and alcohol misuse, reducing domestic violence and gender-based violence including through police-targeted trainings,[195] and other activities. In 2016, WUTMI established RMI's first counselling service, called Weto in Mour (A Place of Life), with the support of Pacific Women Shaping Pacific Development (Pacific Women). Weto in Mour continues to increase awareness about violence against women and to improve the referral network and services provided for its survivors. In February 2021, WUTMI extended Weto in Mour to women in Ebeye.[196] WUTMI has 22 member chapters throughout the outer islands and enjoys strong relationships with traditional and elected leaders. WUTMI has growing support in the U.S., mostly in Hawaii and California.[197]

International Committee of the Red Cross

The International Committee of the Red Cross (ICRC) is a private, independent humanitarian organization, headquartered in Geneva, Switzerland. The ICRC bases its activities on the provisions of International Humanitarian Law (IHL), and it is neutral in politics, religion, and ideology. The ICRC assists with the protection of civilian victims of armed conflict and internal strife and their direct results. Within these roles, it may take any humanitarian initiative as a neutral and independent intermediary.[198]

The ICRC regional delegation in the Pacific is based in Suva, Fiji. It covers RMI along with 15 other countries (Australia, Cook Islands, FSM, Fiji, Kiribati, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu) and other territories of the Pacific. The delegation's focus is the promotion of IHL and other humanitarian issues with governments, security forces, academic circles, the media, and civil society. It also provides relief assistance to communities affected by conflict, visits detainees, and supports and works with National Red Cross Societies in the region.[199] Some ICRC-provided assistance may be funding to the National Society, which implements programs on the ground. The ICRC is funding the MIRCS and 11 other National Red Cross Societies in the Pacific for communication programs to develop and disseminate key messages on mental health and psychosocial support on social media and throughout their communities.[200] For ICRC-supported IHL training, MIRCS implements training in the country, including discussing IHL in schools, running an annual Moot Court competition for law students, and educating people about the protected Red Cross, Red Crescent, and Red Crystal emblems.[201]

International Federation of Red Cross and Red Crescent Societies

The International Federation of Red Cross and Red Crescent Societies (IFRC) is a humanitarian organization that provides assistance and promotes humanitarian activities carried out by the National Societies, with a view to preventing and alleviating human suffering. IFRC was founded in 1919 and includes 192 National Societies. The IFRC carries out relief operations to assist victims of disasters and combines this with development work to strengthen the capacities of its member National Societies.[202]

The IFRC also facilitates coordination among multiple National Red Cross Societies when they are actively involved in the same operation, such as during a larger scale humanitarian response. For example, IFRC played this coordinating role when it – along with ICRC, MIRCS, and Red Cross Societies from Australia, New Zealand, and the U.S. – commenced drought relief activities in the RMI in February 2022.[203]

The Marshall Islands Red Cross Society

MIRCS is a volunteer-based organization whose role was enshrined in national law in 2013. The National Society supports vital public services and is an auxiliary of the RMI Government. MIRCS implements its Disaster Risk Reduction Program, offering neighboring island communities Emergency Response Training. MIRCS is also the focal point in providing First Aid and CPR training for the public, with the goal of ensuring that at least one person per household is certified in First Aid and CPR.[204]

For disaster response, including typhoons, floods, and fires, MIRCS staff and volunteers are trained and equipped to conduct rapid assessments and provide emergency relief to affected families.

U.S. Government Agencies in Marshall Islands

USAID's five-year Pacific Islands Strategic Framework (2022-2027) guides the agency's work in RMI and 11 other Pacific Island countries. In partnership with the RMI government, civil society, and the private sector, USAID implements activities designed to advance a more democratic, prosperous, and resilient region.[205]

USAID's Bureau for Humanitarian Assistance (USAID/BHA) collaborates closely with the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) to implement humanitarian assistance in RMI. In 2008, USAID took over responsibility from FEMA for disaster response and reconstruction in RMI. This followed the country's 1986 transition from trust territory to self-governing nation after it entered into the COFA with the U.S. The COFA terms included federal programs and services, including disaster preparedness and response assistance. U.S. Congressional intent for USAID–FEMA cooperation is to continue providing a robust program of emergency disaster relief and reconstruction similar in type and level, but not identical, to the assistance that, for many decades, FEMA provided to RMI. USAID and FEMA have forged a unique interagency relationship to coordinate assistance to the COFA states, as outlined in the 2009 FEMA-USAID Strategy for Disaster Mitigation, Relief and Reconstruction in the Federated States of Micronesia and the Republic of the Marshall Islands (the Operational Blueprint), which was revised in 2016.[206]

Since 2008, USAID has responded to two U.S. Presidential Disaster Declarations in RMI due to the widespread effects of droughts in 2013 and 2016. USAID provided more than US$5.7 million to provide supplemental food distributions to affected outer-island communities to prevent food insecurity due to agricultural losses. USAID maintains a full-time presence in RMI[207] through a Disaster Assistance Coordinator (DAC) located in Majuro as a member of the U.S. Embassy country team. The DAC serves as a liaison with the RMI government and coordinates U.S. Government relief activities in RMI.[208] In partnership with IOM, USAID maintains a warehouse with pre-positioned relief supply stocks in RMI, and it works with communities and national emergency managers to support locally led responses to small- and medium-scale disasters. In 2019, USAID supported

local partners to deploy and install 19 reverse osmosis desalination units in atolls across RMI to provide safe drinking water for drought-affected communities. Also in 2019, USAID supported the RMI NDMO in convening its first disaster tabletop exercise for Kwajalein.[209] USAID contact information includes:

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Sarah Mentrup, Desk Officer, Pacific Islands & Mongolia
U.S. Agency for International Development
1300 Pennsylvania Avenue, NW
Washington, DC 20523
Tel: +1 571-217-0270
Email: *smentrup@usaid.gov*

Beyond the disaster-focused work of USAID in coordination with FEMA, a range of U.S. government agencies provide funding or technical assistance or coordinate other support to RMI; these agencies include the DoD, Federal Aviation Administration (FAA), U.S. Postal Service, Department of Agriculture, Department of Health and Human Services, and Department of Education,[210] NOAA,[211] and U.S. Fish and Wildlife Service.[212]

Laws, Policies, and Plans on Disaster Management

In addition to RMI plans and policies focused particularly on disaster management or risk reduction, RMI and other Pacific Island countries address DRM as one among related topics in broader national plans and regional frameworks.

The foundation of RMI's current DM approach was formalized in the 1987 National Disaster Management Plan, followed by the 1994 Disaster Assistance Act, which provided the legal foundation for the establishment of the NDC and the NDMO, both of which are located in the Office of the Chief Secretary.[213] The Disaster Assistance Act clarified the role of the Cabinet and local governments in disaster prevention, preparedness, response, and recovery. The same year, a Hazard Mitigation Plan was passed, which provided a systematic program to identify hazards, monitor vulnerability, and develop and implement measures to reduce or eliminate vulnerabilities, with a focus on tropical storm and typhoon threats. This was followed by a Standard Hazard Mitigation Plan in 2005.[214] Several drought response plans have also been developed, particularly in 2013 and 2016 to detail cluster-based needs analysis, objectives, and relief activities related to specific events.[215] The RMI's Joint National Action Plan for Climate Adaptation and Disaster Risk Management 2014-2018 (JNAP) was an effort to better represent and manage the impacts of climate change and disaster events on national development priorities. It anchored RMI's development efforts regarding the interrelated risks and opportunities that need to be considered as part of a system-wide approach to risk reduction. Progress against JNAP goals was limited due to existing constraints and challenges, but the Plan did help guide new policies and the alignment of donor funding with national priorities.[216] The 2019 National Disaster Risk Management Arrangement (NDRMA) is a guiding overview document regarding how RMI organizes its DM structure;[217] it incorporated the 2017 NDRMA review that detailed risk management approaches, and roles and responsibilities across DRR, DM, response, relief, and recovery.[218]

The NDMO Strategic Plan 2020-2023 was prepared to strengthen resilience in neighboring atolls, organize disaster preparedness, response, and recovery, and improve coordination at local, national, and international levels. Local DRM plans are also in development for specific atolls. The NDMO Strategic Plan 2020-2023 outlines the actions, outcomes, and performance measures to achieve a safer and more resilient nation and communities. Outcomes are focused on strengthening reporting, preparedness and

planning, resourcing, legislation, and policy and procedures. The three priority areas to strengthen DRM are:

- Priority Area 1: Resilience to Disasters and Risks. Strengthening resilience and disaster management in the neighboring islands.
- Priority Area 2: Preparedness, Response, and Recovery. National DRM arrangements and structure.
- Priority Aera 3: Local, National, and International Coordination. NDMO development.[219]

The RMI National Strategic Plan (NSP) 2020-2030 coordinates the medium-term development goals and objectives of the RMI government at the national level. The NSP is organized across five pillars, with each pillar containing several strategic areas to coordinate with policies and plans across government ministries and agencies. The five pillars are: 1) Social and Culture; 2) Environment, Climate Change, and Resiliency; 3) Infrastructure; 4) Economic Development; and 5) Good Governance. DRM is addressed in the Environment, Climate Change, and Resiliency Pillar, which also addresses climate change, radiation contamination, and the atoll environment. The stated DRM goal is that "RMI manages disaster risk for the current and future well-being of the Marshallese people." The three related DRM policy objectives are: 1) Enhanced resilience to disasters and risks; 2) Strengthened disaster preparedness, response, and recovery; and 3) Greater coordination, nationally and internationally, on DRM efforts. The NSP addresses the importance of improving national and local capacity to undertake vulnerability and adaptation assessments and planning for DRM, and of ensuring all stakeholders are integrated into the planning and implementation of disaster risk and adaptation as needed. In addition to the five pillars, the NSP addresses cross-cutting issues, many of which are relevant to DM or long-term DRR. The cross-cutting issues are outer island development, resilience, adaptation to climate change and sea level rise, nuclear justice, human development, and security.[220]

The Pacific Islands Meteorology Strategy 2017-2026 was produced by the Pacific Meteorological Council (PMC), a specialized subsidiary body of the Secretariat of the Pacific Regional Environment Programme (SPREP). The strategy has five priority areas with accompanying priority key outcomes, most having relevance for DRR:

PRIORITY 1: IMPROVED WEATHER SERVICES

- Improved aviation weather services
- Improved marine weather services and establishment of ocean services
- Improved public weather services

PRIORITY 2: DISASTER RISK REDUCTION

- Strengthened National Meteorological and Hydrological Services (NMHS) capacity to implement Multi-Hazard Early Warning Systems
- NMHSs contribution to climate change activities

PRIORITY 3: IMPROVED CLIMATE AND HYDROLOGICAL SERVICES

- Improved climate information and prediction services
- Strengthen collaboration between meteorological and hydrological services to better manage water resources and reduce the impact of water related hazards

PRIORITY 4: INTEGRATED OBSERVING AND COMMUNICATION SYSTEMS

PRIORITY 5: COORDINATED SUPPORT FOR NMHSs and PMC

- NMHS institutional strengthening and capacity development
- Support to NHMS is coordinated
- PMC is efficient and effective via partnerships, inclusivity, and consideration of staff safety, with funding support.[221]

The Republic of the Marshall Islands – Pacific Community Country Programme: 2019–2022 was developed by the Pacific Community (SPC) in partnership with RMI. On DRR it states that the support of SPC is still needed to help RMI bring a resilient developmental perspective to its planning and implementation of DRR programs, particularly through capacity strengthening of the NDMO. The program laid out strategic priorities for SPC to work with RMI in support of several areas:

- Statistics and data capacity
- Biosecurity – for effective surveillance and early responses to incurring pests
- Food security – to address challenges in agriculture and with non-communicable diseases
- Non-communicable diseases; and
- Gender, social inclusion, human rights, and culture.[222]

RMI, Kiribati, Tuvalu, and the Pacific Island Forum are developing the first ever **Pacific Climate Security Assessment Framework** as well three National Climate Security Profiles as part of Climate Security in the Pacific, a joint UNDP-IOM project funded by the UN Peacebuilding Fund. As of August 2022, a regional framework background document provided preliminary findings in the shape of identified pathways that outline the main ways climate change risks interact with socioeconomic and political dynamics in undermining security in the Pacific. These pathways illustrate the dynamics between climate impacts and loss of stability and security. Due to the dynamic nature of these relationships, all of the pathways intersect, with several overlapping, and they are intended to be taken holistically, especially for policy and planning purposes.[223] Identified pathways include:

- Climate Change Challenges Livelihood and the Blue Economy
- Climate Change Threatens Land Availability and Usability, Putting Pressures on Food, Water, and Health Security
- Climate Risks Exacerbate Disasters and Erode the Resilience of the Vulnerable and the Government
- Climate Change Undermines Mobility's Resilience Qualities
- Climate Change Threatens the Territorial Integrity of Pacific Island Countries and Regional Stability

Entry points and suggested actions identified include:

- Target vulnerable communities and make sure no one is left behind
- Improve knowledge, capacities, communication, and programming
- Better incorporate climate security and its operationalization across policies and planning
- Avoid mal-adaptation and promote mitigation through climate and conflict-sensitive approaches
- Promote and work with indigenous knowledge and approaches to build resilience
- Improve land, water, and food security
- Reinforce regional cooperation for addressing climate security risks[224]

As part of the Pacific Climate Security Assessment Framework, the development of the **Climate Security Risk Assessment for the Republic of the Marshall Islands** included a May 2022 workshop identifying the country's most pressing climate security risks and entry points to mitigate impacts. RMI's identified pathway risks include:

- Threats to blue economy
- Climate change and (forced) mobility
- Climate-related disasters
- Land loss and impacts on food, water, and health security
- Territorial integrity and statehood

RMI's identified entry points supporting stakeholders to mitigate or prevent the security implications of climate change include:

- Securing sovereignty and territorial integrity
- Strengthen efforts to implement the Paris Agreement
- Targeted inclusion and support for and protection of local practice

- Addressing food and water insecurities
- Supporting capacity building and awareness around climate security[225]

The Framework for Resilient Development in the Pacific: An Integrated Approach to Address Climate Change and Disaster Risk Management (FRDP) 2017 – 2030 was endorsed by Pacific Island Forum leaders in 2016 after four years of developing a single integrated regional framework. The FRDP provides high level strategic guidance to different stakeholder groups on how to enhance resilience to climate change and disasters in ways that contribute to and are embedded in sustainable development. The strategic guidance is expressed in the form of a non-exhaustive set of priority actions for consideration by various stakeholder groups (national and subnational governments and administrations, civil society and communities, private sector, and regional organizations and other development partners) in support of three goals: 1) Strengthened integrated adaption and risk reduction to enhance resilience to climate change and disasters; 2) Low carbon development; and 3) Strengthened disaster preparedness, response, and recovery. The FRDP advocates for the adoption of integrated approaches, whenever possible, for coping with and managing climate change and disaster risks, to make more efficient use of resources, to rationalize multiple sources of funding, which address similar needs, and for more effective mainstreaming of risks into development planning and budgets.[226]

Disaster Management Communications

Disaster management communications can be challenging in RMI due to its geography because the population is scattered across hundreds of remote islands in a massive expanse of ocean. The Marshall Islands WSO plays a key role in communicating information, alerts, and warnings regarding weather-related hazards. Disaster communication across the island nation is done through a variety of media, ranging from broadcast and telecast media to high frequency (HF) radio and even portable iridium satellite terminals known as "chatty beetles."

Early Warning Systems

Early warning systems include forecasting, dissemination of warnings, preparedness measures, and reaction capacities. They are especially critical in reducing or avoiding devastation experienced by vulnerable communities. The Marshall Islands WSO is tasked with providing weather forecasts, early warnings on hazardous weather, and other weather-related products to the government for the purposes of protection, safety, and general information.[227]

RMI is well aware of the value of and need for improved early warning systems. RMI's NSP 2020-2030 addresses the need for more investment in early warning systems and other DRR measures to manage and mitigate impacts of disasters from natural risk hazards and climate change.[228] The RMI NDRMA posits effective early warning and communication systems as a key element of its DRM model. The aim of RMI's early warning plan is to ensure all messages are simple and brief to avoid confusion, use clear and consistent language easily understood by all, contain explicit information, and are suited to the communities they warn. Timely information should be communicated through formal and informal institutions and communication networks. In RMI, these networks can include broadcast media, telecast media, automated text/SMS, automated outdoor public siren system, two-way HF and very high frequency (VHF) radio, fax, email, church and school bells, and other local systems.[229]

One device used in the Pacific in the past decade is the "chatty beetle," a portable iridium satellite terminal that receives and sends text alerts designed by Rural Communications using Radio and the Internet (RANET). They can fill a niche for remote application where other communications do not exist, are unreliable, or where a simple notification is needed.[230] "Chatty

beetles" filled a critical communication gap in Tonga after the January 2022 volcanic eruption as they enabled some of the first successful communications in the days following the eruption.[231] Remote islands in RMI use "chatty beetles" as back-up communication tools.[232] RMI outer island focal points most commonly use HF radio as well as the "chatty beetle" for information exchange with the WSO or other DM-relevant government agencies.[233]

One community-based early warning system in RMI was started on Majuro Atoll in 2016. The Jenrok community participated in the planning and designing of the Jenrok Community Early Warning System under the Finland-Pacific Project. A key message is to be prepared, with the National Weather Service providing information on predicted low rainfall so that people can start storing water. The same applies to king tides and typhoons so communities get early warning and then start to prepare. The project was funded by the Government of Finland and coordinated by the SPREP in partnership with IFRC, the WMO through the Government of Canada, and the Government of RMI.[234]

No single warning system can apply to all hazards; thus, there is a need to develop systems that suit each hazard. A common hazard in the Marshall Islands is flooding. Majuro atoll experiences coastal inundation events almost annually, and the hazard is predicted to worsen with sea level rise. However, current early warnings are not always provided for every inundation event. A diagnosis of historical inundation events has indicated patterns that may assist early warning systems. Research showed that inundation with a significant contributing swell factor propagates via three main routes, with approximately 50% occurring from the north-east. The two highest sea level measurements on record both occurred during La Niña events, with both leading to inundation, suggesting that spring tides during La Niña events should exhibit a heightened level of alert for inundation at Majuro regardless of swell contribution. Analysis also indicated that bulk wave statistics and static sea level were generally sufficient to identify an inundation event.[235]

Information Sharing

Understanding how to overcome the information challenges that civilian and military responders experience during a typical humanitarian assistance and disaster relief (HADR) mission is important. Sharing information is critical since no single responding entity, NGO, International Governmental Organization, assisting country government, or the host government can be the source of all the required information.[236] Collaboration, information sharing, and networking have been the backbone of successful preparation and disaster response. Disseminating information not only to those in-country and threatened by disaster, but also to those responding to assist in the emergency has been crucial to timely, efficient, and effective disaster response. There are many resources, stakeholders, and components to consider before, during, and after a natural disaster, and this section will discuss country-specific, humanitarian, regional, government, and DoD information sources.

Republic of the Marshall Islands Information Sources

Republic of the Marshall Islands National Disaster Management Office (NDMO)
Tel: +692 625-6366/5236
Address: Majuro 96960
Email: *ndmoinfo@gmail.com*
Web: *ndmo.gov.mh*
Facebook: RMINDMO
Twitter: @RMI_NDMO

The Marshall Islands Red Cross Society
National Office
PO Box 2014, Majuro, MH, 96960
Tel: +692 625-0340
Email: *info@rmiredcross.org*
Web: *https://marshallredcross.org/*
Facebook: @RMIRC
Instagram: rmiredcross692
Twitter: @rmiredcross

Humanitarian Information Sources

United Nations Office for the Coordination of Humanitarian Affairs (OCHA) Office of the Pacific Islands

OCHA's Office of the Pacific Islands mobilizes and coordinates humanitarian action in partnership with national and international actors. Its key objective is to support national efforts to protect the lives, livelihoods, and dignity of people in need. OCHA Office of the Pacific Islands personnel can provide support in information management, reporting, mapping, media and communications, assessments, humanitarian financing, and inter-cluster coordination. OCHA can deploy teams to assist in the coordination of incoming international relief at the earliest stages of an emergency.
Web: *https://www.unocha.org/pacific*
For OCHA situation reports, click on "Subscribe" button on top of page.
Twitter: @UNOCHA_Pacific

Pacific Humanitarian Team

The Pacific Humanitarian Team (PHT) is a network of humanitarian organizations that work together to assist Pacific Island countries prepare for and respond to disasters. The PHT operates under the co-leadership of the UN Resident Coordinators in the Pacific, based in Fiji and Samoa, and includes UN agencies, the Red Cross/Red Crescent Movement, regional and bilateral organizations, national and international NGOs, faith-based and community-based organizations, and donor partners. OCHA is the Secretariat.[237]
Web: *http://pacifichumanitarian.info/*

ReliefWeb

ReliefWeb is a service of UN OCHA that consolidates information and analysis from organizations, countries, and disasters for the humanitarian community.
Web: *https://reliefweb.int/*

A subsection of ReliefWeb is ReliefWeb Response (RW Response), which replaced HumanitarianResponse.info in November 2022. RW Response aggregates operational content from other humanitarian action platforms to provide an authoritative source of information and to ensure that humanitarians can share, find, and re-use critical information quickly and efficiently.
RW Response: *https://response.reliefweb.int/*

PreventionWeb

PreventionWeb is provided by the UN Office for Disaster Risk Reduction (UNDRR) to consolidate disaster risk reduction information into an online, easy to understand platform.
Web: *https://www.preventionweb.net/english/*

International Federation of Red Cross and Red Crescent Societies (IFRC)

IFRC is the world's largest humanitarian organization, comprised of its 192 National Societies including the MIRCS, a secretariat in Geneva, Switzerland, and over 60 delegations around the world. The IFRC carries out relief operations to assist victims of disasters and combines this with development work to strengthen the capacities of its member National Societies.[238] The IFRC's Suva Cluster comprises 11 National Societies in the North Pacific, including RMI. Through a sub-delegation in the North Pacific, the Cluster Delegation provides support to the MIRCS.[239]
Web: *https://media.ifrc.org/ifrc* and *https://go.ifrc.org/*

International Committee of the Red Cross (ICRC)

ICRC is an impartial, neutral, and independent organization whose exclusively humanitarian mission is to protect the lives and dignity of victims of armed conflict and other situations of violence and to provide them with assistance. It also works to prevent suffering by promoting and strengthening IHL and universal humanitarian principles. ICRC, together with IFRC and the 192 Red Cross Red Crescent Societies, make up the Red Cross Red Crescent Movement.[240]

Web: *https://www.icrc.org/en*
Facebook: @ICRC
Twitter: @ICRC

Global Disaster Alert and Coordination System (GDACS)

GDACS is a cooperation framework between the United Nations, the European Commission, and disaster managers worldwide to improve alerts, information exchange, and coordination in the first phase after major sudden-onset disasters.
Web: *https://www.gdacs.org/alerts/*

Virtual OSOCC

The Virtual On-Site Operations Coordination Centre (OSOCC) is a real-time online coordination tool for disaster response professionals from urban search and rescue teams, national authorities, as well as regional and international organizations at a global level.
Web: *https://vosocc.unocha.org/*
The latest alerts can be found here: *http://www.gdacs.org/Alerts/default.aspx*
To subscribe: *http://www.gdacs.org/About/contactus.aspx*

ThinkHazard!

ThinkHazard! is a website that provides detailed information on a country. Information is provided on the Marshall Islands regarding hazards, country assessments, projects, early warning systems, and other resources.
Web: *http://thinkhazard.org*

Humanitarian Country Teams (HCT)

HCT is a strategic and operational decision-making and oversight forum established and led by the Humanitarian Coordinator in each country. It is generally comprised of representatives from UN agencies including the IOM, international NGOs, and the IFRC as well as the respective National Red Cross Society in the country. During a disaster response, HCTs often produce a Situation Report (SitRep), usually in conjunction with OCHA.

Most HCT SitReps can be found through ReliefWeb: *https://reliefweb.int/*

For the Republic of the Marshall Islands and other Pacific Island countries, see the Pacific Humanitarian Team.

Humanitarian Data Exchange (HDX)

HDX is an open platform for sharing data across crises and organizations. It was launched in 2014 with the goal of centralizing humanitarian data for easy access and analysis. HDX is managed by OCHA's Center for Humanitarian Data in The Hague.
Web: *https://data.humdata.org/*

Regional Information Sources

Pacific Disaster Net

Pacific Disaster Net is an online platform for DRM and Climate Change documents, reports, alerts, data, projects, and professionals for the Pacific region. The platform is an ongoing live service provided by the SPC, UNDP, UNDRR, and IFRC. While climate change is broader than the traditional scope of HADR, many Pacific Island countries and territories approach DRR in tandem with CCA.
Web: *http://www.pacificdisaster.net/main*

U.S. Government Sources

U.S. Agency for International Development (USAID)

USAID is committed to responding to crises around the world to help people and places most in need. They aim to:

- Promote Global Health
- Support Global Stability
- Provide Humanitarian Assistance
- Catalyze Innovation and Partnership
- Empower Women and Girls

USAID produces a monthly newsletter, which is available digitally at *https://www.usaid.gov/news-information/newsletter*.

More information and updates from USAID are available via their blog, IMPACT, at *https://*

blog.usaid.gov/, and on Facebook (USAID), Twitter (@usaid), and YouTube (usaidvideo).
Web: *https://www.usaid.gov/*

USAID Bureau for Humanitarian Assistance (BHA)

USAID/BHA is responsible for leading and coordinating the U.S. Government response to disasters overseas. BHA responds to an average of 75 disasters in 70 countries every year. BHA fulfils its mandate of saving lives, alleviating human suffering, and the reduction of the social and economic impact of disasters worldwide in partnership with USAID functional and regional bureaus and other U.S. government agencies. BHA works with the international population to help countries prepare for, respond to, and recover from humanitarian crises.[241]

USAID/BHA products include situation reports and maps, which are available via email mailing lists as well as via Reliefweb. Information products (Updates/Fact Sheets, etc.) are also available on USAID.gov (*https://www.usaid.gov/humanitarian-assistance*)

BHA also updates followers via social media on Facebook (USAIDSavesLives) and Twitter (@USAIDSavesLives).

For BHA updates on a disaster response, ask the BHA representative for the respective DoD Geographic Combatant Command to add you to the email list, if you have a U.S. government email address:

- *BHA.INDOPACOM@usaid.gov*
- *BHA.SOUTHCOM@usaid.gov*
- *BHA.NORTHCOM@usaid.gov*
- *BHA.AFRICOM@usaid.gov*
- *BHA.SOCOM@usaid.gov*
- *BHA.CENTCOM@usaid.gov*
- *BHA.EUCOM@usaid.gov*

Pacific Disaster Center (PDC Global)

Pacific Disaster Center (PDC Global) has trademarked an early warning and decision support system called DisasterAWARE®. DisasterAWARE® is primarily for disaster management practitioners and senior decision makers. It supports DRR and best practices throughout all phases of DM from early warning to multi-hazard monitoring. It has a collection of scientifically verified, geospatial, data and modeling tools to assess hazard risks and impacts. A restricted version of DisasterAWARE is the EMOPS (Emergency Operations) system, which is specifically for the DM community, including government agencies and humanitarian assistance organizations serving at local, state, federal, and regional levels.[242]

PDC Global also provides a public version, Disaster Alert, which offers open access to a world map documenting 18 hazard types.[243] Disaster Alert also has a free, early-warning app to receive customizable maps based visual alerts of active hazards. The app offers a global notification system covering natural and man-made hazards. It is available on both iPhone and Android.[244]
Web: *https://www.pdc.org/* and *https://www.pdc.org/apps/disasteraware/*
Emergency Operations (EMOPS) system (request account): *https://emops.pdc.org/emops/*

All Partners Access Network (APAN)

APAN is the Unclassified Information Sharing Service for the U.S. DoD. APAN provides the DoD and mission partners community space and collaboration tools to leverage information to effectively plan, train, and respond to meet their business requirements and mission objectives. Importantly, APAN's technology team has been supporting HADR operations for over 15 years.[245] APAN has played an integral role in the success of disaster responses, such as the 2015 California Wildfire Response and the 2013 Typhoon Haiyan Response in which they provided organizations and militaries a centralized location to share information, increase situational awareness, and decrease response time and duplicated efforts for best practices in HADR services.[246]
Web: *https://www.apan.org/*

National Oceanic and Atmospheric Administration (NOAA), including National Weather Service (NWS)

NOAA, including the NWS, are U.S. government agencies (under the Department of Commerce) that deliver daily weather forecasts, severe storm warnings, and climate monitoring for fisheries management, coastal restoration, and support for marine commerce. NOAA scientists' research provides citizens, planners, emergency managers, and decisionmakers with reliable information. Among NOAA's service centers is the U.S. Tsunami Warning System, including the Pacific Tsunami Warnings Center (PTWC) in Honolulu that feeds tsunami information and warnings to the U.S.'s Pacific partners, including RMI. The U.S. NWS serves RMI via a regional forecast office in Guam and via an office in Majuro.
Twitter/Facebook: NOAA or NWS
YouTube: usnoaagov or usweathergov
Tsunami Warning Center: *https://www.tsunami.gov/*

Pacific Tsunami Warning Center
Twitter: NWS_PTWC
Facebook: UsNwsPacificTsunamiWarningCenter

NWS Forecast Office, Guam
Twitter/Facebook: NWSGuam
Web: *https://www.weather.gov/gum/#*

Joint Typhoon Warning Center

The Joint Typhoon Warning Center provides advanced warning for U.S. Government agencies and organizations in relevant areas.
Web: *https://www.metoc.navy.mil/jtwc/jtwc.html*

Daniel K. Inouye Asia-Pacific Center for Security Studies (DKI-APCSS)

DKI-APCSS is a U.S. DoD institute that addresses regional and global security issues, inviting military and civilian representatives of the U.S. and Asia-Pacific nations to its program of executive education and workshops.
Web: *https://apcss.org/*

The Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM)

The CFE-DM is a U.S. DoD organization that was established by the U.S. Congress in 1994 and is a direct reporting unit to U.S. Indo-Pacific Command. CFE-DM provides training and education to help U.S. and foreign military personnel navigate complex issues in disaster management and humanitarian assistance. They produce country focused disaster management reference handbooks, after action reports, best practices, and lessons learned for advancement in response coordination. CFE-DM also works to improve cross-coordination and reduce duplication of efforts and promote U.S. involvement in civil-military consultations and dialogues with relevant HADR parties. CFE-DM provides resources and updates at its website, as well as via their Facebook and Twitter accounts (@cfedmha).
Web: *https://www.cfe-dmha.org/*

Disaster Management Reference Handbooks are available for download at: *https://www.cfe-dmha.org/DMHA-Resources/Disaster-Management-Reference-Handbooks*

CFE-DM Disaster Information Reports are available for download at: *https://www.cfe-dmha.org/Publications/Reports*

COVID-19 Information Sharing Sources

Johns Hopkins Coronavirus Resource Center
https://coronavirus.jhu.edu/

Cases Database
https://github.com/CSSEGISandData/COVID-19

INFORM's COVID-19 Risk Index
https://data.humdata.org/dataset/inform-covid-19-risk-index-version-0-1-4

World Health Organization, COVID-19, Marshall Islands
https://covid19.who.int/region/wpro/country/mh

INFRASTRUCTURE

The current infrastructure and challenges for emergency responses are shaped by RMI's geography and relative isolation with over 1,000 islands spread across a vast expanse of ocean. Logistics and transportation are critical to large-scale disaster responses. Storms are generally the most disruptive events to air, sea, and road transport. Although tropical cyclone activity peaks around September-November, tropical cyclones can and do occur throughout the year across the western North Pacific. Therefore, there is no clearly defined 'typhoon season.'[247] Normally, most atolls only receive inter-island flights once a week. Sea vessel transport from Majuro is a critical supply link to the outer islands, and this means of transport can also be impacted by high seas. Most atolls have protected lagoons to receive vessels for resupply, but islands that are not part of an atoll are especially vulnerable to transport disruption.[248]

The Infrastructure Cluster is led by the Ministry of Works, Infrastructure, and Utilities, and co-led by the National Telecommunications Authority. The Logistics Cluster is led by the Ministry of Finance, Banking, and Postal Services, and co-led by the Ministry of Transportation, Communications, and Information Technology.[249]

Transport

RMI's geography increases transport costs. Logistics and transport links only occur by sea or air, and high transport costs exacerbate inequality between populations in the urban centers and those on the neighboring islands. RMI imports almost all of its food, clothing, machinery and equipment, and fuel—making transport connectivity crucial to the domestic economy. Air and maritime facilities are critical infrastructure for passenger and freight transport, as well as for the provision of emergency response.[250]

Increased congestion at Majuro's key port and airport have led to calls for large capital investments to expand capacity. In recent years, the business community and parts of the government have raised concerns about increased congestion in Majuro, at both the international airport and at Delap Dock, and there are reports of long delays and sudden changes in schedules. There are proposals for a 100-m (325-foot) extension of the dock and to build a new terminal and runway for domestic flights at Majuro's Amata Kabua airport.[251]

The Republic of the Marshall Islands Port Authority (RMIPA) is the controlling agency for all ports in RMI and is based in Majuro. Established by the RMI Ports Authority Act in 2003,[252] RMIPA is a state-owned enterprise responsible for the development, maintenance, and operations of all seaports and the sole international airport, the Amata Kabua International Airport in Majuro. RMIPA is governed by a seven-member Board of Directors appointed by the Cabinet. Daily operations are managed by a director and approximately 60-member staff. Majuro Stevedoring Company, a state-owned enterprise operated by an independent board, undertakes all Delap port operations on behalf of RMIPA. Majuro Stevedoring Company has outlined that humanitarian cargo will be considered a priority during disasters.[253]

RMI joined the International Maritime Organization (IMO) in 1998. RMI is a signatory to the International Convention for the Safety of Life at Sea (SOLAS); the International Regulations for Preventing Collisions at Sea (COLREGS); the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW); the International Convention for the Prevention of Pollution from Ships (MARPOL); the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (SUA); and the Nairobi International Convention on the Removal of Wrecks.

Airports

RMI's only public international airport, Amata Kabua, is in the southeast part of the Majuro atoll. It is served by international carrier United Airlines, regional carrier Nauru Airlines, and the national commuter airline Air Marshall Islands. Cargo is received from United Airlines as well as Asia Pacific Airlines, a cargo carrier. General aviation and private jets occasionally bring passengers to Amata Kabua. Facilities include a 700 m^2 (7,530 square foot) terminal building built in 1975, Aircraft Rescue and Fire Fighting facility, Air Marshall Islands Hangar, and fuel delivery system. The runway was lengthened between 2010 and 2016 to meet international standards. Emergency services were recently upgraded to be U.S. FAA certified, and this upgrade included the construction of an emergency services operations center and two fire-fighting tankers. Annual large emergency crash simulations are conducted involving Majuro medical and fire services local and government organizations.[254]

Kwajalein International Airport is located on Kwajalein Atoll (3 km / 1.8 miles from Ebeye). It is under the jurisdiction of the U.S. military (Bucholz Army Airfield) and restricted to use by authorized persons. Kwajalein airport is used as part of the domestic flight route to Ebeye. Passengers disembark at the U.S. military base and are escorted to a passenger receiving area. From there, transport is provided to the dock terminal where passengers wait for the next ferry to Ebeye.

In addition to the two international airports, the Marshall Islands has a few dozen airfields located throughout the islands; they are listed in Table 1.[255]

Seaports

There are two international civilian seaports in Marshal Islands, in Majuro and Ebeye, and one military seaport on Kwajalein. Beyond the ports of Majuro and Ebeye, some islands have beach landings available.[256]

The Port of Majuro

The Port of Majuro is the country's main international cargo port and the hub of the Marshallese economy. It is approached via the Calalin Channel, which is 2.7-3.4 km (1.6-2.1 miles) long, 350-450 m (1,150-1,475 feet [ft]) wide, and 23.5-45 m (77-150 ft) deep. There is a lighthouse located on Eroj Island at the channel entrance. The Calalin Channel is lined with six lighted channel markers with day boards that mark the limits of the channel to guide vessels safely into Majuro Lagoon.

Delap Dock – Delap Dock is approximately 300 m (984 ft) long and handles an estimated 2,500 Twenty-foot Equivalent Units (TEU) annually with approximately five scheduled freight vessel services per month. Delap Dock serves international cargo vessels that deliver imported food and household items, construction equipment and materials, diesel fuel, jet fuels, and refined gasoline products. Delap Dock also serves the offloading of copra and loading of coconut oil produced by Tobolar's coconut processing operation located on the northeast side of Delap Dock. International fishing vessels also make occasional use of Delap Dock for maintenance. Delap Dock primarily refers to the main dock but also consists of the east dock, west dock, and cargo handling area. The main Delap Dock is to the southeast of Majuro Lagoon, and it extends east to west for about 308 m (1,010 ft). The east dock is on the east side of the main Delap Dock, and it extends approximately 80 m (262 ft) north to south and is primarily used by interisland cargo vessels for unloading copra to the Tobolar coconut processing operation. The west dock is located on the west side of the main Delap Dock and extends approximately 58 m (190 ft) north to south. The cargo handling area is next to the main Delap Dock and is used for movement and storage of dry and refrigerated containers, general palletized cargo, and empty containers. The Cargo Handling Area has several structures for cargo handling equipment maintenance and repair, as well as enclosed areas for stevedore operations. RMIPA, which manages the country's

Airport	IATA/ICAO Code	Runway Length, Surface, and Condition	Elevation
Amata Kabua International Airport (in Majuro)	MAJ / PKMJ	2,407 m (7,897 ft). Sealed surface. Helipads: 50 x 50 m (164 x 164 ft) tarmac; 100 m x 50 m (328 x 164 ft) grassed.	1.5 m (5 ft)
Bucholz Army Airfield (on Kwajalein)	KWA / PKWA	2,200 x 60 m (7,218 x 197 ft) sealed. Eight Helipads present.	3 m (10 ft)
Ailuk Airfield	AIM	750 x 50 m (2,461 x 164 ft) Grass/coral surface. Fair condition.	1.5 m (5 ft)
Airok Airfield	AIC	1,000 x 40 m (3,281 x 131 ft) Grass/coral surface. Fair condition.	1.5 m (5 ft)
Arno Airfield	IMI	Dimensions unknown. Runway CLOSED.	1 m (3 ft)
Arno Tenak Airfield	TIC	1,150 x 50 m (3,773 x 164 ft) grass/coral. Runway CLOSED.	1 m (3 ft)
Bikini Airfield	BII	1,177 x 60 m (3,862 x 197 ft) Surface unknown. Runway CLOSED.	1 m (3 ft)
Ebon Airfield	EBO	951 x 30 m (3,120 x 98 ft) Surface and condition unknown.	1 m (3 ft)
Enewetak Airfield	ENT	2,200 x 60 m (7,218 x 197 ft) Concrete surface. Good condition.	1 m (3 ft)
Jabat Airfield	JAT	700 x 30 m (2,297 x 98 ft) Grass surface. Good condition.	1 m (3 ft)
Jaluit Airfield	UIT	1,300 x 90 m (4,265 x 295 ft) Grass/coral surface. Good condition.	1 m (3 ft)
Jeh Airfield	JEJ	1,290 x 9 m (4,232 x 30 ft) Grass/coral surface. Fair condition.	1 m (3 ft)
Kili Airfield	KIO	1,338 x 48 m (4,390 x 157 ft) Grass surface. Good condition.	1 m (3 ft)
Kwajalein Elenak Airfield		U.S. military-managed. Not open to public use.	-
Lae Airfield	LML	629 x 40 m (2,064 x 131 ft) Grass surface. Good condition.	1 m (3 ft)
Likiep Airfield	LIK	903 x 43 m (2,963 x 141 ft) Grass surface. Fair condition.	1 m (3 ft)
Majkin Airfield	MJE	1,129 x 54 m (3,704 x 177 ft) Grass surface. Fair condition.	1 m (3 ft)
Maloelap Airfield	MAV	1,127 x 48 m (3,698 x 157 ft) Grass surface. Fair condition.	1 m (3 ft)
Maloelap Kaben Airfield	KBT	854 x 64 m (2,802 x 210 ft) Grass surface. Good condition.	1 m (3 ft)
Mejit Airfield	MJB	1,229 x 48 m (4,032 x 157 ft) Coral graded surface. Good condition.	1 m (3 ft)
Mili Airfield	MIJ	919 x 24 m (3,015 x 79 ft) Grass surface. Fair condition.	1 m (3 ft)
Mili Enjanet Airfield	EJT	967 x 96 m (3,173 x 315 ft) Grass/gravel graded. Good condition.	1 m (3 ft)
Namdrik Airfield	NDK	100 x 30 m (328 x 98 ft) Grass/coral surface. Fair condition.	1 m (3 ft)
Namu Airfield	MJE	838 m (2,749 ft) Grass surface. Runway CLOSED.	-
Rongelap Airfield	RGP	1,322 x 48 m (4,337 x 157 ft) Concrete surface. Good condition.	1 m (3 ft)
Tabal Airfield	TBV	822 x 43 m (2,697 x 141 ft) Graded coral surface. Fair condition.	1 m (3 ft)
Ujae Airfield	UJE	806 x 36 m (2,644 x 118 ft) Grass surface. Fair condition.	1 m (3 ft)
Utrik Airfield	UTK	838 x 43 m (2,749 x 141 ft) Coral surface. Fair condition.	1 m (3 ft)
Woja Airfield	MJA	138 x 48 m (453 x 158 ft) Coral graded surface. Fair condition.	1 m (3 ft)
Wotho Airfield	WTO	919 x 64 m (3,015 x 210 ft) Dirt surface. Fair condition.	1 m (3 ft)
Wotje Airfield	WTE	1,085 x 54 m (3,560 x 177 ft) Grass/coral surface. Fair condition.	1 m (3 ft)

Table 1: Codes and Runway Lengths for the Republic of the Marshall Islands' Airports and Airfields

seaports and airports, is based at Delap Dock. Stevedoring services are provided by Majuro Stevedoring Company, which is also a state-owned enterprise.

Uliga Dock – Uliga Dock, also on Majuro, is the main domestic port and a key point from which shipment to the outer islands occurs and the base for the Marshall Islands Shipping Company. Uliga Dock consists of an "L-shaped" dock adjacent to the port fairway and a dock warehouse. Vessels are all self-loading. The dock is also used for the moorage of governmental vessels owned and operated by MIMRA, the Ministry of Transportation and Communications, and the RMIPA. IOM rents approximately 200 m^2 (2,153 square ft) of storage space, holding three refrigerated containers not for public use.[257]

In 2019, the government of the Marshall Islands invited SPC to conduct a risk assessment for the Port of Majuro. The SPC's risk assessment was part of their Pacific Safety of Navigation Project for 13 Pacific Island countries and territories. Maritime stakeholders identified eight scenarios and recommendations to reduce the risk of: 1) collision of fishing vessels at the anchorage area, 2) collision between vessels entering the Delap and Uliga docks at night; 3) grounding of fishing vessels on the reef at the entrance to Calalin Channel; 4) grounding of fishing vessels in Calalin Channel; 5) grounding of a small boat on a wreck at Uliga dock; 6) vessels alliding with aids to navigation in Majuro Lagoon and Calalin Channel; 7) foundering of small boats at the passage into Majuro Lagoon at the bridge; and 8) structural failure of domestic vessels. Following all risk reduction recommendations was projected to cost US$615,019 over an advised five-year period.[258]

The Port of Ebeye

Ebeye port is a secondary international port in Kwajalein Atoll, and it currently handles 400 TEUs of cargo annually, predominantly domestic cargo. Ebeye dock has an "L-shaped" jetty, longer side berth, and a 120 m (394 ft) wharf adjacent to the main dock. The Kwajalein Atoll Joint Utilities Resources (KAJUR) office is located at the main dock and the wharf includes a container yard and port office building with offices for the Ebeye Port Commission and the Marshall Islands Shipping and Terminal Company. Passenger ferry services between Ebeye and Kwajalein Island are operated by the U.S. Army, six days per week, approximately 10 times per day. The ferry service is open and free of charge to the public.

One kilometer (0.62 miles) from Ebeye Dock is a roll-on/roll-off (RORO) landing that enables landing craft and RORO vessels to load and unload, and it is primarily used for heavy equipment.

Gauguegue, 8 km (4.9 miles) from Ebeye, has a ramp last assessed as requiring significant investment to repair; however, it is adjacent to a possible emergency logistics staging area.[259]

Roads

The sealed road network exists only on the main islands of Majuro, Kwajalein, and Ebeye. Of the country's 65 km (40.3 miles) of sealed road, over 50 km (31 miles) are on Majuro. Sealed roads are in generally average condition. Drainage exists but is poorly maintained, and large puddles of water appear after rain. On the main island of Majuro, traffic is essentially a single lane in each direction with traffic looping back once the end of the road is reached. Taxis make up 50% of the vehicle traffic. Travel time end-to-end on Majuro's sealed roads is approximately two hours. Traffic moves at a maximum speed of 40 km/hour (25 miles/hour) on the islands of Majuro and Ebeye where pedestrian use of roads is high. Travel time end-to-end on Ebeye's 10 km (6.2 miles) of unsealed roads is approximately one hour.

Most roads across the island nation are unpaved and made up of coral laterite. Many islands have few if any vehicles and thus no vehicular roads. Transport around the outer islands is usually by walking track with goods being moved by wheelbarrows or push carts on the smaller atolls with larger atolls having pickup trucks. Private commercial vehicles are owned by some of the main logistics companies. Local supermarkets also have small delivery vans.[260]

Railways

There is no rail service in the Marshall Islands.[261]

Waterways

There are no significant rivers on any of the country's numerous islands. The largest bodies of water are generally small ponds or lagoons.

Inter-island shipping is the primary link between Majuro and the outer islands. There are no dedicated passenger services, but freighters and other vessels sometimes have passenger cabins. Marshall Island Shipping Company freighters have four cabins; otherwise, passengers travel on the deck.[262] The government operates field vessels with passenger cabins; they travel between the islands on a regular basis. Charter voyages on these field ships are available, although air is often a more practical way to get between spread-out islands. It can take a full day to travel by boat between Majuro and Jaluit, approximately 222 km (138 miles) apart. Small cargo boats sail between Majuro, Arno, and other smaller atolls, and many private yachts also offer charter voyages.[263]

Schools

The RMI follows a U.S.-patterned educational system with English as the language of instruction. In November 2013, Public Law 2013-23 established the current autonomous Public School System and expanded the compulsory ages for education to apply to children ages 5-18 for grades K-12.[264]

Primary school is eight years, with approximately 75 public primary schools across RMI.[265] Upon completion, students take an examination for admission to one of the two high schools. The College of the Marshall Islands, accredited by the Western Association of Schools and Colleges, offers 2-year Associate of Arts and Associate of Science programs as well as one-semester certificate programs. Most students who go beyond an Associate degree continue their education at colleges and universities in the United States.[266]

Figure 9 shows the orgnaizational structure of the Ministry of Education, Sports, and Training as well as the Public School System, which falls under the Ministry.[267]

Disaster Risk Reduction in the Education Sector

RMI approaches DRR education by striving to include DRR in education curricula at all levels, in line with the NDRMA. DRR in the schools builds on traditional approaches to raise awareness about disaster risk and preparedness in communities. DRR education work is also done with faith-based groups, private businesses, and other community groups. NGOs contribute to DRR education, with their close links with communities facilitating public awareness and education programs relating to both risk reduction and DM.[268]

MIRCS also plays a significant role in DRR education. MIRCS supports youth engagement in DRR programs to educate about disaster risk and disaster response activities, with support from USAID/BHA and IFRC. In July 2019, MIRCS hosted a North Pacific Youth Leadership Super Camp in FSM's Pohnpei Island, in coordination with the FSM and Palau National Red Cross Societies. Nearly 50 teenagers attended the Super Camp, where participants learned about the causes and effects of climatic shocks, mapped extreme weather events, explored the contribution of ecosystems to human well-being, and drafted action plans for locally-relevant adaptation activities in their communities. By engaging RMI youth in workshops on climate risk assessments and developing contextually relevant solutions to the risks identified, the Super Camp contributed to DRR education, increased the youth volunteer base of MIRCS, and strengthened local ownership and implementation of Emergency Response Team (ERT) activities, enhancing disaster preparedness and community safety. MIRCS has also engaged youth volunteers and held First Aid trainings across RMI, with USAID/BHA funding. Since the Super Camp and First Aid trainings took place, the youth volunteer base of MIRCS has

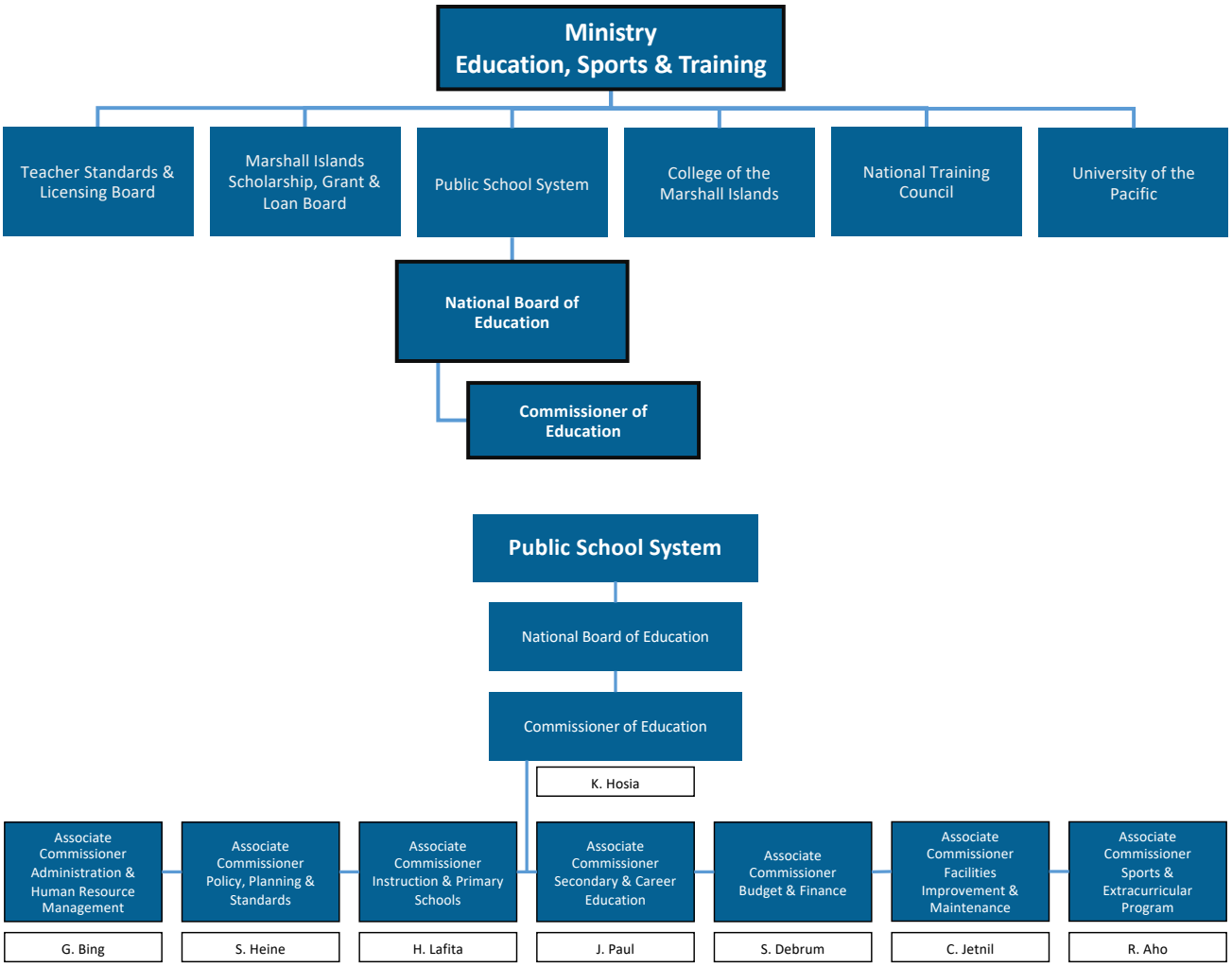


Figure 9: Organization Chart of the Ministry of Education and Public School System

increased from 100 ERT volunteers recruited since the establishment of MIRCS to 400 volunteers in Majuro, Jaluit Atoll, and Ebeye Island. These activities are key to increasing youth engagement in Red Cross programs across RMI and strengthening RMI's ERTs.[269]

Communications

There have been telecommunications infrastructure improvements in recent years including fiber optic cable service, mobile cellular, internet, and international calling. Kwajalein hosts one of four dedicated ground antennas that assist in the operation of the Global Positioning System (GPS) navigation system.[270] However, even with improvements, voice and data services on outer islands are severely constrained, and the result is a substantial and increasing digital divide between the main population centers and other islands.

Telephones

There are a total of 2,361 fixed telephone lines (2018 estimate) and 16,000 mobile cellular subscriptions (2020 estimate) in the country.[271] Marshall Islands National Telecommunications Authority (NTA) is the sole authorized telecom services provider in the country; it is a private corporation with the state having a 75% stake. NTA mobile services are available on Majuro, Ebeye, Jaluit, Kili, Rongelap, and Wotje. Mobile calling rates range from US$0.10 per minute for prepaid customers to US$1.25 per minute for post-paid international calls.[272] There remain many 2G mobile users in the country even after

the introduction of 4G LTE services in 2017.[273] More than 70% of RMI mobile cellular users use an Android device.[274]

Internet Access

As of July 2022, the International Telecommunication Union reported that RMI had 25,000 internet users.[275] As with mobile cellular telephone services, NTA is the sole service provider of internet service in the country. It delivers internet connections on Majuro, Ebeye, Jaluit, Kili, and Wotje.[276] A 2022 survey found that nearly 43% of internet users access the web via mobile device, nearly 53% use a laptop or desktop computer, and about 4% use a tablet device. Some three-quarters of RMI internet users browse using Chrome, and with 24,300 social media users registered in RMI, nearly all of the country's internet users are also social media users, more than 71% of them on Facebook.[277]

The expansion of services within the country remains limited due to high costs associated with all infrastructure projects in these scattered islands. In August 2021, the World Bank agreed to finance a US$30 million internet-access project[278] that was intended to expand access, promote private sector investment in climate resilient digital services, and establish the foundations for digital government services and the digital economy. Majuro and Ebeye were connected to the internet via spurs to the HANTRU-1 submarine cable system in 2010, The majority of fixed broadband customers, approximately 2,000 premises, only have access to asymmetric digital subscriber line (ADSL) services at low, 1 Megabit per second (Mbps) download speeds. Access to high-speed service is limited and costly. The sole ADSL package available is offered at US$49.95 per month for 1 Mbps, well below the common global standard (25-30 Mbps) for broadband service and more than 12% of monthly per capita income for Marshall Islanders. In addition to the high costs of fixed internet, entry-level monthly mobile broadband service in RMI costs US$22 for a 5 gigabyte (GB) package. This corresponds to more than 5% of per capita income whereas global market norms see such service costing below US$1-5 per GB.[279]

Mass Media

The national mass media are a small constellation of local outlets although Marshall Islanders have access to various foreign media via cable TV and the internet. The government respects freedoms of speech and the press, and there are a variety of viewpoints evident across the mass media spectrum.[280] A 2013 study found that most mass media was concentrated on Majuro although AM radio broadcasts reached outer islands. Because of this, radio has long been the most important and most diverse mass medium even though infrastructure (broadcasting studios, electricity, etc.) shortfalls can disrupt broadcasting at times. Government-owned and -operated V7AB reaches all islands with local and international news and music while all other radio stations are focused on Majuro with the exception of U.S. Armed Forces radio.

The print media is limited by the small population and logistical obstacles related to distance and lack of printing facilities. However, the Marshall Islands Journal has long been a weekly, bilingual outlet delivered to the islands in hard-copy, and it now has an on-line edition.[281] Television is similarly limited by cost, infrastructure, and selection. A cable network is available on Majuro with programming via videotape replay and satellite relays.[282] Two competing companies offer cable on Majuro, and both offer content from international stations – i.e., BBC, CNN, Al-Jazeera, and NHK.[283]

Post

The Marshall Islands Postal Service Authority is responsible for postal services throughout the islands. There are five post offices. The main office is in Uliga, and the other locations are in the K&K Island Pride Supermarket complex, at the airport, in Ebeye, and in Jabor, Jaluit.[284]

Utilities

RMI is vulnerable to disruptions of both water and energy supplies, the former due to shifting weather and climate, and the latter due to a lack of national natural resources. An estimated 80% of drinking water comes from catchment of rainfall, while imported diesel accounts for more than 97% of electricity generation. Cyclones and droughts have the potential to impact the cleanliness and availability of water supplies, and delivery of water or of reverse osmosis equipment to affected communities is common. Meanwhile, storms, high tides, or seismic or tsunami events threaten both diesel storage facilities and electricity generation and distribution networks.

Power

The energy sector is led by the Ministry of Resources and Development. Two state-owned utilities are responsible for and provide electricity. The Marshalls Energy Company (MEC) supplies Majuro, Jaluit, and Wotje, and the Kwajalein Atoll Joint Utilities Resources (KAJUR), a water and electricity utility, services the Kwajalein atoll, including Ebeye.[285] More than 96% of the population has electrical power.[286] The National Energy Policy and Energy Action Plan (2016) sets a vision for improving reliable, affordable, environmentally appropriate, and sustainable energy services and serves as the foundation for planning and development in the energy sector.[287]

A U.S. Department of Energy survey of the country in 2020 found that RMI had a total installed electricity generation capacity of 30 megawatts (MW) with a generation mix of diesel (97.3%) and solar (2.7%). This generation capacity was more than sufficient for 2019 demand, which was dominated by Majuro at 9.8 MW peak and Ebeye at 2.8 MW peak with no other atoll or island notching more than 1 MW of peak demand. The 2 MW of installed solar electricity generation is the seed around which the country plans to build to 100% renewable electricity generation by 2050.[288]

The country's dispersed islands have a variety of electric grid arrangements. The main grids on Majuro and Ebeye are relatively sophisticated and represent the majority of electricity generation and diesel use. Jabor on Jaluit, as well as Wotje and Kili are home to several hundred residents and a school each, and the compact communities on these atolls have small diesel mini-grids. Most other islands' households are supplied with electricity from small stand-alone solar systems suitable for isolated customers.[289]

As part of its efforts to meet its Nationally Determined Contributions (NDC) under the Paris Agreement, RMI must invest heavily in its electric power sector to reach its 35% GHG reduction target over 2010 levels by 2025. The ADB's Majuro Power Network Strengthening Project aims to allow MEC to manage power more efficiently, decrease network losses, reduce diesel fuel consumption for power generation, and improve revenue collection. This project is important because most of MEC's distribution system is more than 30 years old, and it was not designed to integrate renewable generation sources. A second ADB project focuses on energy security with an emphasis on the country's fuel tank farm. The 6-million-gallon capacity tank farm on Majuro was constructed in 1981 and is the largest such facility in the Central Pacific. It supplies Majuro, Kwajalein Atoll, and fishing and shipping fleets. Located 30 m (98 ft) from the ocean, the facility is in critical need of repair after decades of saltwater and atmospheric corrosion. The facility's condition poses health, safety, economic, and environmental risks due to the potential for leaks or all-out failure.[290]

Based on the 2018 RMI National Energy Office Electricity Roadmap, the government intends to drive the transition away from diesel and toward renewables with an emphasis on solar and wind. The expectation is that Majuro and Ebeye will use grid-connected wind and solar with the support of some diesel and battery storage while other islands will primarily use solar on their mini-grids with either solar-diesel or solar-battery hybrid systems.[291]

Water and Sanitation

There is a chronic shortage of drinking water in RMI. All of RMI's atolls and islands are low

lying and have limited freshwater resources. Additional WASH challenges are discussed in the country's National Water and Sanitation Policy and Action Plan (2014).[292] The government has recognized that sea level rise and recurrent flooding could contaminate the country's water and make it undrinkable by 2030.[293]

RMI has the highest percentage of water sourced from rainwater of any Pacific nation, and this reliance makes it particularly vulnerable to changing rainfall patterns.[294] RMI relies mainly on rainwater harvesting for their potable and secondary needs. Drinking water supply is covered by rainwater for 79% of all households while groundwater is used by 9% of all households.[295] Rainwater is typically captured by a household's roof catchment and funneled to a tank of approximately 5,600 liters (1,500 gallons). Reliance on rainwater harvesting for drinking water, cooking, and other activities means that prolonged drought seriously threatens the population's water security.[296]

Transition to groundwater is a focus in order to ensure clean and safe drinking water. In November 2020, a US$5.2 million Managing Coastal Aquifers Project (MCAP) was brought to RMI, Palau, and Tuvalu. MCAP was implemented by the Pacific Community (SPC) in partnership with UNDP and the Global Environment Facility (GEF) to increase awareness, development, and management of groundwater as a water source. Pacific Small Island Developing States like RMI rely on small coastal aquifers for their water supply needs; they are at higher risk of impact to water quality deterioration from threats including saltwater contamination from sea level rise, wave overtopping, loss of aquifer area through coastal erosion, and land-use activities. Taking too much water, or over abstraction, can also lead to surface rivers drying up, and lead to degradation in water quality. The components of the MCAP include: 1) identifying development potential of groundwater resources and threats; 2) increasing awareness of groundwater as a water security supply source; 3) providing options for improved access to groundwater; and 4) and improving aquifer protection and management.[297]

Drought conditions, climate change, and stormwater inundation have led to other water security interventions. For example, the UNDP is also supporting the Government of RMI through the RMI Water Security Project to build resilience from disaster and climate-induced drought impacts on water resources. This project is intended to improve household and community rainwater harvesting and storage structures, help secure groundwater resources from contamination, and strengthen technical capacities of national and sub-national institutions and key stakeholders.[298] The most intense disaster of the last 20 years began in 2015 when El Niño triggered a severe drought. The archipelago received only 25% of its usual precipitation between November 2015 and February 2016.[299] The 2015–2016 drought resulted in the national government having to declare a state of disaster with an estimated 53,158 persons across the RMI affected.[300]

The ADB is also working to improve water and sanitation systems in Ebeye by linking all households to upgraded freshwater and sewage facilities that reduce water leaks and sewage overflows.[301] Photo 2 depicts a water supply facility in the Marshall Islands.[302] ADB is also raising public awareness to improve hygiene and reduce a high incidence of waterborne diseases.[303]



Photo 2: Ebeye Water Supply and Sanitation Project

HEALTH

Maternal and child health are top priorities in the Marshall Islands. Health issues include obesity, diabetes, tuberculosis, and high rates of teenage pregnancy; key challenges include supporting people with disabilities, including those with mental health problems, and providing support to people impacted by nuclear testing.[304]

Health Care System Structure

The healthcare system is comprised of two hospitals, Majuro Hospital (Leroij Atama Zedkeia Medical Center) and Ebeye Hospital (Leroij Kitlang Memorial Health Center). There are almost 60 healthcare centers in the outer islands and atolls. Both hospitals provide primary and secondary care but limited tertiary care; tertiary care patients are referred to Hawaii or the Philippines. The RMI Ministry of Health and Human Services (MoHHS) works collaboratively with the Community Health Councils (CHC) to provide healthcare services.[305] A final layer of the health care system are the five outer island health centers managed by the "177" healthcare program for victims of nuclear fallout. The 177 Program is a U.S. federal grant that supports U.S. doctors to manage these health centers.[306]

Figure 10 depicts the organizational structure of RMI's MoHHS.[307]

Health Strategies and Surveillance

In 2016, a National Strategic Plan (NSP) (2017-2019) was developed for health to replace the former 15-year Strategic Plan; the latest NSP aligned with national, regional, and international commitments including Sustainable Development Goals (SDG). MoHHS was formed a year later following a restructuring. MoHHS faces challenges in setting priorities for developing and implementing programs to address the range of critical health issues as a result of financial, technical, and human resource constraints.[308]

The WHO and RMI government cooperate on

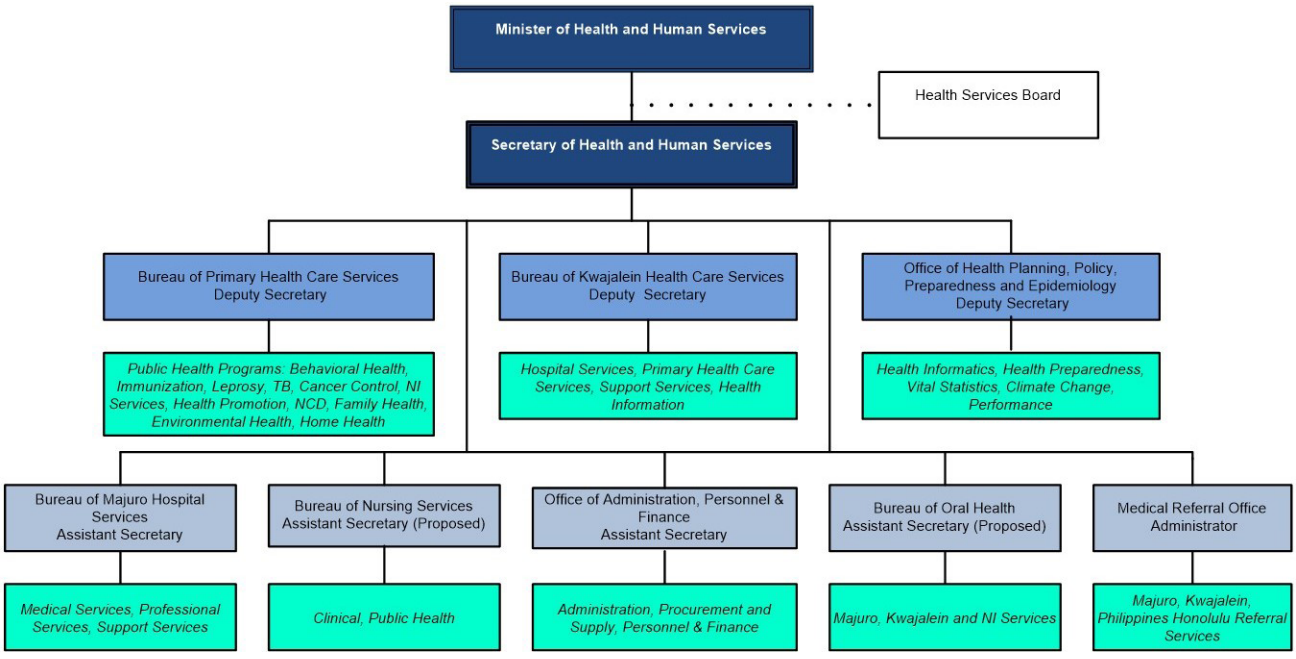


Figure 10: RMI Ministry of Health and Human Services Structure

the following strategic health priorities:

1. Build resilient and sustainable health systems to enhance the availability of needs-based health services
    - 1.1 Strengthen national health accounts
    - 1.2 Develop the health workforce through program management courses
    - 1.3 Strengthen a supportive and sustainable social and physical environment to improve health through legislative approaches
    - 1.4 Strengthen governance and government leadership, especially the Ministry of Health, through a secretariat role to support multisectoral committees set up for health-related areas

2. Support implementation of International Health Regulations (IHR) for proactive preparedness and management in health emergencies and natural disasters
    - 2.1 Establish a dedicated team to prepare for and respond to emergencies and disasters
    - 2.2 Collaborate to achieve IHR core capacities

3. Prioritize needs-based essential public health programs delivered to the population
    - 3.1 Scale up Package of Essential Noncommunicable in the dispensaries, community health centers, and hospitals
    - 3.2 Draft legislation to restrict the use of food with a high sodium content, institute comprehensive nutrition facts labelling, and pass state-level regulation to set up a traffic light system in stores to help consumers identify healthy foods
    - 3.3 Implement the WHO Framework Convention on Tobacco Control through several key aspects of tobacco control including graphic health warnings, tackling tobacco industry interference, reducing second-hand smoke, and promoting cessation
    - 3.4 Intensify tuberculosis and leprosy screening and elimination efforts
    - 3.5 Strengthen vector control and ensure reduction of dengue cases and fatalities with the aim to achieve a 25% reduction of cases and 50% reduction of deaths by 2020, from pre-2016 levels.[309]

To prepare for public health emergencies and to contribute to international efforts to combat the spread of communicable diseases, RMI has established an Exposure Prevention Information Network (EpiNet) team that is an inter-agency workforce, led by the Secretary of Health and Human Services, and that reports to WHO as the national focal point for IHR. The EpiNet team has participated in WHO's Western Pacific regional "IHR Crystal" exercise that tests teams' ability to report potential public health events to WHO. This EpiNet system works in close cooperation with WHO, PIHOA, the Pacific Community, and the U.S. CDC.

The Communicable Disease Surveillance System includes surveillance for diarrhea, acute fever and rash, influenza-like illness, and prolonged fever. There is also a list of 60 reportable conditions that form the indicator-based surveillance system and an event-based surveillance system. Surveillance data is obtained from the electronic health information system in the Majuro hospital and via email or phone reports from Ebeye hospital, health clinics in the outer islands, the MoHHS laboratories, and external reference laboratories. Laboratory confirmation of cases of notifiable diseases and contact tracing is conducted by public health nurses. Regular reporting occurs through standardized weekly surveillance reports to MoHHS staff, other government stakeholders, and the public, and surveillance data is shared electronically with regional partners and the Pacific Public Health Surveillance Network.[310]

MoHHS and the Ministry of Environment Climate Change Directorate are also partnering with WHO to tackle the health impacts of climate change and enhance preparedness for future health emergencies and pandemics. The

18-month "Enhancing the Resilience of Health Systems to Climate Change and Emerging Pandemics in the Republic of Marshall Islands" project began in October 2022.[311] As of latter 2022, in case of a public health emergency event, plans call for the Public Health Emergency Operations Center to be activated with health personnel taking the lead. The EpiNet team would then form the Health Cluster with health partners to respond. These emergency response mechanisms have been tested through real events, such as drought, the 2019 dengue fever outbreak, and the COVID-19 pandemic.[312]

Communicable Diseases

There is a high mortality and morbidity rate for communicable diseases. The incidence of tuberculosis (TB) is high, and the country has reported multi-drug resistant TB.[313]

The National Immunization Program operates under the MoHHS' Bureau of Primary Health Services, which supplies vaccines to all atolls and islands. Vaccination is free and voluntary; however, the School Immunization Act 1981 mandates that all children complete their vaccination schedule before school enrolment. RMI receives funding and technical assistance to deliver a comprehensive childhood immunization program through a Cooperative Agreement with the U.S. CDC, and the health care system provides vaccination against 14 common, vaccine-preventable diseases. Bacillus Calmette–Guérin vaccine for TB is provided by UNICEF through the Vaccine Independence Initiative. Moreover, the country has adopted a whole-life approach to immunization and provides tetanus, diphtheria, and pertussis vaccine every 10 years after age 19 and pneumococcal and annual seasonal influenza vaccine to individuals 50 years and over.

Vaccinations are delivered at the Majuro and Ebeye hospitals and the 54 health centers across the outer islands. However, vaccines can only be stored in six health facilities in the outer islands, and vaccine delivery is available in all islands at least once a year through outreach vaccination conducted by nurses in isolated communities.

There are two hospital laboratories with limited capacity. Priority diseases have been identified for testing in-country – i.e., typhoid, TB, dengue, cholera, human immunodeficiency virus (HIV), and chlamydia. For identification of various other communicable diseases, e.g., influenza A/B, chikungunya, zika, mumps, measles, and hepatitis A – samples must be sent to one of two reference laboratories located in Hawaii. Specimens may also be referred to reference laboratories in Guam, Japan, or Australia as required.[314]

Coronavirus Disease-2019 (COVID-19)

RMI was one of the last nations in the world to register a community-spread case of COVID-19. That case was confirmed on 8 August 2022. Within four days, a State of Emergency was declared; in the four weeks after the first community transmission was detected in Ebeye, more than 15,000 confirmed COVID-19 cases were reported to WHO, and there had been 17 deaths.[315] By 1 November 2022, the country had reported 15,375 confirmed cases of the disease, but the number of deaths remained at 17. By late September 2022, just weeks after the first confirmed community-spread case, the country had administered 103,067 doses of vaccine.[316] Figure 11 is a chart showing RMI's daily confirmed COVID-19 cases, and it depicts the speed with which COVID-19 began to spread after it finally reached the islands.[317]

In February 2020, a year and a half before the first confirmed case was reported in the country, the RMI Government declared a National State of Public Health Emergency. By March, the Government had developed a COVID-19 Pandemic Preparedness and Response Plan, and by August 2020, the UN, through IOM and WHO, had organized, conducted, and facilitated a COVID-19 Tabletop Exercise and Simulation, with collaboration with the NDMO and the MoHHS.[318]

Influenza

In the spring of 2019, there was an influenza outbreak in RMI. Surveillance data

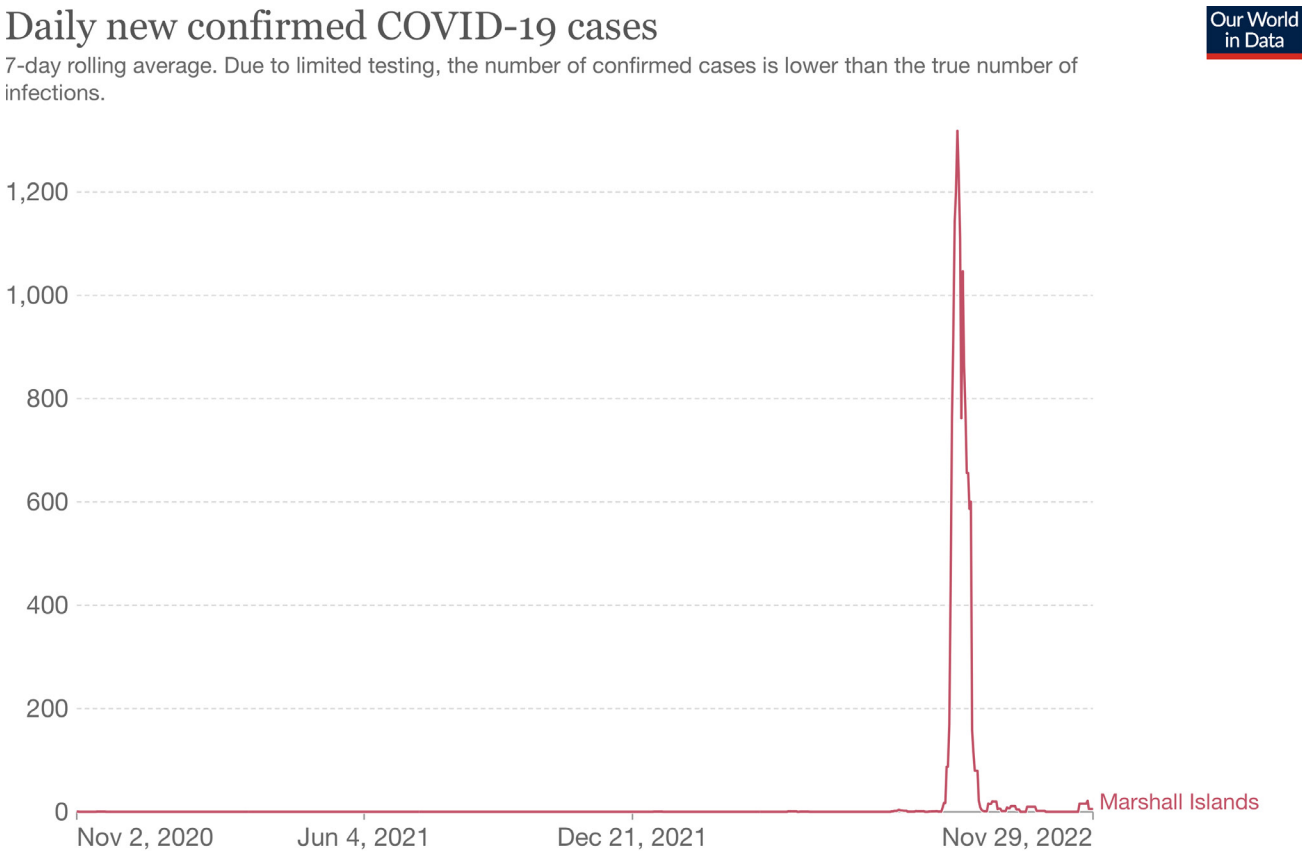


Figure 11: Daily Covid-19 Case Data, RMI

identified unseasonal outbreaks in RMI, the Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, and Guam. Figure 12 represents the spike in number of reported cases of influenza-like illness and probable influenza, with rate of influenza-like illness in Majuro in the spring of 2019.[319] The high volume of travelers to the Pacific Islands during the spring of 2019 could explain the distinct influenza peaks recorded. RMI received 2,049 visitors during January-March 2019. The outbreaks predominantly affected those 20 years of age or younger, suggesting higher attack rates among those who were unvaccinated as low vaccination rates are particularly evident in this age group. Among the probable and confirmed cases, the overall vaccination rate was 5%, with a slightly higher rate (12%) among those aged 5–19 years.[320]

Tuberculosis (TB)

According to WHO, RMI is a high-TB-burden country with an estimated TB incidence approaching 500 cases per 100,000 population per year in 2019. There have been several successful screening and country-wide treatment interventions in recent years to reduce TB incidence. A March 2022 study in the International Journal of Epidemiology suggests that the screening activities conducted in 2017 and 2018 may have reduced TB incidence and mortality by one-third in 2020. In 2017, an initial Active Case Finding intervention aimed to screen the entire adult population (15 years of age or older) of Ebeye Island for active TB. In 2018, a more comprehensive intervention was conducted on Majuro Atoll to screen and provide treatment for individuals of all ages for both latent and active TB.[321]

Non-Communicable Diseases

In RMI, non-communicable diseases (NCD), such as cancer, diabetes, and hypertension, are emerging as some of the leading causes of death.

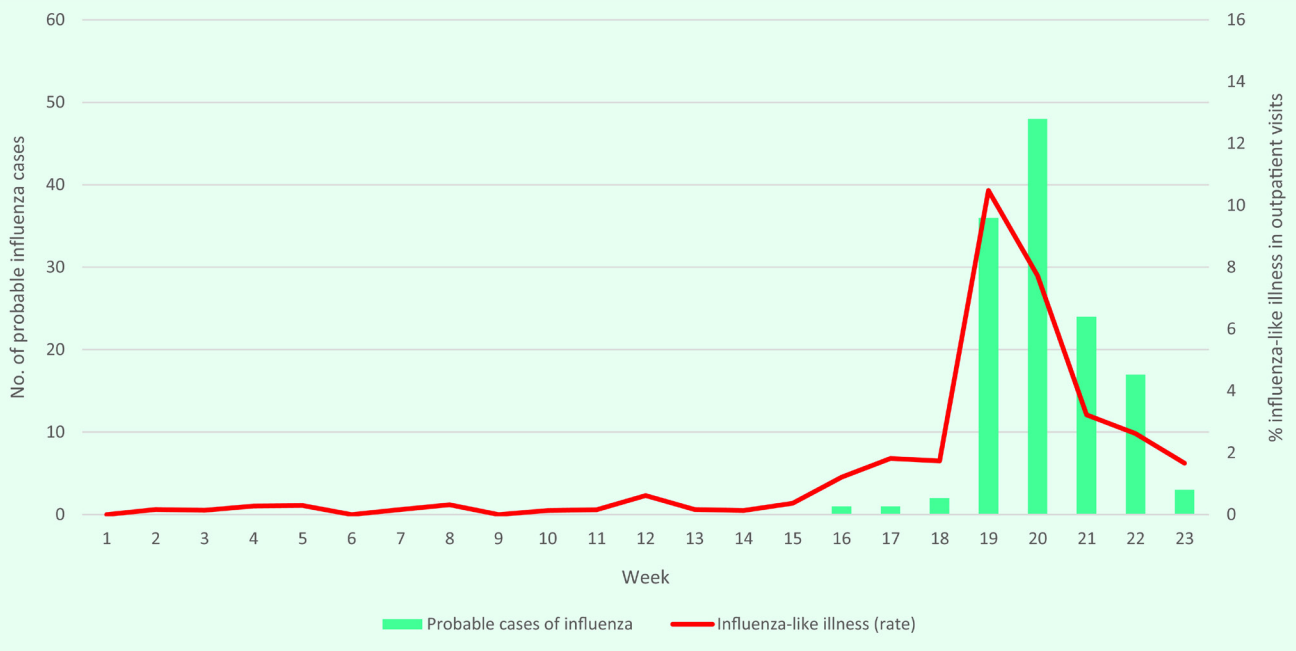


Figure 12: Number of Cases of Influenza-Like Illness, Majuro, RMI (2019)

Over 62% of the population is overweight or obese.[322] One factor in the prevalence of these conditions is the high amount of imported and instant food products that people consume. Lack of exercises and high smoking rates are also contributing factors.[323] A 2020 survey and subsequent article in Maternal and Child Nutrition Journal reported that nearly three out of four mothers were characterized as overweight or obese and one in four households was home to an overweight mother with a stunted child.[324] Men account for 56% of NCD-related deaths, mostly due to diabetes and cardiovascular diseases.[325] RMI has the third highest prevalence of diabetes in the world alongside high rates of labor complications and early mortality. Approximately 35% of adults ages 20-79 have diabetes. Diabetes-related amputation is the most common surgical procedure performed in the country. There are no dialysis units for patients with kidney failure, a common complication of poorly controlled diabetes; the nearest options for tertiary care or kidney dialysis are Hawaii or the Philippines.[326] Figure 13 shows the prevalence of NCDs among the top 10 causes of death in RMI.[327]

The country's geography means access to certain types of health care is lacking. Moreover, there is a lack of government mechanism to build health services linkages within the country, and care is fragmented with a loss of continuity for patients with chronic disease. Since 2006, a Diabetes Wellness Center has provided a behavioral change program addressing healthy lifestyle, diet, and physical activity. Culturally relevant and in-language diabetes and other NCD educational materials have also been developed in Majuro.[328] Extending the communication and counselling portions of such programs would require extensive use of telecommunications services (text/SMS or social media) to address chronic conditions suffered by residents on outer islands.

In addition, there is limited mental health support available in RMI. The Mental Health Care team at Majuro hospital consists of only one psychiatrist and there are no institutions for persons with mental disabilities.[329]

The mid-20th century nuclear testing in the Marshall Islands caused long-term adverse health impacts among residents of four atolls (Bikini, Enewetak, Rongelap, and Utrik) due to radioactive fallout.[330] Two distinct medical programs are included in the COFA – i.e., the U.S. Department of Energy's Medical Care program and U.S. Department of the Interior

What causes the most deaths?

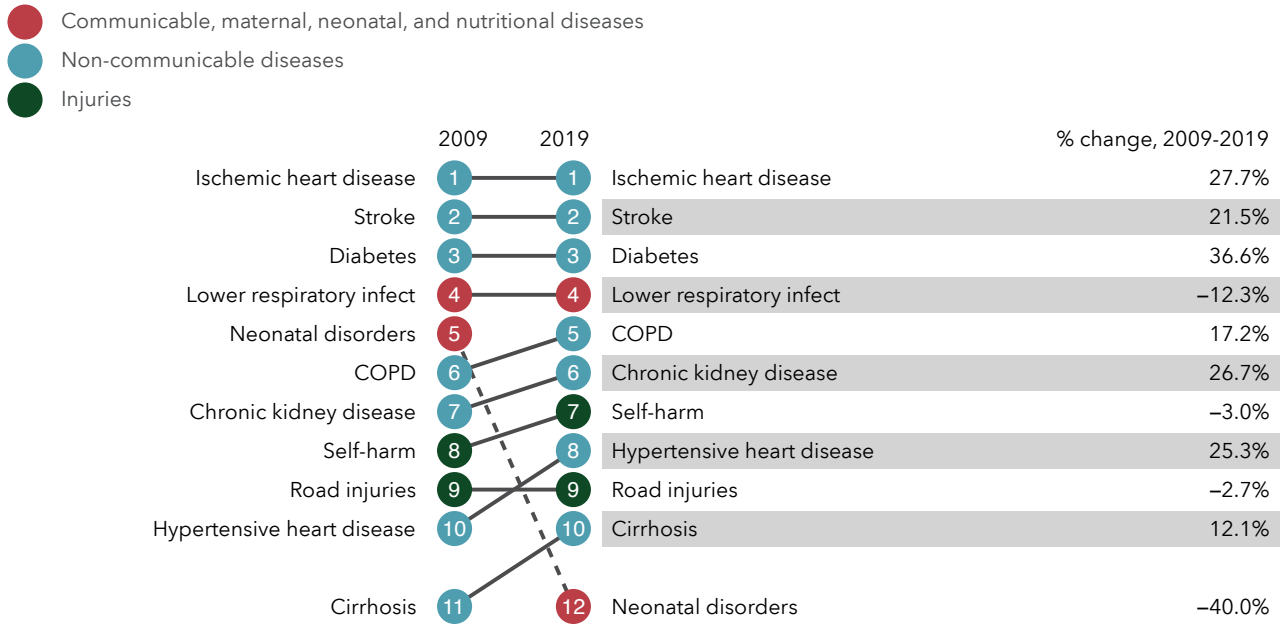


Figure 13: Top Ten Causes of Total Number of Deaths (2019) and Percent Change (2009-2019)

Section 177 Health Care Program. With funds from the Interior, RMI provides a basic medical care program, the "Four-Atoll Health Care Program,"[331] primarily through the Office of Insular Affairs (OIA) Technical Assistance Division. OIA supports healthcare clinics on Majuro, Bikini, Enewetak, Rongelap, and Utrik to support more than 20,000 residents, including those who have migrated to Majuro.[332] While there is radiological monitoring, rehabilitation of affected atolls, and nuclear-related health care assistance, radiation related cancers and birth defects are a major problem faced by the Marshallese.[333] The expected total number of cancers (fatal plus non-fatal) is estimated at 6,130, and within the lifetime of the cohort of the population exposed to radioactive fallout in 1954, the excess cancers caused by radiation are estimated at 530.[334]

Training for Health Professionals

The Department of Nursing and Allied Health at the College of the Marshall Islands prepares students to provide nursing care. The curriculum offers an Associate of Science degree in Nursing and a Certificate in Public Health.[335]

Health care centers are permanently staffed by full time Health Assistants who provide health services and work with the Community Health Councils. The majority of physicians are expatriate contract-workers and, according to the MoHHS Annual Report, 43 physicians were employed with the majority posted at the Majuro Hospital with 66 health assistants serving in rural health clinics. Medical and public health staff conduct outreach to the health centers in the outer islands that provide preventative and clinical care services.[336]

Continued professional education is available through scholarships and ad hoc in-service training courses through disease-specific programs (including for TB and leprosy). Taiwan University, the University of the South Pacific, Pacific Islands Health Officer Association (PIHOA), and the Pacific Community (SPC) offer targeted initiatives. In addition, the MoHHS has utilized technical assistance from WHO, the U.S. CDC, and PIHOA, to train and hire epidemiological staff.[337]

WOMEN, PEACE, AND SECURITY

United Nations Security Council Resolution (UNSCR) 1325 was adopted in October 2000; it affirms the important role women play in the prevention and resolution of conflicts, peace negotiations, peacebuilding, peacekeeping, and humanitarian response, as well as in post-conflict reconstruction, maintenance, and promotion of peace and security in their countries and communities.[338] This Resolution was the start of the Women, Peace, and Security (WPS) Agenda. Since 2000, the Security Council has adopted 10 resolutions on WPS: 1325 (2000), 1820 (2008), 1888 (2008), 1889 (2009), 1960 (2010), 2106 (2013), 2122 (2013), 2242 (2015), 2467 (2019), and 2493 (2019). Together, they form the international policy framework on WPS.[339]

RMI is a matrilineal society and, culturally, women have high status; however, there are high reported rates of intimate partner violence (51%).[340] National gender-related priorities include eliminating high levels of domestic violence, providing adequate maternal and child health care services, and reducing teenage pregnancy. Women and men have varying degrees of access to and control of natural resources.[341] The inheritance of property and traditional rank is matrilineal on most atolls, although control of property is often delegated to male family members.[342]

In 2006, the government ratified the Convention on the Elimination of Discrimination against Women (CEDAW), and it endorsed a national gender policy in 2015. Regarding women's leadership roles, in 2011 RMI elected the first woman president in any of the Pacific Island countries.[343] In 2019, two of the 33 members elected to the national legislature were women, and one of 33 mayors were women. Traditional attitudes of male dominance, women's cultural responsibilities and traditionally passive roles, and the generally early age of pregnancies create hurdles for women to obtain political qualifications or experience.[344]

As reported in the U.S. Department of State 2022 Trafficking in Persons Report, human traffickers exploit domestic and foreign victims in Marshall Islands, and exploit Marshallese victims abroad. Human trafficking schemes have trafficked pregnant Marshallese women to the U.S. and had their children given up for adoption in a scheme that seeks out poor and vulnerable women and diverts their children into illicit adoption rings. Citizens of RMI can travel freely to the U.S. under the COFA, and this free movement, perversely, adds to the opportunities for exploitation. It is also reported that hotel and bar staff and family members recruit and transport women and girls and exploit them in sex trafficking with foreign construction workers and crewmembers of foreign fishing and transshipping vessels that dock in Majuro. Furthermore, the Government of RMI does not fully meet the minimum standards for the elimination of trafficking but is making significant efforts to do so.[345] There is limited data on the demographics of the women who are victims of trafficking, and while MoHHS lists sex workers as a target group for the provision of services, there is no record of treatment or victims identified to receive these services.[346]

Progress has been made in the lives of women and girls in RMI due to several initiatives and programs specifically aimed at improving and empowering women. For example, the Australian Government, through *Pacific Women*, has committed approximately AUS$3.9 million (US$2.5 million) over 10 years (2012–2022) to initiatives to support women's empowerment. The *Pacific Women* Country Plan funded the establishment of a domestic violence counseling service, operated by local NGO WUTMI and advocating for awareness and implementation of the Domestic Violence Protection and Prevention Act 2011.[347]

CONCLUSION

RMI faces significant hazard threats from tropical storms, drought, and inundation; however, more critically, it faces an existential threat from climate change and sea level rise. The nation of low-lying atolls has an average elevation of merely 1.8 m (6 ft) above sea level, yet nearly all of the population and infrastructure are situated at even lower elevations along the coastline.[348]

Climate change is already exacerbating natural hazards that RMI faces on a recurring basis. Flooding and inundation events are happening more frequently, with the two highest sea level measurements on record occurring during La Niña recent events. At the same time, due to El Niño, the opposing climate pattern in the ENSO cycle, the RMI is also facing increasing threats from droughts. There is a possibility of drought events occurring more frequently and lasting longer, with serious impacts on the availability of water sources and issues of water management.

Geography poses unique logistical challenges to disaster management, response, logistics, and transportation, given the spread of hundreds of islands over a massive expanse of ocean. While the population does extend to far-flung, remote islands, the majority of the population resides in Majuro and Ebeye, leading to population density also being an issue intersecting with poverty and limited freshwater resources.

The current disaster management approach is arranged in accordance with the 2019 NDRMA and eight-cluster national coordination structure. The NDC oversees policy and strategy and reports to the President, while the NDMO is primarily responsible for disaster management activities. The National RMI Clusters – comprising Health, Infrastructure, Food Security, Logistics, Education, Shelter, WASH, and Gender and Protection – all have RMI government authorities serving as leads and co-leads.[349]

As one of several small island states similarly affected by climate change in the Pacific, the RMI has participated in regional frameworks and strategies for climate security. The Pacific region, including RMI, approaches the issues of climate change, DRR, and DM in an integrated manner. Reducing disaster risk is often framed under a broader umbrella of human and environmental security, with cross-cutting issues ranging from gendered impacts of disasters and climate change to nuclear justice given the lingering impacts on health and displacement of U.S. nuclear testing in RMI in the mid-20th century. Other health concerns shaping human security and development in RMI are the rising rates of noncommunicable diseases, as well as emerging infectious diseases such as COVID-19. The WHO describes the RMI and other Pacific Island countries as facing a "triple disease burden" from NCDs, communicable diseases, and the health impacts of climate change.[350]

USAID/BHA takes the lead in providing humanitarian assistance from the U.S. government to RMI in the event of a disaster. However, based on the COFA between the U.S. and RMI, USAID has a unique interagency arrangement with FEMA to coordinate in providing humanitarian assistance to RMI. The renegotiation of the COFA is a prominent issue for the U.S. and RMI ahead of the 2023 Compact renewal deadline. The COFA guides the bilateral relationship and shapes the range of U.S. programs and services available to RMI, which is an important partner in the U.S. strategy for a free and open Indo-Pacific.

APPENDICES

DoD DMHA Engagements in the Past Five Years (FY 2017-2022)

The list below describes DMHA activities in and with RMI that have included U.S. DoD members or units in the last five years.

Pacific ALLIES – 2022

The first Pacific ALLIES interns to arrive in RMI since 2019 spent the summer of 2022 studying climate change-related issues. The 2022 cohort included two U.S. Coast Guard Academy Cadets and one student from Tufts University. Master Sergeant John Phillips, team leader for the U.S. Army Pacific (USARPAC) Oceania Engagement Team to U.S. Embassy Majuro, said, "The primary concern is drought and the depletion of freshwater reserves. Increasing capacity to produce, import, and store fresh water is a priority." Helping the people of RMI address these issues is what brought the students to the country. Pacific ALLIES was unable to send interns to RMI for two years due to COVID-19 travel restrictions instituted by the RMI government; the 2022 cohort is rebuilding ties with local partners to further their work. Gregg Nakano, Pacific ALLIES coordinator in Hawaii said the program "is about preparing the next generation for the climate conflicts we're leaving for them to solve. In the Marshall Islands, we're trying to answer the question, 'How do we help students, cadets and midshipmen understand the climate change impacts on national security by transforming Kwajalein Atoll into a living sustainability laboratory.'"[351]

Pacific ALLIES – 2019

A group of students from the U.S. Naval Academy, the U.S. Coast Guard Academy, the University of Hawaii, and Whitman College (Washington State) wrapped up a summer internship on Ebeye Atoll as part of the Pacific ALLIES Program, which brings together students from the United States and host nation sponsors from the Government of Kwajalein, in the Marshall Islands – where Ebeye is located. Organizations and governments can test ideas and study environmental challenges in Ebeye like sea level rise mitigation and food and water security. While on Ebeye, the cohort was able to assist with a unique geo-location and census effort that will aid in improving situational awareness for disaster awareness and health emergencies. Part of the project used a mobile phone application that allows high school students to circulate within their communities and record what their basic needs are. The students' research and host-nation engagement focus on addressing core threats to real-world security and stability.[352]

Pacific Partnership – March 2019

The 2019 iteration of Pacific Partnership, the largest annual multinational HADR preparedness mission conducted in the Indo-Pacific region, kicked off on 11 March with an opening ceremony and reception aboard the Military Sealift Command expeditionary fast transport ship USNS Brunswick (T-EPF 6). Military personnel from Australia, Canada, Japan, Peru, and the United Kingdom (UK) took part alongside U.S. forces in a variety of projects to include disaster response seminars and training to improve overall disaster preparedness, installation of rainwater catchment and filtration, and community-wide health fairs. RMI's Minister of Health and Human Services, Kalani Kaneko, said, "Pacific Partnership 2019 is an indication of the United States' and other partner countries' firm desire to further strengthen the partnership with the Republic of the Marshall Islands and other countries in the region through the Indo-Pacific strategy." This iteration of Pacific Partnership featured two expeditionary fast transport catamarans, Brunswick and USNS Fall River (T-EPF 4). The ships feature high-speed

sealift mobility with inherent cargo handling capability, ideal for fluid missions like HADR.[353]

International/Foreign Relations

Following independence, RMI joined the UN and other international institutions with full membership rights and responsibilities. Among the key inter-governmental organizations within which RMI is active is the Pacific Islands Forum (PIF). Disruptions to the PIF's functioning have exposed rifts among the 18 members and partners, especially over what sub-region holds leadership roles, a dispute that saw RMI temporarily giving up its membership in 2022.[354] Although most of the elements of this leadership dispute have been resolved, other disruptions related to U.S.-China strategic competition and China-Taiwan diplomatic wrangling have undermined the Forum's unity. While PIF members consistently try to refocus discussions on the "Blue Pacific" strategy and combatting climate change, external pressures and attention continue to pull focus to Chinese influence in the region.

RMI-U.S. Ties

The relationship between the RMI and the United States is complex.

The Compacts of Free Association (COFA) are unique international agreements governing the bilateral relationships between the U.S. and each of the Freely Associated States (FAS) – RMI, the Federated States of Micronesia, and Palau. A Compact confers some measure of autonomy to the FAS in exchange for a U.S. defense commitment, significant economic assistance, and other benefits. Each Compact establishes the respective FAS as a self-governing country with authority over its own foreign affairs, including the right to enter into treaties and other international agreements with foreign governments, regional organizations, and international organizations, so long as such activities do not violate the security and defense obligations under the Compact. The COFA is essentially equal to a special treaty created to maintain close and mutually beneficial ties, and each party retains the right to unilaterally withdraw from the free association agreement.[355] The current COFA agreement with RMI is being renegotiated as of publication of this handbook (late 2022) ahead of the COFA's 2023 expiry. While the bilateral relationship is mostly positive, the issue of compensation for the 1946-1958 nuclear testing program is a source of disagreement.[356]

Under the U.S.-RMI Compact, the U.S. Department of the Interior's Office of Insular Affairs (OIA) retains overall management responsibility for U.S. financial assistance in RMI, while the Department of State handles government-to-government relations. At least 60 U.S. agencies and offices provide services; these agencies include, among others, FEMA, the U.S. Postal Service, National Weather Service, Federal Aviation Administration, and the CDC. Provisions within the Compact fall into three categories: government relations, economic relations, and security and defense relations. While the government relations provisions spell out how RMI can conduct its own government activities and foreign relations (as long as they do not conflict with security and defense obligations), the economic aspects are potentially more important. The Compact provides for RMI to receive economic assistance from the U.S. for the purpose of building self-sufficiency and budgetary self-reliance, and this assistance has primarily taken the form of grants and contributions to the Compact Trust Fund. Direct grant-based economic assistance to RMI is scheduled to cease at the end of FY 2023, whereupon disbursements from the Compact Trust Fund are intended to provide a source of support. Overall economic support from the U.S. to RMI over the course of the amended Compact (2004-2023), is estimated to total US$1.5 billion by the time it expires.

Finally, the Compact includes provisions for indefinite U.S. authority for defense and security matters, denial of access by potential foreign adversaries to the area, U.S. defense sites and

operating rights, and service in the U.S. armed forces for FAS citizens. While the Compact provides the U.S. with the option of establishing and using military areas and facilities in the FAS, the U.S. may not declare war on behalf of the FAS, is not allowed to use nuclear, chemical, or biological weapons in the territory, and is not allowed to store such weapons "except in times of national emergency, state of war, or when necessary to defend against an actual or impending attack on the U.S., the Marshall Islands, or the Federated States of Micronesia."

Washington is committed to paying at least US$18 million per year in Compact funding to the RMI government through 2066 for exclusive long-term use of Kwajalein Atoll as a U.S. base. Kwajalein has been a key DoD strategic location since the mid-20th century. The U.S. Army Garrison - Kwajalein Atoll (USAG-KA) hosts several critical defense-related activities, the largest being the Ronald Reagan Ballistic Missile Defense Test Site, which provides the unique ability to test intercontinental ballistic missiles, ballistic missile defense, and hypersonic technologies, as well as an ample spectrum for space surveillance, space object identification, and monitoring new foreign launches. Kwajalein also hosts the U.S. Air Force's Space Fence program, designed to detect and track space debris threatening satellites. Under the Military Use and Operating Rights Agreement (MUORA), a subsidiary government-to-government agreement of the amended COFA, the RMI permits continued use of the missile test range on Kwajalein until 2066, with an option to extend until 2086. The MUORA permits the garrison to maintain facilities on 11 islands in the atoll and to control entry and movement of personnel into a mid-atoll safety corridor during missile testing.

Beyond monies paid related to current DoD activities, the U.S. has paid approximately US$600 million (more than US$1 billion in current dollars) in compensation and remediation for nuclear testing that occurred in the RMI between 1946 and 1958. In 1987, Congress appropriated US$150 million to the RMI as a final settlement for nuclear radiation–related claims. Bikini Atoll residents received US$75 million over 15 years, and the remainder was allocated to trust funds. In 1992, an additional US$90 million was conveyed for the resettlement trust fund.[357]

Although it is easy to view the bilateral relationship from a budgetary perspective, human connections undergird the relationship. Marshallese can live and work freely in the U.S. under the COFA. An estimated one-third of Marshallese citizens live in the U.S. from which they remit money, a revenue source that contributed 13% of RMI's GDP in 2019.[358] As an increasing number of Marshall Islanders leave for employment in the United States, the 2011 Census of the Marshall Islands documented an increase in international migration to RMI. Between 2006 and 2011, 1,434 individuals entered, with an estimated 43% being from the United States, and some of these arrivals may be children born in the United States to Marshall Islander parents who have returned home.[359]

Australia

Australia was the second country, after the U.S., to establish diplomatic relations with RMI in 1987,[360] and the two countries enjoy a close bilateral relationship. However, Australia had maintained just one diplomat accredited to all three of the FAS – and other nearby Pacific countries and territories – until 2021, when Canberra appointed its first resident Ambassador to Majuro. The development was spurred by Australia's increasing concern – shared by the U.S. – over geo-strategic competition (mostly with China) within the Indo-Pacific region.

Among the major topics that Australia and RMI address on a bilateral basis are maritime security, water and oceans management, women's empowerment, and CCA. In 2022, Australia was set to provide a Guardian-class patrol boat to RMI under the Pacific Maritime Security Program (PMSP),[361] which was crafted to develop capability, infrastructure, sustainment, training, and coordination to increase regional maritime security for Pacific Island nations and Timor-

Leste.[362] Although the boat slated for RMI had not been delivered as of mid-2022, the schedule looked set to shift due to manufacturing defects found in several boats delivered to other PMSP participant countries.[363] However, Australia's Pacific Patrol Boat Program also includes support to RMI's Sea Patrol through the provision of the patrol boat Lomor 3 to support RMI programs to combat the persistent challenge of illegal, unregulated, and unreported fishing, other potential criminal activity in RMI waters, and broader government priorities, such as marine rescue and disaster relief.[364]

Over time, Australia's bilateral aid program in RMI has focused on securing water supply and sanitation services on Ebeye Island and improving social and economic opportunities for women and girls. Australian merchandise trade with RMI in 2019-2020 totaled AUS$11.4 million (US$7.2 million) in exports (mainly petroleum, prepared or preserved meat, and internal combustion piston engines) and AUS$14.2 million (US$8.9 million) in imports (mainly services).[365]

China

Because RMI maintains diplomatic ties with Taiwan, Beijing and Majuro do not engage on a bilateral basis, but Chinese businesses and other players engage Marshallese leaders even as Chinese government officials engage within multilateral frameworks such as PIF. Despite the potential for Beijing to find some areas of influence in RMI, Majuro's loud commitment to pressing the world's major GHG emitters to shoulder their portion of the burden for addressing climate change means that any bilateral relationship will depend on Majuro feeling that Beijing is taking climate change seriously.

Beijing does appear to have sought in recent years to increase influence in RMI with the ultimate goal of persuading RMI to shift diplomatic recognition from Taipei to Beijing. Trade is an important part of the relationship, and China is actively engaged in RMI's local economy, especially within the fishing industry, in particular through Pan Pacific Foods. In the absence of official diplomatic recognition of China, the head of Pan Pacific Foods is considered an unofficial Chinese representative to RMI, according to conclusions of a 2019 RAND study. Beijing is also a part owner in the Marshall Islands Fishing Company.

A key related issue is RMI's status as the world's third-largest ship registry. Ships entering Chinese ports that are registered in countries that do not recognize China face higher port fees, so the RMI's ship-registry program faces a loss of revenue because China charges higher fees to ships entering its ports and flying the RMI flag. The two countries that are ahead of RMI in leading ship registry, Panama and Liberia, switched recognition from Taiwan to China in recent years, and both enjoy preferential rates when their registered ships visit Chinese ports. Some see this revenue pressure as a potentially vulnerability for RMI as Beijing continues to work various avenues for decreasing Taiwan's room for diplomatic maneuver.

Although official Chinese avenues of pressure are clearly linked to illustrating the financial benefits of official diplomatic recognition of Beijing, seemingly unofficial – or at least not publicly government sanctioned – schemes have emerged, mostly recently linked to Rongelap Atoll. Reports indicate that at the Asia World Expo held in Hong Kong in April 2018, a Chinese businessman and the mayor of Rongelap Atoll proposed the creation of a special administrative region to attract investment to the atoll, located near Kwajalein Atoll. It is unclear the extent to which Beijing supported the proposal, and it quickly became a source of controversy in RMI politics amid concerns that such a proposal could make the area a haven for money laundering and other illegal activities.[366] Although the RMI Attorney-General swiftly declared the scheme illegal and the government defeated a Parliamentary bill supporting the plot in 2018, efforts to bring it to fruition may have percolated underground. In September 2022, news of the plot reemerged. In the latest discoveries, the project involved a Chinese

couple who had allegedly bribed members of the RMI parliament and officials to promote the creation of the "Rongelap Atoll Special Administration Region." It appears that after President Heine's bid for re-election was defeated in 2019, the new parliament endorsed the concept in 2020. According to criminal charges filed in 2022, Cary Yan and Gina Zhou bribed several Marshall Islands lawmakers with between US$7,000 and US$22,000. Yan also invested in a private business venture on behalf of one official, who then appointed Yan as a "special adviser" on Rongelap. Both Yan and Zhou became naturalized Marshall Islands citizens.[367]

China has steadily poached allies from Taiwan in the Pacific, including Kiribati and the Solomon Islands in 2019. With the U.S.-RMI COFA set to expire in 2023 and amid missteps in negotiations to renew it, it is not inconceivable that China is trying to gain influence, and the U.S. belatedly recognized this strategic component. After a hiatus of at least two years under the Trump administration, direct negotiations on COFA renewal picked back up in latter 2022 after the U.S. appointed a special representative. However, Marshallese frustrations continue as the U.S. has been refusing to engage on renewed claims for environmental and health damage compensation related to the nuclear tests the U.S. carried out in the 1940s and '50s. As tensions prevailed in September 2022, China's Foreign Ministry said the U.S. should face up to its responsibility to restore the environmental damage it caused with its nuclear tests. It said China was willing to engage with the Marshall Islands on the basis of mutual respect and cooperation under the "One China Principle." Beijing's line was echoed by James Matayoshi, the mayor of Rongelap, who said he and hundreds of others have remained displaced since the nuclear tests and want to see it revitalized. He said officials have been talking with potential investors from Asia. Like many other Marshallese, Matayoshi believes a U.S. settlement of US$150 million agreed to in the 1980s fell well short of addressing the nuclear legacy.[368]

European Union

The relationship between the EU and RMI is governed by the EU-ACP (African, Caribbean, and Pacific) Cotonou Partnership Agreement. A successor agreement was negotiated and submitted to parties in April 2021, but as state parties consider the new text, the Cotonou Agreement remains in force with an expiry date of 30 June 2023. The negotiated successor text lays out a comprehensive political agreement that supports commitment to sustainable development and climate action, builds on the UN 2030 Agenda, the European Consensus on development, and the Paris Agreement.[369]

RMI participates in comprehensive policy dialogues within the Organisation of African, Caribbean, and Pacific States (OACPS)-coordinated ACP-EU institutions at all levels. The EU focuses on engaging RMI as a member of the UN Human Rights Council (2020-2023) to ensure international application of universal values and human rights. In addition to human rights, regular high-level political dialogues focus on climate change, the world's oceans, development cooperation, and economic and trade cooperation. As of mid-2021, RMI does not benefit from a beneficial trade regime because it is classified as an Upper-Middle Income Country. However, the EU does support development projects in RMI. Between 2014 and 2020, the EU supported projects in energy, climate change, gender issues, public finance management, economic development, and accountability.[370]

Japan

The preeminent venue in which Japan engages RMI is the Pacific Islands Leaders Meeting (PALM), held every three years and bringing together members of the PIF. PALM's purpose is to enhance the partnership between the island countries and Japan, so that they can better address the common challenges they face.[371] The Ninth Pacific Islands Leaders Meeting (PALM9) was held via videoconference on 2 July 2021. Discussions centered on five priority areas: COVID-19 Response and Recovery, Sustainable Oceans based on the Rule of Law, Climate

Change and Disaster Resilience, Strengthening Foundation for Sustainable and Resilient Economic Development, and People-to-People Exchanges and Human Resource Development. Japan's Prime Minister announced Japan's Pacific Bond Policy to strengthen cooperation and promote the "All Japan" approach of interagency work among Japanese and Pacific Island country agencies.[372]

RMI has historically had close relations with Japan despite the semi-colonial status of the Islands in Japan's Empire before World War II. Since the middle of the 20th century, RMI and Japan have deepened involvement in fisheries, and Japanese vessels operate widely within RMI's EEZ.[373] Bilateral ties were formally established in 1988, but Japan had begun providing RMI with aid in 1980, and Japan is one of the RMI's largest donor states, second only to the United States. To a certain extent, Japan hopes that continuing close ties with RMI will help maintain stable operations by Japanese fishing vessels in the region and enable cooperation with RMI in the recovery of the remains of Japanese World War II dead.[374]

Via its various international engagement arms, Japan assists RMI in development of basic infrastructure and capacity development and for the health sector, basic education, and fisheries revitalization. Moreover, Japan contributes to free, open, and sustainable seas, including enhancement of marine security capabilities, considering the importance of the seas for RMI's society, economy, and culture. In recent years, Japan has expanded its focus on assistance in enhancing countermeasures against climate change through introduction of renewable energy and optimization of diesel power generation.[375] In 2017, JICA delivered a grant to fund installation of a solar power generation facility on Ebeye. In Majuro, in 2020, JICA became a technical partner in a project to improve a water reservoir, and then, in 2022, JICA delivered grant aid to introduce a hybrid power generation system. Finally, in 2022, JICA was a technical partner in the Phase II launch of a project to improve solid waste management.[376]

Taiwan

RMI continues to recognize and maintain diplomatic ties with Taiwan even as Beijing and Taipei continue to compete for influence in the greater Oceania region. However, Marshallese officials, local business leaders, and the general citizenry are not unified in a concrete position of support for Taiwan and resistance to China, and, geographically, RMI is part of the "Second Island Chain," a contiguous area in which the U.S. wields major political and strategic influence but in and around which China contests U.S. efforts to limit Beijing's ability to project power into the Pacific.

Taiwan's relationship with RMI is multifaceted and blossomed in the late 1990's when RMI broke off relations with Beijing. Among the foundational elements of the relationship are a shared emphasis on nuclear waste management, climate change policy, development assistance, trade, and Austronesian cultural ties. Marshallese material concerns have always been a factor in the bilateral relationship. Taiwan pledged to finance infrastructure projects and to contribute to the Marshallese trust fund, offering what would have been a potential buffer for Majuro's economy should the renegotiation of the U.S.-RMI COFA have failed in the late 1990s and early 2000s. At the time, nuclear fall-out compensation was among the most contentious issues separating the U.S.'s and RMI's positions, and there was a pervasive feeling that the U.S. was not dealing with RMI as an equal. Meanwhile, Marshallese perceived Taipei as making the relationship a priority. In the past two decades, frequent reciprocal visits have reinforced the Taipei-Majuro relationship.

Despite the apparent strength of the bilateral relationship, China's post-2016 push to diminish Taiwan's diplomatic room for maneuver have seen pressure on Majuro mount. In addition to efforts to peel individual countries away from ties to Taiwan, Beijing launched the Belt and Road Initiative that would finance and provide other assistance to development (mostly infrastructure) projects to countries with whom Beijing had official ties. The period of President

Heine's tenure (2016-2019) saw the President criticized for ruling out cooperation with Beijing, and there was some thought that a new RMI administration might be more open to Chinese advances. However, Heine's successor, President Kabua, has so far shown himself committed to ties with Taiwan. Amidst the COVID-19 pandemic, Taipei delivered medical supplies and other support to Majuro, including shoring up RMI's food security. Majuro has also called on WHO to allow for Taiwan's participation in the annual World Health Assembly, a position which Beijing views as unacceptable.[377]

In recent years, Taiwan has pursued a variety of activities with RMI. Taiwan contributes to addressing food insecurity and environmental issues. For example, Taipei has supported Laura Farm as an experimental agriculture and aquaculture undertaking, where pilot projects are tested for applicability to local conditions. Despite this type of ground-level activity, higher level, high-skill programs may have more impact. Taiwan has stressed its ability to provide high-quality, specialized medical care through periodic in-country clinics and has offered educational programs in Taipei. Annually, 2-3 Marshallese students undertake degrees with the I-Shou School of Medicine for International Students founded as part of Taiwan's goal to increase local medical capacities among its diplomatic allies. Moreover, at any given time, there may be two dozen Marshallese students pursuing tertiary degrees at universities in Taiwan. In addition, Taiwan encourages its own hospitals to develop sister-hospital relations within the FAS. Finally, Taiwan financially supports small but high-visibility projects, such as construction of outdoor multipurpose courts for sports and installation of solar streetlights. Since 2006, in partnership with the Bank of the Marshall Islands, Taiwan underwrites a micro loan program that has issued US$4 million in loans to over 1,000 customers.[378]

Participation in International Organizations

The Republic of the Marshall Islands is a member of, participates in, or cooperates with the following international organizations and agreement frameworks either as a government or via a national NGO or other entity:

Alliance of Small Island States (AOSIS), Asian Development Bank (ADB), Food and Agriculture Organization of the United Nations (FAO), Group of 77 (G-77), International Atomic Energy Agency, International Bank for Reconstruction and Development, International Civil Aviation Organization (ICAO), International Criminal Court, International Criminal Police Organization (INTERPOL), International Development Association, International Finance Corporation, International Fund for Agricultural Development, International Labour Organization, International Maritime Organization, International Mobile Satellite Organization, International Monetary Fund (IMF), International Olympic Committee, International Organization for Migration (IOM), International Telecommunications Union, Organisation for the Prohibition of Chemical Weapons, Organisation of African, Caribbean, and Pacific States (OACPS, formerly ACP), Pacific Community (SPC), Pacific Islands Forum (PIF), South Pacific Regional Trade and Economic Co-operation Agreement (SPARTECA), United Nations (UN), United Nations Conference on Trade and Development, United Nations Educational, Scientific, and Cultural Organization, World Meteorological Organization

Force Protection/Pre-Deployment Information

The following information is provided for pre-deployment planning and preparations. Visit www.travel.state.gov prior to deployments for further up-to-date information.[379] DoD personnel must review the Foreign Clearance

Guide (FCG) for travel to RMI (www.fcg.pentagon.mil). All official travel and personal travel for active-duty personnel must be submitted through an APACS request. Contact information for the Defense Attaché Office can be found in the FCG if you have additional questions.

Passport/Visa

Under the Compact of Free Association (COFA), U.S. citizens do not need a visa to enter the Marshall Islands. For international flights departing Amata Kabua International Airport in Majuro, there is a departure fee of US$20 for individuals aged 13-59 years. For domestic flights within the Marshall Islands departing Amata Kabua International Airport in Majuro, there is a departure fee of US$2 for individuals aged 13-59 years. Diplomats are exempt from departure fees.

Visitors to the Marshall Islands and who were born in or after 1957 are required to provide proof of measles vaccination to vessel operators before travel or documentation of contraindication signed by a doctor. Failure to produce such proof will result in either denial of boarding or refusal of entry upon arrival to the Marshall Islands.

Some HIV/AIDS entry restrictions exist for visitors to and foreign residents of the Marshall Islands. HIV testing is required for residence and work permits. Foreign test results are accepted under certain conditions.

Safety and Security

The Marshall Islands has a low crime rate. The most common crimes are break-ins and thefts from homes, hotel rooms, and vehicles, as well as occasional random acts of vandalism. Keep hotel rooms or residences locked at all times. The number of violent assaults has increased over the past few years. Occasionally, fights and assaults occur at nightclubs and bars. People who visit those establishments, especially late in the evening, should be extra vigilant to ensure personal security.

Use caution when driving or walking on roads late at night as drunk driving is prevalent and there are no sidewalks and little to no room on the sides of roads for pedestrians. All taxis in Majuro are shared taxis that stop to pick up and drop off passengers frequently. There have been reports of taxi drivers and/or passengers sexually harassing women in shared taxis. Women and girls should avoid riding shared taxis, particularly after dark, and avoid walking alone after dark.

Victims of Crime: U.S. citizen victims of sexual assault are encouraged to contact the U.S. Embassy for assistance. Report crimes to the local police at 625-8666 or 625-3233 and contact the U.S. Embassy at 692-247-4011. Remember that local authorities are responsible for investigating and prosecuting crime.

The U.S. Embassy can:

- Help find appropriate medical care
- Assist in reporting a crime to the police
- Contact relatives or friends with written consent
- Provide general information regarding the victim's role during the local investigation and following its conclusion
- Provide a list of local attorneys
- Provide information on victim's compensation programs in the U.S.
- Provide information on assistance programs such as Women United Together Marshall Islands (WUTMI) 's Weto in Mour support service for women and girls who have experienced gender-based violence.
- Provide an emergency loan for repatriation to the United States and/or limited medical support in cases of destitution
- Help find accommodation and arrange flights home
- Replace a stolen or lost passport

Tourism: The tourism industry is unevenly regulated, and safety inspections for equipment and facilities do not commonly occur. Hazardous areas/activities are not always identified with appropriate signage, and staff may not be trained or certified either by the host government or by recognized authorities in the field. In the event of an injury, appropriate medical treatment is typically available only in/near major cities.

First responders are generally unable to access areas outside of major cities or to provide urgent medical treatment. U.S. citizens are encouraged to purchase medical evacuation insurance.

Unexploded Ordnance: Unexploded ordnance (UXO) from World War II remains a problem in the Marshall Islands. Underwater UXO may also present a threat. Tourists are advised to heed all warnings on areas that might be affected. Travelers are advised to use extreme caution when hiking or scuba diving.

Storms and Disaster Preparedness: The Marshall Islands is in a region prone to storm surges. Prepare for an emergency before travel and monitor meteorological websites such as the Joint Typhoon Warning Center.

Emergency Contact Information

U.S. Embassy in Majuro
Located Mejen Weto, ocean-side of the major road, approximately 3.2 km (2 miles) east of the airport.
There is no street address.
P.O. Box 1379
Majuro, MH 96960-1379
Tel: 692-247-4011
Emergency after-hours: 692-455 8213
Fax: 692-247-4012
Email: *MAJConsular@state.gov*

Currency Information

Marshall Islands uses the U.S. Dollar (USD or $); an effort to introduce a non-USD digital (crypto currency) "Sovereign" (SOV) has stalled.

Travel Health Information

The CDC provides guidance that all travelers to Marshall Islands should be up to date on routine vaccinations. The following are additional recommendations for travel to RMI. The information in Tables 2 and 3 is taken directly from the CDC website under the Travelers Health Section (*https://wwwnc.cdc.gov/travel/destinations/list/*).[380]

Health Alerts: At the time of writing this handbook (September 2022), there are no health risk alerts for RMI.

Routine Vaccinations	All travelers should be up to date on all routine vaccines before every trip. Some of these vaccines include • Chickenpox (Varicella) • Diphtheria-Tetanus-Pertussis • Flu (influenza) • Measles-Mumps-Rubella (MMR) • Polio • Shingles
COVID-19	All eligible travelers should be up to date with the COVID-19 vaccine, including boosters.
Hepatitis A	Vaccination is recommended for unvaccinated travelers one year old or older. Infants 6 -11 months old should also be vaccinated; this dose does not count toward the routine 2-dose series. Travelers allergic to a vaccine component or who are younger than 6 months should receive a single dose of immune globulin, which provides effective protection for up to 2 months depending on dosage given. Unvaccinated travelers who are over 40 years old, immunocompromised, or have chronic medical conditions and who are planning to depart to a risk area in less than 2 weeks should get the initial dose of vaccine and at the same appointment receive immune globulin.
Hepatitis B	Recommended for unvaccinated travelers of all ages.
Measles	Infants 6-11 months old traveling internationally should get 1 dose of MMR vaccine before travel. This dose does not count as part of the routine childhood vaccination series.
Typhoid	Vaccination is recommended for most travelers, especially those staying with friends or relatives or visiting smaller cities or rural areas.

Table 2: CDC Travel Health Information for Vaccine Preventable Diseases in Marshall Islands

Dengue	Transmitted by mosquito bite; avoid bug bites.
Hantavirus	Contracted by breathing in air or accidentally eating food contaminated with the urine, droppings, or saliva of infected rodents, by a bite from an infected rodent, or by being around someone sick with hantavirus. Avoid rodents and areas where they live, and avoid sick people.
Leptospirosis	Contracted by touching urine or other body fluids from an animal infected with leptospirosis, swimming or wading in urine-contaminated fresh water, contact with urine-contaminated mud, or drinking water or eating food contaminated with animal urine. Avoid contaminated water and soil.
Tuberculosis (TB)	Contracted by breathing in TB bacteria that is in the air from an infected and contagious person coughing, speaking, or singing. Avoid sick people.
Zika	Transmitted by mosquito bite or from a pregnant woman to her unborn baby; avoid bug bites.

Table 3: CDC Travel Health Information for Non-Vaccine Preventable Diseases in Marshall Islands

The following actions you can take to stay healthy and safe on your trip include:

Eat and Drink Safely

Unclean food and water can cause travelers' diarrhea and other diseases. Reduce your risk by sticking to safe food and water habits.

Eat

- Food that is cooked and served hot
- Hard-cooked eggs
- Fruits and vegetables, you have washed in clean water or peeled yourself
- Pasteurized dairy products

Don't Eat

- Food served at room temperature
- Food from street vendors
- Raw or soft-cooked (runny) eggs
- Raw or undercooked (rare) meat or fish
- Unwashed or unpeeled raw fruits and vegetables
- Unpasteurized dairy products
- "Bushmeat" (monkeys, bats, or other wild game)

Drink

- Bottled water that is sealed
- Water that has been disinfected
- Ice made with bottled or disinfected water
- Carbonated drinks
- Hot coffee or tea
- Pasteurized milk

Don't Drink

- Tap or well water
- Ice made with tap or well water
- Drinks made with tap or well water (such as reconstituted juice)
- Unpasteurized milk

Take Medicine

Talk with your doctor about taking prescription or over-the-counter drugs with you on your trip in case you get sick. If you are going to a high-risk area, fill your malaria prescription before you leave, and take enough with you for the entire length of your trip. Follow your doctor's instructions for taking the pills; some need to be started before you leave.

Prevent Bug Bites

Bugs (like mosquitoes, ticks, and fleas) can spread a number of diseases. Many of these diseases cannot be prevented with a vaccine or medicine. You can reduce your risk by taking steps to prevent bug bites.

To prevent bug bites:

- Cover exposed skin by wearing long-sleeved shirts, long pants, and hats.
- Use an appropriate insect repellent (see below).
- Use permethrin-treated clothing and gear (such as boots, pants, socks, and tents). Do not use permethrin directly on skin.
- Stay and sleep in air-conditioned or screened rooms.
- Use a bed net if the area where you are sleeping is exposed to the outdoors.

For protection against ticks and mosquitoes:

Use a repellent that contains 20 percent or more DEET for protection that lasts up to several hours.

For protection against mosquitoes only:

Products with one of the following active ingredients can also help prevent mosquito bites. Higher percentages of active ingredient provide longer protection.

- DEET
- Picaridin (also known as KBR 3023, Bayrepel, and Icaridin)
- Oil of lemon eucalyptus (OLE) or para-Menthane-3,8-diol (PMD)
- IR3535
- 2-undecanone

If you are bitten by bugs:

- Avoid scratching bug bites and apply hydrocortisone cream or calamine lotion to reduce the itching.
- Check your entire body for ticks after outdoor activity. Be sure to remove ticks properly.

Safety and Security

Note that conditions can change rapidly in a country at any time. To receive updated Travel Advisories and Alerts for the countries you choose, sign up at step.state.gov.

Sendai Framework

The Sendai Framework for Disaster Risk Reduction 2015-2030 is the global blueprint and fifteen-year plan to build the world's resilience to natural disasters. The Framework aims to achieve substantial reduction of disaster risk and losses in lives, livelihoods, and health and in the economic, physical, social, cultural, and environmental assets of persons, businesses, communities, and countries by 2030. It was adopted at the Third United Nations World Conference on Disaster Risk Reduction in Sendai, Japan, in 2015.[381] The Framework is the successor instrument to the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters,[382] discussed in its own section. Figure 14 is a chart describing the scope and goals of the Sendai Framework.[383]

The Sendai Framework outlines seven targets and four priorities for action to prevent new and reduce existing disaster risks:

The Seven Global Targets include:

- Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality rates in the decade 2020-2030 compared to the period 2005-2015
- Substantially reduce the number of affected people globally by 2030, aiming to lower average global figure per 100,000 in the decade 2020 -2030 compared to the period 2005-2015
- Reduce direct disaster economic loss in relation to global GDP by 2030
- Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030
- Substantially increase the number of countries with national and local DRR strategies by 2020
- Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030; and
- Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030.[384]

The Four Priorities of Action include:

- Understanding disaster risk
- Strengthening disaster risk governance to manage disaster risk
- Investing in disaster reduction for resilience; and
- Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation. and reconstruction.

In RMI, actions taken to meet the four priority areas include accessing data on risk and outlining the costs of various CCA projects in contrast to the cost of business as usual. Moreover, the country's disaster managers have conducted planning initiatives and participated in major global institutions' initiatives to bolster DRR funding, insurance programs, and reconstruction projects.

- Priority 1 – Understanding Disaster Risk: Due to a wide range of hazards, the country's remoteness, and limited capacity, national and subnational officials can have difficulties collecting and analyzing comprehensive risk information. The "Building Resilience in Pacific Atoll Island Countries Study," backed by the World Bank's Global Facility for Disaster Reduction and Recovery (GFDRR), elaborated a set of development pathways for the government to consider in long-term CCA planning and provided estimates of the costs associated with each option.
- Priority 2 – Strengthening Disaster Risk Governance: The NDMO Strategic Plan 2020-2023 was prepared to strengthen resilience in non-urban atolls, organize disaster preparedness, response, and recovery, and improve coordination at local, national, and international levels. Local

disaster risk management (DRM) plans are also in development for specific atolls with eight plans finalized by 2022.

- Priority 3 – Investing in Disaster Risk Reduction for Resilience: Since 2018, the World Bank has supported RMI to boost climate resilience with a grant of US$2.5 million to help strengthen resilience by extending disaster risk insurance for up to five years under the PCRAFI; PCRAFI also provides disaster risk modeling and assessment tools as well as immediate funds in the event of a disaster. The grant also supports the building of a seawall to protect Ebeye and funds the improvement of early warning systems. The Green Climate Fund (GCF) approved a US$18.6 million grant to provide year-round access to freshwater. The project improves harvesting and storage systems as well as gutters and downpipes. Moreover, with king tides and storm surges affecting freshwater, this support will protect groundwater wells by raising their height and installing coverings and hand pumps. Lastly, the Marshall Islands Aquaculture Fisheries Project is focused on achieving DRR. This project has received US$1.7 million via the Pacific-American Climate Fund over a 36-month period to improve Majuro's economic resilience and food security by manufacturing fish feed, growing fish, and providing training to establish an aquaculture farm.
- Priority 4 – Enhancing Disaster Preparedness for Effective Response to "Build Back Better": The Pacific Adaptation to Climate Change (PACC) program has worked to increase the availability of potable water. Water collected at Majuro airport and diverted to reservoirs was upgraded through the PACC program, and the freshwater reserves have increased from 3-4 weeks of water availability to 3-4 months. Resilience to drought in the outer islands has also been strengthened through the provision of solar purifiers to produce freshwater. The Maritime Investment Project for the Marshall Islands, funded by the World Bank, has also enhanced disaster preparedness by improving the safety of docks and port operations and built resilience to disasters and climate change through strengthened design, rehabilitation, and construction. Other components of the project are to strengthen the safety and security of maritime transport and improve connections between Majuro and the other islands for food, water, and fuel for emergency response services. Finally, the project aims to enhance the capacity of the government to manage maritime assets in a more efficient and climate resilient manner through improved coordination of emergency response systems. The Pacific Resilience Project Phase II also aims at improving emergency communication within RMI. Under this project, a National Emergency Communication Strategy was developed, and investments are planned to improve the current emergency communication network and increase the number of Marshallese who receive actionable warning messages. Lastly, the Pacific Islands Meteorological Strategy (PIMS 2017-2026) outlines the regional development priorities of the Pacific Island National Meteorological and Hydrological Services. PIMS sets out the strategic context and direction for strengthening those meteorological services, and this provides strategic direction for policy design and reform in RMI.[385]

Chart of the Sendai Framework for Disaster Risk Reduction
2015-2030

Scope and purpose

The present framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or manmade hazards as well as related environmental, technological and biological hazards and risks. It aims to guide the multi-hazard management of disaster risk in development at all levels as well as within and across all sectors

Expected outcome

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries

Goal

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience

Targets

Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015	Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015	Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030	Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030	Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020	Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030	Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030

Figure 14: UN Sendai Framework for Disaster Risk Reduction 2015-2030

HFA Country Progress Report

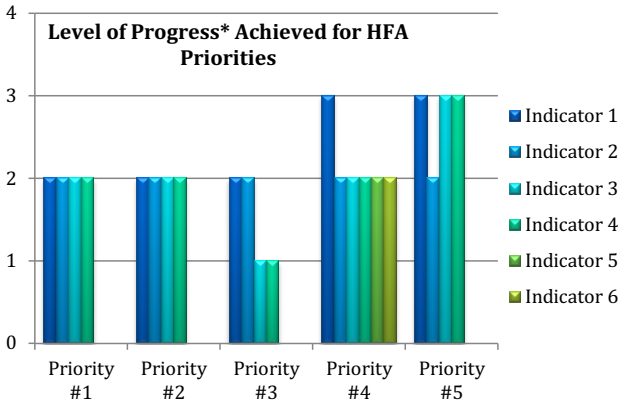


Figure 15: HFA Level of Progress Achieved

The Hyogo Framework for Action (HFA) was adopted as a guideline to reduce vulnerabilities to natural hazards. The HFA assisted participating countries to become more resilient and to better manage the hazards that threaten their development. The most recent levels of progress results published from RMI are from 2011-2013 and are represented in Figure 15 and Table 4. Table 5 provides an overview of the challenges and the future outlook statement from the HFA report. The 2013 Report is the most recent HFA report available for RMI. The information in this section is sourced directly from the HFA Country Progress Report.[386]

Core Indicator*	Indicator Description	Level of progress Achieved*
Priority for Action #1: Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.		
1	National policy and legal framework for disaster risk reduction exists with decentralized responsibilities and capacities at all levels.	2
2	Dedicated and adequate resources are available to implement disaster risk reduction plans and activities at all administrative levels.	2
3	Community participation and decentralization is ensured through the delegation of authority and resources to local levels.	2
4	A national multi sectoral platform for disaster risk reduction is functioning.	2
Priority for Action #2: Identify, assess, and monitor disaster risks and enhance early warning.		
1	National and local risk assessments based on hazard data and vulnerability information are available and include risk assessments for key sectors.	2
2	Systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities.	2
3	Early warning systems are in place for all major hazards, with outreach to communities.	2
4	National and local risk assessments take account of regional / trans-boundary risks, with a view to regional cooperation on risk reduction.	2
Priority for Action #3: Use knowledge, innovation, and education to build a culture of safety and resilience at all levels		
1	Relevant information on disasters is available and accessible at all levels, to all stakeholders (through networks, development of information sharing systems, etc.).	2
2	School curricula, education material and relevant trainings include disaster risk reduction and recovery concepts and practices.	2
3	Research methods and tools for multi-risk assessments and cost benefit analysis are developed and strengthened.	1
4	Research methods and tools for multi-risk assessments and cost benefit analysis are developed and strengthened.	1

Table 4: National Progress Report on the Implementation of the HFA

Priority for Action #4: Reduce the underlying risk factors.		
1	Disaster risk reduction is an integral objective of environment related policies and plans, including for land use natural resource management and adaptation to climate change.	3
2	Social development policies and plans are being implemented to reduce the vulnerability of populations most at risk.	2
3	Economic and productive sectorial policies and plans have been implemented to reduce the vulnerability of economic activities.	2
4	Planning and management of human settlements incorporate disaster risk reduction elements, including enforcement of building codes.	2
5	Disaster risk reduction measures are integrated into post disaster recovery and rehabilitation processes.	2
6	Procedures are in place to assess the disaster risk impacts of major development projects, especially infrastructure.	2
Priority for Action #5: Strengthen disaster preparedness for effective response at all levels.		
1	Strong policy, technical and institutional capacities, and mechanisms for disaster risk management, with a disaster risk reduction perspective are in place.	3
2	Disaster preparedness plans and contingency plans are in place at all administrative levels, and regular training drills and rehearsals are held to test and develop disaster response programs.	2
3	Financial reserves and contingency mechanisms are in place to support effective response and recovery when required.	3
4	Procedures are in place to exchange relevant information during hazard events and disasters, and to undertake post-event reviews.	3

Table Notes:
*Level of Progress:
1 – Minor progress with few signs of forward action in plans or policy
2 – Some progress, but without systematic policy and/ or institutional commitment
3 – Institutional commitment attained, but achievements are neither comprehensive nor substantial
4 – Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities
5 – Comprehensive achievement with sustained commitment and capacities at all levels

Table 4: National Progress Report on the Implementation of the HFA (cont.)

Future Outlook Area 1: The more effective integration of disaster risk considerations into sustainable development policies, planning, and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness, and vulnerability reduction.	
Challenges:	Ad-hoc and uncoordinated approaches to DRM and CCA have been identified. They arise, in part, due to overburdened staff in key ministries who take on numerous roles and manage multiple projects and programs concurrently. They are also due to the irregularity of meetings of groups such as the National Disaster Council and National Climate Change Committee. Without strong leadership from these groups, it is unlikely that integration and mainstreaming of DRR and CCA will occur within line ministries. An additional challenge is dependence on external assistance for DRR, DRM, and CCA. With highly limited human resource capacity, RMI leans heavily on donor partners to address risk reduction issues.
Future Outlook Statement:	Finalization, endorsement, and wide distribution of the JNAP to national stakeholders will allow for improved coordination and a strategic approach to addressing DRR issues.
Future Outlook Area 2: The development and strengthening of institutions, mechanisms, and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards.	
Challenges:	Changes in key personnel in OEPPC and the Chief Secretary's Office have delayed progress on strengthening institutional structures for DRR, DRM, and CCA.
Future Outlook Statement:	Identifying appropriate replacements for key staff within OEPPC and the Chief Secretary's Office, and supporting them in working together, should be the aim over the short to medium term. This support will allow much needed progress in DRR, DRM, and CCA including finalization and endorsement of the JNAP.
Future Outlook Area 3: The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response, and recovery programs in the reconstruction of affected communities.	
Challenges:	Mainstreaming risk reduction is occurring across many projects and initiatives in ad-hoc approaches and is based on the recognition that climate change is likely to have significant consequences on issues such as water and food security. The overall challenge in RMI is to ensure a strategic, systematic, and coordinated approach to ensure DRR is always a high priority. A further challenge is funding and the limitations imposed by the Disaster Assistance Emergency Fund (DAEF). The DAEF is reserved only for disaster response and may not be used for any risk reduction activity. If these limitations were loosened it may be possible to reduce the impact of some disasters by addressing underlying risk factors before the event occurs.
Future Outlook Statement:	The JNAP, once finalized and endorsed, will provide a national overarching document that can guide attempts across all sectors to mainstream DRR into emergency preparedness, response, and recovery.

Table 5: HFA Country Progress Report Future Outlook Areas, RMI

Country Profile

The information in the Country Profile section is sourced directly from the CIA World Fact book for Marshall Islands. Additional numbers on country comparison to the world can be found by going directly to the CIA website (*https:/www.cia.gov*). It discusses topics including geography, people and society, government, economy, energy, communications, military and security, transportation, terrorism, and transnational issues.[387]

Background

Humans arrived in the Marshall Islands in the first millennium BCE and gradually created permanent settlements on the various atolls. The early inhabitants were skilled navigators who frequently traveled between atolls using stick charts to map the islands. Society became organized under two paramount chiefs, one for each of the island chains – Ratak (Sunrise) and Ralik (Sunset). The traditional hierarchy continued even after contact with Europeans in the early 1500s. Spain formally claimed the islands in 1592, but few other Europeans passed by the islands in the next two centuries. In 1788, British sea captain John Marshall undertook an exploratory voyage, and the islands were mapped in the early 1800s by Russian explorers. In the 1850s, U.S. Protestant missionaries began arriving on the islands. Germany established a supply station on Jaluit Atoll and bought the islands from Spain in 1884, although paramount chiefs continued to rule.

Japan seized the Marshall Islands in 1914 and was granted a League of Nations Mandate to administer the islands in 1920. Japan built large military bases throughout the Marshall Islands, and during World War II, the U.S. captured the bases on Kwajalein, Enewetak, and Majuro Atolls in Operations Flintlock and Catchpole. The Marshall Islands came under U.S. administration as part of the Trust Territory of the Pacific Islands (TTPI) in 1947. Between 1946 and 1958, the U.S. resettled populations from Bikini and Enewetak Atolls and conducted 67 nuclear tests; people from Ailinginae and Rongelap Atolls were also evacuated because of nuclear fallout, and all four atolls remain largely uninhabited. In 1979, the Marshall Islands drafted a constitution separate from the rest of the TTPI and declared independence under President Amata Kabua, a paramount chief. In 2000, Kessai Note became the first commoner elected president. In 2016, Hilda Heine was the first woman elected president.

In 1982, the Marshall Islands signed a Compact of Free Association (COFA) with the U.S.; the Compact granted the Marshall Islands financial assistance and access to many U.S. domestic programs in exchange for exclusive U.S. military access and defense responsibilities. The COFA entered into force in 1986 and its funding was renewed in 2003. The Marshall Islands hosts the U.S. Army Kwajalein Atoll Reagan Missile Test Site, a key installation in the U.S. missile defense network. Kwajalein also hosts one of four dedicated ground antennas that assist in the operation of the Global Positioning System (GPS) navigation system (the others are at Cape Canaveral, Florida, on Ascension (Saint Helena, Ascension, and Tristan da Cunha), and at Diego Garcia (British Indian Ocean Territory)).

Geography

Location

Oceania, consists of 29 atolls and five isolated islands in the North Pacific Ocean, about halfway between Hawaii and Australia; the atolls and islands are situated in two, almost-parallel island chains - the Ratak (Sunrise) group and the Ralik (Sunset) group; the total number of islands and islets is about 1,225; 22 of the atolls and four of the islands are uninhabited

Geographic coordinates

9 00 N, 168 00 E

Map references

Oceania

Area
total: 181 sq km
land: 181 sq km
water: 0 sq km
note: the archipelago includes 11,673 sq km of lagoon waters and encompasses the atolls of Bikini, Enewetak, Kwajalein, Majuro, Rongelap, and Utirik
country comparison to the world: 216

Area - comparative
about the size of Washington, DC

Land boundaries
total: 0 km

Coastline
370.4 km

Maritime claims
territorial sea: 12 nm
contiguous zone: 24 nm
exclusive economic zone: 200 nm

Climate
tropical; hot and humid; wet season May to November; islands border typhoon belt

Terrain
low coral limestone and sand islands

Elevation
highest point: East-central Airik Island, Maloelap Atoll 14 m
lowest point: Pacific Ocean 0 m
mean elevation: 2 m

Natural resources
coconut products, marine products, deep seabed minerals

Land use
agricultural land: 50.7% (2018 est.)
arable land: 7.8% (2018 est.)
permanent crops: 31.2% (2018 est.)
permanent pasture: 11.7% (2018 est.)
forest: 49.3% (2018 est.)
other: 0% (2018 est.)

Irrigated land
0 sq km (2012)

Population distribution
most people live in urban clusters found on many of the country's islands; more than two-thirds of the population lives on the atolls of Majuro and Ebeye

Natural hazards
infrequent typhoons

Geography - note
the islands of Bikini and Enewetak are former US nuclear test sites; Kwajalein atoll, famous as a World War II battleground, surrounds the world's largest lagoon and is used as a US missile test range; the island city of Ebeye is the second largest settlement in the Marshall Islands, after the capital of Majuro, and one of the most densely populated locations in the Pacific

People and Society

Population
79,906 (2022 est.)
country comparison to the world: 200

Nationality
noun: Marshallese (singular and plural)
adjective: Marshallese

Ethnic groups
Marshallese 92.1%, mixed Marshallese 5.9%, other 2% (2006 est.)

Languages
Marshallese (official) 98.2%, other languages 1.8% (1999 est.)
major-language sample(s):
Bok eo an Lalin kin Melele ko Rejimwe ej jikin ebōk melele ko raurōk. (Marshallese)
note: English (official), widely spoken as a second language

Religions
Protestant 80.5% (United Church of Christ 47%, Assembly of God 16.2%, Bukot Nan Jesus 5.4%, Full Gospel 3.3%, Reformed Congressional Church 3%, Salvation Army 1.9%, Seventh Day Adventist 1.4%, Meram in Jesus 1.2%, other Protestant 1.1%), Roman Catholic 8.5%, Church of Jesus Christ 7%, Jehovah's Witness 1.7%, other 1.2%, none 1.1% (2011 est.)

Age structure
0-14 years: 32.94% (male 13,090/female 12,575)
15-24 years: 19.09% (male 7,568/female 7,308)
25-54 years: 37.35% (male 14,834/female 14,270)
55-64 years: 5.92% (male 2,269/female 2,341)
65 years and over: 4.7% (2020 est.) (male 1,805/female 1,857)
Figure 16 is the 2022 population pyramid for Marshall Islands.[388]

Dependency ratios
total dependency ratio: NA
youth dependency ratio: NA
elderly dependency ratio: NA
potential support ratio: NA

Median age
total: 23.8 years
male: 23.6 years
female: 23.9 years (2020 est.)
country comparison to the world: 173

Population growth rate
1.34% (2022 est.)
country comparison to the world: 73

Birth rate
22 births/1,000 population (2022 est.)
country comparison to the world: 60

Death rate
4.28 deaths/1,000 population (2022 est.)
country comparison to the world: 209

Net migration rate
-4.37 migrant(s)/1,000 population (2022 est.)
country comparison to the world: 196

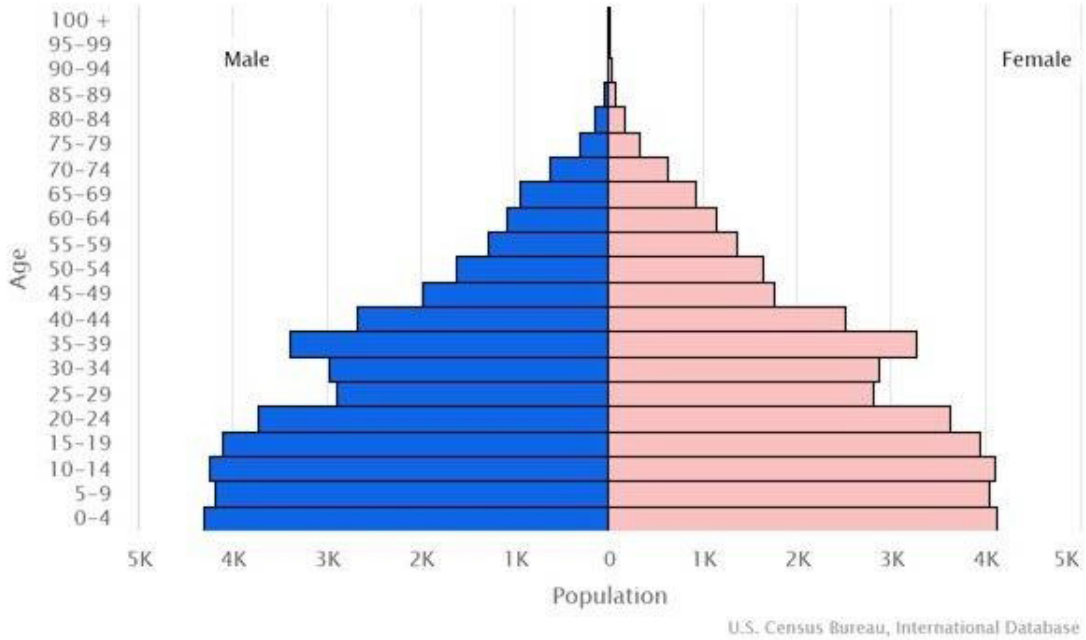


Figure 16: Population Pyramid for Marshall Islands (2022)

Population distribution
most people live in urban clusters found on many of the country's islands; more than two-thirds of the population lives on the atolls of Majuro and Ebeye

Urbanization
urban population: 78.5% of total population (2022)
rate of urbanization: 0.61% annual rate of change (2020-25 est.)
total population growth rate v. urban population growth rate, 2000-2030

Major urban areas - population
31,000 MAJURO (capital) (2018)
Sex ratio
at birth: 1.05 male(s)/female
0-14 years: 1.04 male(s)/female
15-24 years: 1.03 male(s)/female
25-54 years: 1.05 male(s)/female
55-64 years: 0.95 male(s)/female
65 years and over: 0.77 male(s)/female
total population: 1.03 male(s)/female (2022 est.)

Infant mortality rate
total: 21.66 deaths/1,000 live births
male: 25.19 deaths/1,000 live births
female: 17.96 deaths/1,000 live births (2022 est.)
country comparison to the world: 77

Life expectancy at birth
total population: 74.65 years
male: 72.4 years
female: 77.01 years (2022 est.)
country comparison to the world: 134

Total fertility rate
2.76 children born/woman (2022 est.)
country comparison to the world: 59

Contraceptive prevalence rate
NA
Drinking water source
improved: urban: 100% of population
rural: 99.8% of population
total: 100% of population
unimproved: urban: 0% of population
rural: 0.2% of population
total: 0% of population (2020 est.)

Current Health Expenditure
16.3% (2019)

Physicians density
0.42 physicians/1,000 population (2012)

Hospital bed density
2.7 beds/1,000 population

Sanitation facility access
improved: urban: 96.6% of population
rural: 65.4% of population
total: 89.7% of population
unimproved: urban: 3.4% of population
rural: 34.6% of population
total: 10.3% of population (2020 est.)

HIV/AIDS - adult prevalence rate
NA

HIV/AIDS - people living with HIV/AIDS
NA

HIV/AIDS - deaths
NA

Major infectious diseases
degree of risk: high (2020)
food or waterborne diseases: bacterial diarrhea
vectorborne diseases: malaria

Obesity - adult prevalence rate
52.9% (2016)

country comparison to the world: 4

Tobacco use
total: 28.5% (2020 est.)
male: 48.7% (2020 est.)
female: 8.3% (2020 est.)
country comparison to the world: 36

Children under the age of 5 years underweight
11.9% (2017)
country comparison to the world: 48

Education expenditures
9.6% of GDP (2019 est.)
country comparison to the world: 5

Literacy
definition: age 15 and over can read and write
total population: 98.3%
male: 98.3%
female: 98.2% (2011)

School life expectancy (primary to tertiary education)
total: 10 years
male: 10 years
female: 10 years (2019)

Unemployment, youth ages 15-24
total: 26%
male: 31%
female: 14.2% (2019 est.)

Environment

Environment - current issues
inadequate supplies of potable water; pollution of Majuro lagoon from household waste and discharges from fishing vessels; sea level rise

Environment - international agreements
party to: Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Climate Change-Paris Agreement, Comprehensive Nuclear Test Ban, Desertification, Hazardous Wastes, Law of the Sea, Marine Dumping-London Protocol, Ozone Layer Protection, Ship Pollution, Wetlands, Whaling
signed, but not ratified: none of the selected agreements

Air pollutants
particulate matter emissions: 9.43 micrograms per cubic meter (2016 est.)
carbon dioxide emissions: 0.14 megatons (2016 est.)
methane emissions: 0.03 megatons (2020 est.)

Climate
tropical; hot and humid; wet season May to November; islands border typhoon belt

Land use
agricultural land: 50.7% (2018 est.)
arable land: 7.8% (2018 est.)
permanent crops: 31.2% (2018 est.)
permanent pasture: 11.7% (2018 est.)
forest: 49.3% (2018 est.)
other: 0% (2018 est.)

Urbanization
urban population: 78.5% of total population (2022)
rate of urbanization: 0.61% annual rate of change (2020-25 est.)
total population growth rate v. urban population growth rate, 2000-2030

Revenue from forest resources
forest revenues: 0% of GDP (2018 est.)
country comparison to the world: 185

Major infectious diseases
degree of risk: high (2020)
food or waterborne diseases: bacterial diarrhea
vectorborne diseases: malaria

Waste and recycling
municipal solid waste generated annually: 8,614 tons (2013 est.)
municipal solid waste recycled annually: 2,653 tons (2007 est.)
percent of municipal solid waste recycled: 30.8% (2007 est.)

Total renewable water resources
0 cubic meters (2017 est.)

Government

Country name
conventional long form: Republic of the Marshall Islands
conventional short form: Marshall Islands
local long form: Republic of the Marshall Islands
local short form: Marshall Islands
former: Trust Territory of the Pacific Islands, Marshall Islands District
abbreviation: RMI
etymology: named after British Captain John MARSHALL, who charted many of the islands in 1788

Government type
mixed presidential-parliamentary system in free association with the US

Capital
name: Majuro; note - the capital is an atoll of 64 islands; governmental buildings are housed on three fused islands on the eastern side of the atoll: Djarrit, Uliga, and Delap
geographic coordinates: 7 06 N, 171 23 E
time difference: UTC+12 (17 hours ahead of Washington, DC, during Standard Time)
etymology: Majuro means "two openings" or "two eyes" and refers to the two major northern passages through the atoll into the Majuro lagoon

Administrative divisions
24 municipalities; Ailinglaplap, Ailuk, Arno, Aur, Bikini & Kili, Ebon, Enewetak & Ujelang, Jabat, Jaluit, Kwajalein, Lae, Lib, Likiep, Majuro, Maloelap, Mejit, Mili, Namorik, Namu, Rongelap, Ujae, Utrik, Wotho, Wotje

Independence
21 October 1986 (from the US-administered UN trusteeship)

National holiday
Constitution Day, 1 May (1979)

Constitution
history: effective 1 May 1979
amendments: proposed by the National Parliament or by a constitutional convention; passage by Parliament requires at least two-thirds majority vote of the total membership in each of two readings and approval by a majority of votes in a referendum; amendments submitted by a constitutional convention require approval of at least two thirds of votes in a referendum; amended several times, last in 2018

Legal system
mixed legal system of US and English common law, customary law, and local statutes

International law organization participation
accepts compulsory ICJ jurisdiction with reservations; accepts ICCt jurisdiction

Citizenship
citizenship by birth: no
citizenship by descent only: at least one parent must be a citizen of the Marshall Islands
dual citizenship recognized: no
residency requirement for naturalization: 5 years

Suffrage
18 years of age; universal

Executive branch
chief of state: President David KABUA (since 13 January 2020); note - the president is both chief of state and head of government
head of government: President David KABUA (since 13 January 2020)
cabinet: Cabinet nominated by the president from among members of the Nitijela, appointed by Nitijela speaker
elections/appointments: president indirectly elected by the Nitijela from among its members for a 4-year term (no term limits); election last held on 6 January 2020 (next to be held in 2024)
election results: David KABUA elected president; Parliament vote - David KABUA 20, Hilda C. HEINE 12

Legislative branch
description: unicameral National Parliament consists of:
Nitijela (33 seats; members in 19 single- and 5 multi-seat constituencies directly elected by simple majority vote to serve 4-year terms);
note - the Council of Iroij, a 12-member group of tribal leaders advises the Presidential Cabinet and reviews legislation affecting customary law or any traditional practice); members appointed to serve 1-year terms
elections: last held on 18 November 2019 (next to be held by November 2023)
election results: percent of vote by party - NA; seats by party - independent 33; composition - men 31, women 2, percent of women 6.1%

Judicial branch
highest courts: Supreme Court (consists of the chief justice and 2 associate justices)
judge selection and term of office: judges appointed by the Cabinet upon the recommendation of the Judicial Service Commission (consists of the chief justice of the High Court, the attorney general and a private citizen selected by the Cabinet) and upon approval of the Nitijela; the current chief justice, appointed in 2013, serves for 10 years; Marshallese citizens appointed as justices serve until retirement at age 72
subordinate courts: High Court; District Courts; Traditional Rights Court; Community Courts

Political parties and leaders
traditionally there have been no formally organized political parties; what has existed more closely resembles factions or interest groups because they do not have party headquarters, formal platforms, or party structures

International organization participation
ACP, ADB, AOSIS, FAO, G-77, IAEA, IBRD, ICAO, ICCt, IDA, IFAD, IFC, ILO, IMF, IMO, IMSO, Interpol, IOC, IOM, ITU, OPCW, PIF, Sparteca, SPC, UN, UNCTAD, UNESCO, WHO

Diplomatic representation in the US
chief of mission: Ambassador Gerald M. ZACKIOS (since 16 September 2016)
chancery: 2433 Massachusetts Avenue NW, Washington, DC 20008
telephone: [1] (202) 234-5414
FAX: [1] (202) 232-3236
email: info@rmiembassyus.org
website: https://www.rmiembassyus.org/
consulate(s) general: Honolulu, Springdale (AR)

Diplomatic representation from the US
chief of mission: Ambassador Roxanne CABRAL (since 6 February 2020)
embassy: Mejen Weto, Ocean Side, Majuro
mailing address: 4380 Majuro Place, Washington DC 20521-4380
telephone: [692] 247-4011
FAX: [692] 247-4012
email: *MAJConsular@state.gov*
website: *https://mh.usembassy.gov/*

Flag description
blue with two stripes radiating from the lower hoist-side corner - orange (top) and white; a white star with four large rays and 20 small rays appears on the hoist side above the two stripes; blue represents the Pacific Ocean, the orange stripe signifies the Ralik Chain or sunset and courage, while the white stripe signifies the Ratak Chain or sunrise and peace; the star symbolizes the cross of Christianity, each of the 24 rays designates one of the electoral districts in the country and the four larger rays highlight the principal cultural centers of Majuro, Jaluit, Wotje, and Ebeye; the rising diagonal band can also be interpreted as representing the equator, with the star showing the archipelago's position just to the north

National symbol(s)
a 24-rayed star; national colors: blue, white, orange

National anthem
name: "Forever Marshall Islands"
lyrics/music: Amata KABUA
note: adopted 1981

National heritage
total World Heritage Sites: 1 (cultural)
selected World Heritage Site locales: Bikini Atoll Nuclear Test Site

Economy
US assistance and lease payments for the use of Kwajalein Atoll as a US military base are the mainstay of this small island country. Agricultural production, primarily subsistence, is concentrated on small farms; the most important commercial crops are coconuts and breadfruit. Industry is limited to handicrafts, tuna processing, and copra. Tourism holds some potential. The islands and atolls have few natural resources, and imports exceed exports.
The Marshall Islands received roughly $1 billion in aid from the US during the period 1986-2001 under the original Compact of Free Association (Compact). In 2002 and 2003, the US and the Marshall Islands renegotiated the Compact's financial package for a 20-year period, 2004 to 2024. Under the amended Compact, the Marshall Islands will receive roughly $1.5 billion in direct US assistance. Under the amended Compact, the US and Marshall Islands are also jointly funding a Trust Fund for the people of the Marshall Islands that will provide an income stream beyond 2024, when direct Compact aid ends.

Real GDP (purchasing power parity)
$240 million (2019 est.)
$220 million (2018 est.)
$219 million (2017 est.)
note: data are in 2017 dollars
country comparison to the world: 219

Real GDP growth rate
2.5% (2017 est.)
3.6% (2016 est.)
2% (2015 est.)
country comparison to the world: 111

Real GDP per capita
$4,000 (2019 est.) note: data are in 2017 dollars
$3,800 (2018 est.) note: data are in 2017 dollars
$3,776 (2017 est.)
country comparison to the world: 184

GDP (official exchange rate)
$222 million (2017 est.)

Inflation rate (consumer prices)
0% (2017 est.)
-1.5% (2016 est.)
country comparison to the world: 21

GDP - composition, by sector of origin
agriculture: 4.4% (2013 est.)
industry: 9.9% (2013 est.)
services: 85.7% (2013 est.)

GDP - composition, by end use
government consumption: 50% (2016 est.)
investment in fixed capital: 17.8% (2016 est.)
investment in inventories: 0.2% (2016 est.)
exports of goods and services: 52.9% (2016 est.)
imports of goods and services: -102.3% (2016 est.)

Agricultural products
coconuts

Industries
copra, tuna processing, tourism, craft items (from seashells, wood, and pearls)

Industrial production growth rate
NA

Labor force
10,670 (2013 est.)
country comparison to the world: 216

Labor force - by occupation
agriculture: 11%
industry: 16.3%
services: 72.7% (2011 est.)

Unemployment rate
36% (2006 est.)
30.9% (2000 est.)
country comparison to the world: 213

Unemployment, youth ages 15-24
total: 26%
male: 31%
female: 14.2% (2019 est.)
country comparison to the world: 50

Population below poverty line
NA

Household income or consumption by percentage share
lowest 10%: NA
highest 10%: NA

Budget
revenues: 116.7 million (2013 est.)
expenditures: 113.9 million (2013 est.)

Budget surplus (+) or deficit (-)
1.3% (of GDP) (2013 est.)
country comparison to the world: 26

Public debt
25.5% of GDP (2017 est.)
30% of GDP (2016 est.)
country comparison to the world: 173

Taxes and other revenues
52.6% (of GDP) (2013 est.)
country comparison to the world: 13

Fiscal year
1 October - 30 September

Current account balance
-$1 million (2017 est.)
$15 million (2016 est.)
country comparison to the world: 67

Exports
$130 million (2018 est.) note: data are in current year dollars
country comparison to the world: 207

Exports - partners
Poland 28%, Denmark 19%, South Korea 13%, Indonesia 10%, Cyprus 6% (2019)

Exports - commodities
ships, fish, recreational boats, broadcasting equipment, coal tar oil (2019)

Imports
$170 million (2018 est.) note: data are in current year dollars
$103.8 million (2016 est.)

Imports - partners
South Korea 39%, China 27%, Japan 15% (2019)

Imports - commodities
ships, refined petroleum, centrifuges, recreational boats, boat propellers (2019)

Debt - external
$97.96 million (2013 est.)
$87 million (2008 est.)
country comparison to the world: 193

Exchange rates
the US dollar is used

Energy

Electricity access
electrification - total population: 96.3% (2018)
electrification - urban areas: 95.7% (2018)
electrification - rural areas: 98.4% (2018)

Refined petroleum products - production
0 bbl/day (2015 est.)
country comparison to the world: 174

Refined petroleum products - exports
0 bbl/day (2015 est.)
country comparison to the world: 179

Refined petroleum products - imports
2,060 bbl/day (2015 est.)
country comparison to the world: 190

Carbon dioxide emissions
293,700 metric tonnes of CO2 (2017 est.)
country comparison to the world: 197

Communications

Telephones - fixed lines
total subscriptions: 2,361 (2018 est.)
subscriptions per 100 inhabitants: 4 (2018 est.)
country comparison to the world: 212

Telephones - mobile cellular
total subscriptions: 16,000 (2020 est.)
subscriptions per 100 inhabitants: 27 (2020 est.)
country comparison to the world: 216

Telecommunication systems
general assessment: some telecom infrastructure improvements made in recent years; modern services include fiber optic cable service, cellular, Internet, international calling, caller ID, and leased data circuits; the US Government, World Bank, UN, and International Telecommunication Union (ITU), have aided in improvements and monetary aid to the islands' telecom; mobile penetrations is around 30%; radio communication is especially vital to remote islands (2018)
domestic: Majuro Atoll and Ebeye and Kwajalein islands have regular, seven-digit, direct-dial telephones; other islands interconnected by high frequency radiotelephone (used mostly for government purposes) and mini-satellite telephones; fixed-line roughly 4 per 100 persons and mobile-cellular is nearly 28 per 100 persons (2019)
international: country code - 692; satellite earth stations - 2 Intelsat (Pacific Ocean); US Government satellite communications system on Kwajalein

Broadcast media
no TV broadcast station; a cable network is available on Majuro with programming via videotape replay and satellite relays; 4 radio broadcast stations; American Armed Forces Radio and Television Service (AFRTS) provides satellite radio and television service to Kwajalein Atoll (2019)

Internet country code
.mh

Internet users
total: 22,929 (2019 est.)
percent of population: 39% (2019 est.)
country comparison to the world: 210

Broadband - fixed subscriptions
total: 1,000 (2020 est.)
subscriptions per 100 inhabitants: 2 (2020 est.)
country comparison to the world: 206

Communications - note
Kwajalein hosts one of four dedicated ground antennas that assist in the operation of the Global Positioning System (GPS) navigation system (the others are at Cape Canaveral, Florida (US), on Ascension (Saint Helena, Ascension, and Tristan da Cunha), and at Diego Garcia (British Indian Ocean Territory))

Transportation

National air transport system
number of registered air carriers: 1 (2020)
inventory of registered aircraft operated by air carriers: 3
annual passenger traffic on registered air carriers: 24,313 (2018)
annual freight traffic on registered air carriers: 130,000 (2018) mt-km

Civil aircraft registration country code prefix
V7

Airports
total: 15 (2021)
country comparison to the world: 147

Airports - with paved runways
total: 4
1,524 to 2,437 m: 3
914 to 1,523 m: 1 (2021)

Airports - with unpaved runways
total: 11
914 to 1,523 m: 10
under 914 m: 1 (2021)
Roadways

total: 2,028 km (2007)
paved: 75 km (2007)
unpaved: 1,953 km
country comparison to the world: 171

Merchant marine
total: 3,817
by type: bulk carrier 1,733, container ship 248, general cargo 66, oil tanker 970, other 800 (2021)
country comparison to the world: 6

Ports and terminals
major seaport(s): Enewetak Island, Kwajalein, Majuro

Military and Security

Military and security forces
no regular military forces; the national police (Marshall Islands Police Department, MIPD), local police forces, and the Sea Patrol (maritime police) maintain internal security; the MIPD and Sea Patrol report to the Ministry of Justice; local police report to their respective local government councils

Military - note
defense is the responsibility of the US

Transnational Issues

Disputes - international
Marshall Islands-US: claims US territory of Wake Island; the Marshall Islands put its claim on record with the UN in 2016

Trafficking in persons
current situation: The Marshall Islands are a destination country for women from East Asia subjected to sex trafficking; foreign women are reportedly forced into prostitution in bars frequented by crew members of fishing vessels; some Chinese women are recruited to the Marshall Islands with promises of legitimate work and are subsequently forced into prostitution; wealthy or powerful families use traditional cultural practices to exploit impoverished Marshallese from outer islands as indentured laborers on their property; Marshallese children are transported to the United States and subjected to sexual abuse
tier rating: Tier 2 Watch List — the Marshall Islands does not fully comply with the minimum standards for the elimination of trafficking but is making significant efforts to do so; efforts include its first trafficking prosecution since 2011 and opening an investigation into an immigration official for alleged trafficking complicity; however, no efforts were made to identify trafficking victims and no assistance was provided to victims; the government has not convicted any traffickers since 2011 (2020)

Acronyms and Abbreviations

°	degrees of temperature (Celsius (C) or Fahrenheit (F)); or of latitude/longitude (N/S/E/W – North/South/East/West)
$	Dollar (U.S. or Australian)
€	Euro
ACP (now OACPS)	Organisation of African, Caribbean, and Pacific States
ADB	Asian Development Bank
ADSL	asymmetric digital subscriber line
APAN	All Partners Access Network
AOSIS	Alliance of Small Island States
BHA	Bureau for Humanitarian Assistance (of USAID)
CCA	climate change adaptation
CDC	Centers for Disease Control and Prevention (of the U.S.)
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
CFE-DM	Center for Excellence in Disaster Management & Humanitarian Assistance
cm	centimeter(s)
COFA	Compact of Free Association
COLREGS	International Regulations for Preventing Collisions at Sea
COVID-19	Coronavirus Disease 2019
CRI	Climate Risk Index
CSO	Chief Secretary's Office
DAC	Disaster Assistance Coordinator
DAEF	Disaster Assistance Emergency Fund
DKI-APCSS	Daniel K. Inouye Asia-Pacific Center for Security Studies
DM	Disaster Management
DMHA	Disaster Management and Humanitarian Assistance
DoD	Department of Defense (of the U.S.)
DRM	disaster risk management
DRR	disaster risk reduction
DTM	Displacement Tracking Matrix
EEZ	Exclusive Economic Zone
ENSO	El Niño-Southern Oscillation
EPA	Environmental Protection Agency
EpiNet	Exposure Prevention Information Network
ERT	Emergency Response Team
EU	European Union
FAA	Federal Aviation Administration
FAO	Food and Agriculture Organization of the United Nations
FAS	Freely Associated States

FEMA	Federal Emergency Management Agency
FRDP	Framework for Resilient Development in the Pacific: An Integrated Approach to Address Climate Change and Disaster Risk Management
FSM	Federated States of Micronesia
ft	foot/feet
FY	fiscal year
GB	gigabyte
GBV	gender-based violence
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	greenhouse gas
GPS	Global Positioning System
HADR	humanitarian assistance and disaster relief
HCT	Humanitarian Country Teams
HDX	Humanitarian Data Exchange
HF	high frequency (radio)
HFA	Hyogo Framework for Action
HHS	Department of Health and Human Services (of the U.S.)
IASC	Inter-Agency Standing Committee
ICAO	International Civil Aviation Organization
ICRC	International Committee of the Red Cross
ICT	information and communications technology
IFRC	International Federation of Red Cross and Red Crescent Societies
IHL	International Humanitarian Law
IMF	International Monetary Fund
IMO	International Maritime Organization
INFORM	Index for Risk Management
IOM	International Organization for Migration
JICA	Japan International Cooperation Agency
JNAP	Joint National Action Plan for Climate Adaptation and Disaster Risk Management 2014-2018
KAJUR	Kwajalein Atoll Joint Utilities Resources
km/km^2	kilometer(s)/ square kilometer(s)
m	meter(s)
MARPOL	International Convention for the Prevention of Pollution from Ships
Mbps	Megabit per second
MCAP	Managing Coastal Aquifers Project
MEC	Marshalls Energy Company
MIDPO	Marshall Islands Disabled Persons' Organization
MIMRA	Marshall Islands Marine Resource Authority

MIRCS	Marshall Islands Red Cross Society
mm	millimeter(s)
MUORA	Military Use and Operating Rights Agreement
MW	megawatt
NCCC	National Climate Change Committee
NDC	National Determined Contributions OR National Disaster Committee
NDMO	National Disaster Management Office
NDRMA	National Disaster Risk Management Arrangement
NEOC	National Emergency Operations Committee
NGO	non-government organization
NMHS	National Meteorological and Hydrological Services
NOAA	National Oceanic and Atmospheric Administration
NSP	National Strategic Plan
NTA	National Telecommunications Authority
NWS	National Weather Service
OACPS	Organisation of African, Caribbean, and Pacific States
OCHA	Office for the Coordination of Humanitarian Affairs (of the UN)
OEPPC	Office of the Environment, Planning, and Policy Coordination
OIA	Office of Insular Affairs (of the U.S. Department of the Interior)
PACC	Pacific Adaptation to Climate Change
PALM	Pacific Islands Leaders Meeting
PCRAFI	Pacific Catastrophe Risk Assessment and Financing Initiative
PDC	Pacific Disaster Center
PDNA	Post-Disaster Needs Assessment
PHT	Pacific Humanitarian Team
PIF	Pacific Islands Forum
PIHOA	Pacific Island Health Officers' Association
PIMS	Pacific Islands Meteorological Strategy
PMC	Pacific Meteorological Council
PMSP	Pacific Maritime Security Program
PTWC	Pacific Tsunami Warnings Center
RANET	Rural Communications using Radio and the Internet
RCP	Representative Concentration Pathways
RORO	roll-on/roll-off
RMI	Republic of the Marshall Islands
RMIPA	Republic of the Marshall Islands Port Authority
SMS	short message service (text)
SOE	state-owned enterprise
SOLAS	International Convention for the Safety of Life at Sea
SOP	standard operating procedure

SPC	Pacific Community
SPI	Standardised Precipitation Index
SPREP	Secretariat of the Pacific Regional Environment Programme
STCW	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers
SUA	Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation
TEU	Twenty-foot Equivalent Unit
TTPI	Trust Territory of the Pacific Islands
U.S.	United States
UK	United Kingdom
UN	United Nations
UNDAC	United Nations Disaster Assessment and Coordination
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Reduction
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nation Children's Fund
USAG-KA	U.S. Army Garrison – Kwajalein Atoll
USAID	United States Agency for International Development
USARPAC	U.S. Army Pacific
V20	Vulnerable Twenty Group
VHF	very high frequency (radio)
WASH	water, sanitation, and hygiene
WHO	World Health Organization
WMO	World Meteorological Organization
WSO	Weather Service Office
WUTMI	Women United Together Marshall Islands

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