FEDERATED STATES OF MICRONESIA

FEDERATED STATES OF MICRONESIA

CHALLENGER Deep −10,898m

YAP

Gaferut
Pikelot
West Fayu
Faraulep
Woleai
Ifalik
Lamotrek
Eauripik
Ulithi

Magur Islands
Hall Islands
Pulap
Weno
Truk Islands
Pulusuk
CHUUK

Mortlock Islands

Oroluk
Senyavin Islands
Pakin
Pohnpei
Ant
Palikir
Ngatik
POHNPEI

Nukuoro

Kapingamarangi

Hagåtña Guam

Bikini
Eniwetak
Ujelang
MARSHALL ISLANDS
Kosrae
KOSRAE

South

FEDERATED STATES OF MICRONESIA

Disaster Management Reference Handbook

November 2019

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Disclaimer

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Welcome - Note from the Director

    The United States (U.S.) is committed to addressing environmental degradation and climate change as a priority in the Pacific due to the threat of sea level rise and the region's vulnerability to natural disasters. We work to raise the capacity of Pacific Island communities, civil society, governments, and regional institutions to mitigate and prepare for natural disasters by supporting disaster risk reduction programs. The Department of Defense (DoD), the U.S. Coast Guard and United States Agency for International Development's Office of Foreign Disaster Assistance (USAID/OFDA), all engage in humanitarian assistance and disaster relief exercises with Pacific governments. When disaster strikes, the U.S. is ready to assist, including in the Federated States of Micronesia (FSM).[1] Examples of responses to disasters in FSM include Typhoon Maysak in 2015,[2] Tropical Depression Jelawat in 2018,[3] and Typhoon Wutip in February 2019.[4]

    Under the Indo-Pacific Strategy, the DoD is increasing security assistance in the region with funding to enhance capabilities in the Freely Associated States to safeguard their waters. Additionally, the Department of the Interior has provided assistance to improve infrastructure, utilities, and schools, as well as help deliver basic health and education services. Compact funding has supported many infrastructure projects including road improvements and new hospitals in Majuro, Kosrae, and Chuuk. Several multilateral humanitarian assistance and disaster relief preparedness missions and exercises help support readiness across the Indo-Pacific Region. Some of these exercises and missions include Pacific Partnership, Oceania DREE, COPE North, Maritime Infrastructure Assessments, and Humanitarian Drops, just to name a few.[5]

    This Handbook focuses on FSM's disaster management framework and partnerships, and highlights FSM's disaster risk reduction (DRR) strategies and plans. It also provides an overview of the country's government, geography, demographics, social cultural practices, as well as details its history of natural disasters, and the current state of its disaster risk and response management. This handbook serves as an initial source of information for individuals preparing for DRR activities or immediate deployment with FSM partner responders in a crisis.

Sincerely,

Joseph D. Martin, SES
Director

Information about the Center for Excellence in Disaster Management and Humanitarian Assistance

Overview

The Center for Excellence in Disaster Management & Humanitarian Assistance (CFE-DM) is a United States (U.S.) Department of Defense (DoD) organization that was established by U.S. Congress in 1994. The Center is a direct reporting unit to U.S. Indo-Pacific Command and is located on Ford Island, Joint Base Pearl Harbor-Hickam, Hawaii.

CFE-DM was founded as part of the late Senator Daniel K. Inouye's vision. The Senator had witnessed the effects of Hurricane Iniki that struck the Hawaiian Islands in 1992 and felt the civil-military coordination in the response could have been more effective. He set about to establish CFE-DM to help bridge understanding between civil and military responders, and to provide a DoD platform for building Disaster Management and Humanitarian Assistance (DMHA) awareness and expertise in U.S. forces, and with partner nations in the Asia-Pacific. While maintaining a global mandate, the Asia-Pacific region is our priority of effort and collaboration is the cornerstone of our operational practice.

Vision

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

Mission

CFE-DM builds crisis response capacity, enhances coordination and collaboration, and strengthens relationships to save lives and alleviate human suffering before, during, and after humanitarian crises.

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Disaster Management Reference Handbook Series Overview

The Disaster Management Reference Handbook Series is intended to provide decision makers, planners, responders and disaster management practitioners with an overview of the disaster management structure, policies, laws, and plans for each country covered in the series. Natural and man-made threats most likely to affect the country are discussed. The handbooks also provide basic country background information, including cultural, demographic, geographic, infrastructure, and other relevant data.

Conditions such as poverty, water and sanitation, vulnerable groups, and other humanitarian issues are included. A basic overview of the health situation in the country and disease surveillance is also covered. The handbooks include information on key national entities involved in disaster management, disaster response and preparation, and the military's role in disaster relief. Information is also provided on United Nation agencies, international non-governmental organizations (NGOs), major local NGOs, and key U.S. agencies and programs in the country.

The overall aim is to offer a guide that brings together important information about disaster management and response for each country in an effort to provide a basic understanding for the reader.

Each handbook is a working document and will be updated periodically as new, significant information becomes available. We hope that you find these handbooks informative, relevant, reliable, and useful in understanding disaster management and response for this country. We welcome and appreciate your feedback to improve this document and help fill any gaps to enhance its future utility. Feedback, comments, or questions can be emailed to cfe.dmha.fct@pacom.mil. You may also contact the Center at: (808) 472-0518. Please visit our website (https://www.cfe-dmha.org) to view the latest electronic versions available or to request a hard copy of a disaster management reference handbook.

Executive Summary

The Federated States of Micronesia (FSM) is a Pacific Island country highly vulnerable to various natural disasters which are destructive, often unpredictable, and occur frequently.[6] The FSM has climate and disaster risks, including rising sea levels, water shortages from extreme climate variability, coastal erosion and typhoons.[7] Most of the outer islands are low-lying atolls and are consequently vulnerable to rising sea levels. Increases in ocean temperatures and acidification cause coral reef damage and bleaching. This contributes to coastal erosion, leaving the islands more vulnerable to storm surges and floods.[8]

Disasters have negative impacts on the social sectors of health, education, and livelihoods, resulting in deeper inequalities of opportunity to the population, which are transmitted over generations.[9] The FSM, like many Pacific island countries and territories, face a triple burden including communicable disease, non-communicable disease, and the health impacts of climate change. The number of deaths caused by non-communicable diseases is among the highest in the world, while various communicable diseases also still burden the Pacific.[10] Despite these setbacks, FSM has experienced some positive health trends in the past last thirty years. For example, life expectancy has been increasing, while child mortality has been decreasing.[11]

The people living in FSM have drinking water shortages and their food security is in critical danger due to rising sea level.[12] As rising sea levels mix saltwater with the groundwater in several areas, it makes it more difficult to irrigate agricultural land. The high level of salinity also poisons the ground, making it infertile for years.[13] In addition, FSM's remote and dispersed island geography can adversely prevent economic development. As a result, the country is heavily dependent on aid funding.[14] Several non-profit organizations are working with the government to identify and conserve marine protected areas and protect resources for food security.[15] Thus, the United Nation (UN's)Food and Agriculture Organization (FAO), World Food Program (WFP), UN Children's Fund (UNICEF), World Health Organization (WHO), UN Development Program (UNDP) and UN Women are partners in various preparedness and risk reduction projects and can be called upon during emergencies. The UN agencies in the region also cooperate closely via the Pacific Humanitarian Team (PHT), which includes international and national NGOs, including OXFAM and Save the Children. The Micronesia Red Cross Society (MRCS) is also present and a constant partner for disaster responses.[16] Catholic Relief Services (CRS) and the International Organization for Migration (IOM) for FSM are also two of the key humanitarian players.[17]

FSM's National Disaster Response Plan (2016) defines the measures to be taken at all government levels to ensure that effective disaster preparedness, response, relief and recovery are carried out. It outlines institutional arrangements and includes provisions for accessing international support.[18] When a disaster occurs in FSM, external support arrangements through the Compact of Free Association (COFA) between FSM and the U.S., as well as the UN regional office are initiated at the direction of the President of FSM on the advice of and through the National Disaster Committee (NDC). Operational deployment of these arrangements, including via the humanitarian Cluster system and at the state level, are through the National Disaster Coordination Team (NDCT). USAID's Office of U.S. Foreign Disaster Assistance (USAID/OFDA) and the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA), have developed an operational blueprint which guides humanitarian assistance in the event of a significant disaster in FSM. USAID/OFDA collaborates closely with FEMA, as well as USAID/Philippines and USAID's Bureau for Asia, to implement humanitarian programs in FSM. USAID/OFDA supports life-saving activities in response to natural disasters, including drought, floods, and storms, and provides technical assistance to coordinate response and early recovery activities.[19]

Minor emergencies can overwhelm national capacity and significantly affect the population and economy in the FSM. Disaster response in FSM included Typhoon Wutip in February 2019 in the affected areas of Chuuk and Yap.[20] Typhoon Maysak tore through the islands of FSM in March 2015 causing fatalities, damaging houses, crops, and public infrastructure, and causing millions of dollars in damage.[21] Strategic Disaster Risk Reduction (DRR) and climate change mitigation efforts continue to be important focal areas for the country and its partners.[22]

FEDERATED STATES OF MICRONESIA
Country Overview

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Country Overview

The Federated States of Micronesia (FSM) is comprised of 607 small islands. Four states (Yap, Chuuk, Pohnpei, and Kosrae) make up the FSM. It is located in the Western Pacific, lying above the equator and approximately 2,500 miles southwest of Hawaii.[23] Figure 1 captures an image of the four states that make up FSM.[24]

The FSM has a rich history dating back several thousand years. The islands were originally settled by sailors, traveling east from Asia and north from Polynesia to Yap. From there, some migrated south to Papua New Guinea, Solomon Islands, and New Caledonia, and then later to Kiribati and the Marshall Islands. The Lelu ruins in Kosrae (1400 AD) and the Nan Madol ruins of Pohnpei (1000 AD) are archaeological records of this rich history.[25]

The Micronesian sub-region of Oceania, which includes the Federated States of Micronesia, Guam, Kiribati, the Marshall Islands, Nauru, the Northern Mariana Islands and Palau, has a complicated colonial history. The Marianas became the first European colony in Micronesia in 1668, when Spain took control of the island chain. The indigenous Chamorro people rebelled in 1670 and sporadic warfare followed for approximately a quarter century. In addition to the conflict, diseases introduced by Europeans, reduced the local population from approximately 100,000 to 4,000. This resulted in many survivors moving to colonial settlements. During World War II, many Micronesian islands were heavily contested. Other nations that staked colonial claims in various parts of Micronesia included Germany, Britain, the United States (U.S.), Japan, and Australia. Major military engagements took
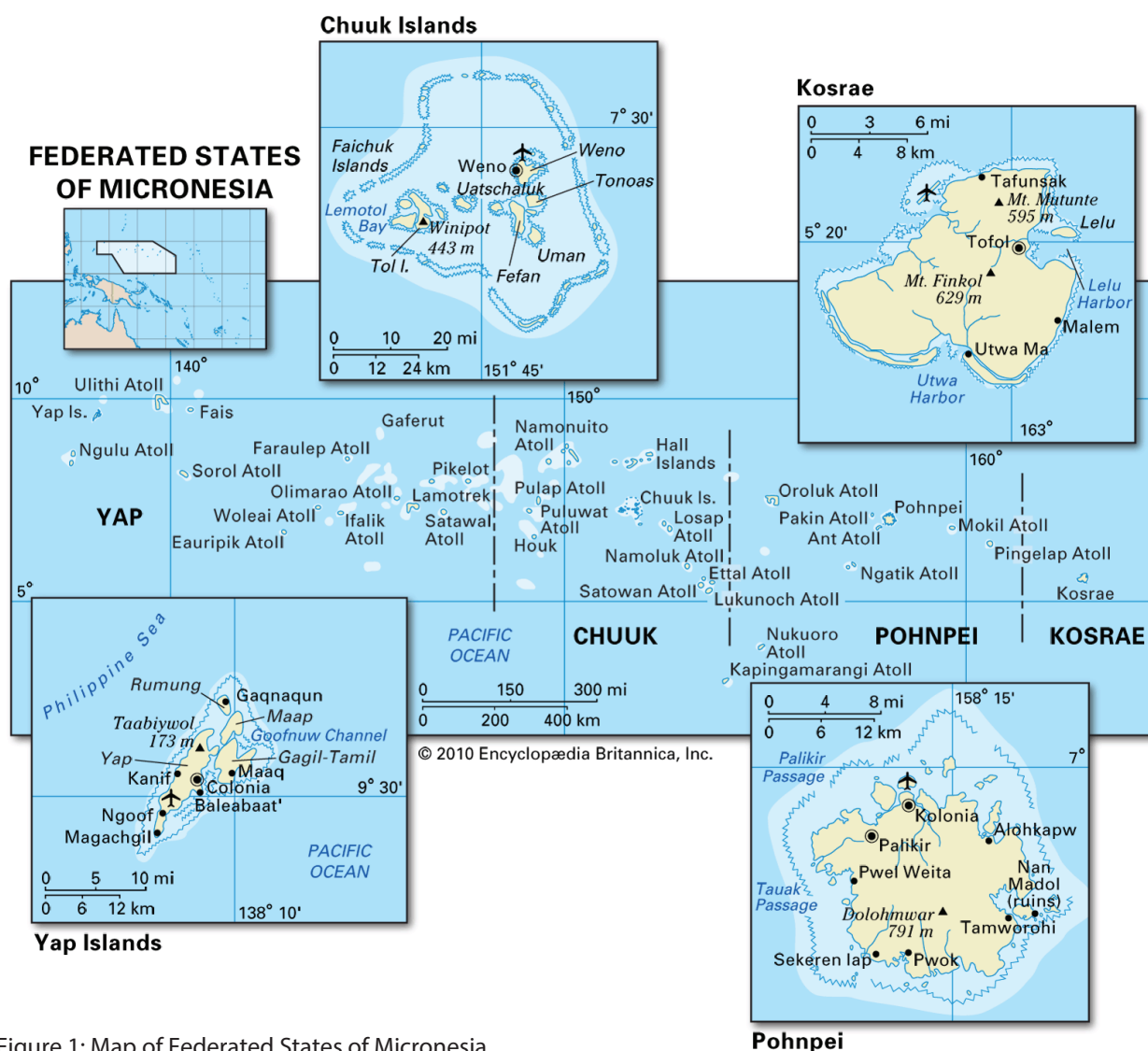
Figure 1: Map of Federated States of Micronesia

place between Japanese and American forces in Palau, Guam, the northern Marianas, Chuuk (then known as Truk), the Marshalls, and parts of the Gilberts. The war destroyed infrastructure and property, caused food shortages, and displaced people.[26] The Chuuk islands were heavily attacked, bypassed, and blockaded during the war. The sunken hulls of Japanese ships remain there, along with ruined weapons and fortifications on land.[27]

The Republic of Palau lies to the west of the FSM, and the Republic of the Marshall Islands lies to the east. These two countries, together with the Commonwealth of the Northern Mariana Islands and the FSM, were administered by the U.S. as the Trust Territory of the Pacific Islands from 1947 to 1986.[28] The late 1960s brought decolonization of the region. In 1968, Nauru was the first Micronesian country to become a sovereign nation and gain independence. Following World War II, the islands of what is now the FSM became part of the United Nations Trust Territory of the Pacific Islands, administered by the U.S. through the Department of Interior Office of Insular Areas (DOI/OIA).[29] Following a Constitutional Convention in 1978, the people of Pohnpei, Kosrae, Yap, and Chuuk voted to form FSM. The nations of RMI and Palau formed republics themselves in 1979 and 1981. Later, all three nations entered into the Compact of Free Association (COFA) agreement with the U.S. Effective in November 1986, the COFA agreement allowed FSM to have independence and an internal self-government. This COFA agreement with the U.S. included 15 years of substantial development aid.[30] The COFA, most recently amended in 2003 for an additional 20 years of financial assistance under the bilateral management, grants the U.S. control over defense and foreign affairs. The U.S. wanted to establish a permanent link with the islands due to their strategic position. The U.S. also remains the primary guarantor of Micronesian state stability and the main source of aid following natural disasters.[31]

Culture

The four states that make up the FSM have distinct cultures, traditions, and identities. Understanding the demographic context of FSM provides insight into socio-cultural factors that affect disaster management effectiveness and disaster vulnerabilities. While the FSM states do have distinctive traditional culture and language, there are many similarities between the cultures. These include close, usually matrilineal family structures; important clan and caste systems and distinctions between groups of people. In some island groups the importance of lineages and clans has largely diminished in modern times as is the case with Kosrae. Society in Pohnpei traditionally operates as a system of chiefdoms and it retains matrilineal clans and patrilineal inheritance. The Chuukese emphasize clan structure, while caste is more important to the Yapese. The people of Yap still wear traditional clothing. Men wear loincloth and women still wear grass skirts.[32] Photo 1 is a traditional woven cloth, called lavalava, pareo, or sarong.[33]

In the FSM, traditional music is passed down

Photo 1: Traditional Clothing Worn in Yap, FSM

through generations. Chuuk is known for their wood carvers who create masks and busts carved from tropical woods. The Yapese are known for their dances, which tell legends and history as well as entertain.[34] The Pohnpeians are also known for their dances. Traditional singing, chanting, canoe building, wood carving, weaving, and traditional house building is still practiced in Kosrae.[35]

Demographics

The changing demographic and socioeconomic characteristics of a country is important to recognize because it may place populations at greater risk of harm before, during, and after a disaster. For instance, the growth of coastal populations raises important concerns about increased human exposure to coastal flooding, hurricanes, and tsunamis. Poverty can also add to vulnerability.

Understanding the demographic context of the FSM provides insight into socio-cultural factors that affect disaster management.[36] The following sections discuss ethnic makeup, key populations centers, language, religion, and vulnerable groups.

Ethnic Makeup

The Oceania region is broadly categorized into three large cultural groups: Polynesian, Micronesian, and Melanesian. The people of the FSM are classified as Micronesians. Some inhabitants of Pohnpei State are of Polynesian origin.[37] Micronesians have two major ethnic groups and multiple minority groups. Almost 50% of the population is Chuukese, and almost one quarter is Pohnpeian. Significant minority ethnic groups include Kosraean, Yapese, Yap outer islands people, Asian and Polynesian.[38]

Key Population Centers

FSM is a remote small island developing state encompassing 607 islands, of which 65 are inhabited.[39] The FSM has a total population of approximately 103,643.[40] The minority Polynesian population mostly lives on two atolls in Pohnpei State.[41] The population is relatively young with 35% being below 15 years of age. A large proportion of FSM's population lives in Chuuk State (47%) and Pohnpei (35%). Approximately 77% of the population lives in rural areas.[42] The largest urban area in Chuuk is on Weno and the rest of the population resides mostly in traditional villages scattered around the islands.[43] Yap has a population of approximately 11,300 or 11% of the total population of the FSM. Kosrae has a population of approximately 6,600 or 6% of the total population.[44]

Language

The official language of the FSM is English; however, there are eight major indigenous languages spoken. These include Yapese, Ulithian, Woleaian, Chuukese, Pohnpeian, Kosraean, Nukuoro and Kapingamarangi.[45] The Yapese are more closely related to Melanesian language and culture than to the other people of FSM.[46]

Religion

Religion in the FSM is divided between Roman Catholic (50%) and Protestant (47%). Other denominations (3%) can be found throughout the island including Latter-Day Saints, Seventh - day Adventist, Assembly of God, Jehovah's Witnesses, Mormons, Baptist, Apostolic, Pentecostal, Victory Chapel, and the Baha'i Faith.[47] The predominant Christian religion is a result of the arrival of Christian missionaries. Previously, the religion of Pohnpeians involved a complex order of deities and lesser spirits, with priests serving as conduits between people and the gods.[48]

Vulnerable Groups

According to the World Health Organization (WHO), vulnerability is "the degree to which a population, individual or organization is unable to anticipate, cope with, resist and recover from the impacts of disasters."[49] This section will discuss the vulnerable groups in the FSM which include the poor, women, and children.

The Poor

Poor people are vulnerable and have fewer resources to prevent, cope with, and adapt to disasters. They tend to receive less support from family, community and financial systems, and social safety nets.[50] Poverty concerns are particularly relevant because FSM's poorest population is most vulnerable to natural disasters. Approximately 30% of households in FSM live below the basic needs' poverty line. Poverty particularly affects children and female-headed households. Poverty rates are significantly lower in Yap than in the other three states.[51]

Women

There is little data collected regarding the levels of violence against women; however, there are increasing reports of domestic violence cases. In addition, gender-based violence is widely considered to be one of the primary human rights issues facing the FSM.[52] Sexual assault, including rape, is a crime. However, there is no specific law against spousal rape.[53] For instance, in Pohnpei sexual assault is inadmissible if the complainant and offender live together in a voluntary sexual relationship.[54] Many rape and/or domestic abuse crimes are underreported, and authorities prosecuted few cases due in part to social stigma, family pressure, fear of further assault, or that culturally this is viewed as a private family matter.[55]

Human traffickers exploit domestic and foreign victims in the FSM, and these victims are also exploited when they leave FSM. Sex traffickers exploit Micronesian women and girls through commercial sex with the crewmembers of docked Asian fishing vessels and on vessels

in FSM territorial waters, or with foreign construction workers. Some family members exploit Micronesian girls in sex trafficking. Local authorities claim many sex trafficking cases are unreported due to social stigma and victims' fear of possible repercussions in their home communities. According to the U.S. Department of State's 2019 Trafficking in Persons Report, the FSM is a source, transit, and, to a limited extent, destination country for men, women, and children subjected to forced labor and sex trafficking, and that the groups most vulnerable to trafficking in the FSM include foreign migrant workers and Micronesian women in prostitution. The Government of the FSM does not fully comply with the minimum standards for the elimination of trafficking; however, it is making significant efforts to do so. The government maintains anti-trafficking law enforcement efforts. The national anti-trafficking law prohibits all forms of trafficking and prescribes penalties of imprisonment and fine. The government increased efforts to protect victims recently. The Department of Justice (DoJ) provided victim services to include an anti-human trafficking coordinator at the national level, assistant coordinators at the state level, as well as a psychologist, hotline, and shelter.[56]

Children

Despite the economy having an annual growth rate of around 2.5% in recent years, the FSM suffers from a lack of resources across government departments for the delivery of services for children. Lack of financial resources affects the sectors of health and water, sanitation and hygiene (WASH), as well as justice and child protection. Children living in rural areas in the FSM lack accessibility to basic services due to the remote areas.[57]

Despite child mortality rates declining over the past few decades, the FSM has not yet been able to meet international child mortality reduction targets, and it has among the highest child mortality rates in the Pacific Island Countries and Territories (PICTs) group. A significant gap of information is present on childhood wasting and stunting, and anemia is high among pre-school children (19%), a percentage that is significantly higher than national global averages.[58]

Cultural attitudes regarding parental discipline may limit reporting of child abuse and neglect. Child abuse is illegal, although the constitution provides a right of parental discipline. National law against trafficking in persons includes children. However, states vary with statutory rape laws. In Yap and Kosrae, the states' statutory rape laws apply only to children 13 years or younger and 15 years or younger in Pohnpei. In 2017, Chuuk State passed a law increasing the age of consent to 18.[59]

Economics

Natural disasters have immediate adverse effects on an affected country's economy. Disasters may also reduce long-term growth because disasters interrupt long-term investments and divert resources away from development to reconstruction. In addition to disasters affecting the economy, countries in the Pacific region commonly face low GDP growth, and have a high reliance on grants and external loans. The frequency and scale of these shocks heightens the importance of medium-term economic and fiscal planning to minimize the adverse impact of disasters on economic development.[60] FSM receives substantial development aid due to its COFA with the U.S., which includes a 2003 update to provide 20 years of development aid.[61] Under the revised 2003 COFA, the U.S. claims an indefinite right of exclusive territorial control and FSM in turn, remains dependent on the U.S. for security and economic aid.[62] The Compact expiring in 2023 is a large concern for FSM, and also has potentially negative ramifications for U.S. strategic interests in the region.[63] As of the time of publication, there had not yet been resolution on whether the COFA would be renewed to extend beyond 2023.

The Micronesian economy depends heavily on subsistence farming and fishing.[64] Photo 2 is taken from Ifalik Atoll, in Yap, FSM. Ifalik is also known as Warrior Island. The fishermen have caught tuna in this picture.[65]

The subsistence economy revolves around tree crops like breadfruit, coconut and citrus, and root crops like taro and yam, along with fishing. Agricultural practices remain small scale and traditional fishing methods prevail. The importance of sharing, communal labor and giving gifts to tribal leaders remains. [66] The basic economic unit is the household, which often includes extended families.[67] Yap has the strongest state economy and highest standard of living in the FSM. Copra (dried coconut meat) is the chief export, and surplus bananas, coconuts, and taro are sold to nearby atolls. Yams, sweet

Photo 2: Fishing in Ifalik Atoll, the Federated States of Micronesia

potatoes, pepper, cloves, and tobacco are also grown. Yap is known for scuba diving as well as cultural attractions, making tourism a major engine of economic growth. Cultural attractions include extensive ruins and traditional large stone disks used as money.[68] The native people of Chuuk fish, raise pigs and poultry, and grow taro, breadfruit, yams, and bananas. Like in Yap, copra is the chief cash crop in Chuuk State.[69]

Approximately two-thirds of the labor force are government employees. The FSM is among the 45 poorest nations in the world, and more than 26% of its population lives below the poverty line. Approximately 22% of the population is unemployed.[70] The FSM's primary trade and aid relationships are with the U.S., Japan, Australia, and China. As mentioned earlier in the country overview section, the COFA agreement with the U.S. included 20 years of substantial development aid. Photo 3 depicts U.S. Navy sailors constructing Walung Health Clinic in Kosrae, FSM in 2017, as example of developing aid.[71]

Government

The 1979 FSM constitution contains a declaration of rights which stipulates basic standards of human rights and a provision protecting traditional rights. The Government is separated into executive, legislative, and judicial branches at the national level; however, much of the governmental functions are carried out by state governments, except defence and security issues. Each of the four states (Yap, Chuuk, Pohnpei, and Kosrae) has its own constitution, elected legislature, and governor. Individual states have responsibility for their own regional development, as well as health and education services, and each state government has its own power regarding budgetary policy. However, there are a number of federal responsibilities, such as immigration, taxes, and the regulation of currency.[72]

The current president, David W. Panuelo, was appointed in May 2019. The president is both the head of state and head of government. The president is elected by a majority vote of congress for a term of four years and may not serve for

Photo 3: Development Aid Assistance Project in Kosrae, 2017

more than two consecutive terms. Additionally, the president executes and implements the provisions in the constitution and national laws and conducts foreign affairs and national defence in accordance with FSM law. The president and vice-president must be from different states; they are elected by congress from among the four-year senators and supported by an appointed cabinet.[73]

There are no formal political parties, although they are allowed. Congress is made up of 14 senators elected from the four states with appointed seats based on population. One senator from each state is elected for a four-year term, with the remaining 10 members serving for two years. Legislative hearings and deliberations are open to the public.[74]

Environment

Geography

Most of the islands that make up the FSM are low coral atolls, although high islands formed by volcanic activity or geological uplifting are located on the western edge of the region.[75] Some islands are tips of mountain peaks thrust above the surface and now surrounded by fringing reefs. Others are atolls or islands that have sunk beneath the surface, leaving a ring of coral barrier reef and tiny island islets. Some island states are mixtures of atolls and high rigged islands within a lagoon.[76]

Yap

The Yap Islands are an archipelago of the western Federated States of Micronesia. The archipelago comprises the islands of Gagil-Tamil, Maap, Rumung, and Yap within a coral reef. Yap has a central range of hills rising to Mount Taabiywol at 568 feet (173 metres), which is wooded.[77]

Chuuk

The high islands of the Chuuk group have mangrove swamps along their coasts, as well as rainforests in the central mountainous areas. Chuuk means "high mountains" in the Chuukese language. The Chuuk Islands are encircled by a barrier reef composed of some 85 sand and coral islets. The reef encloses a lagoon 822 square miles (2,129 square km) in area and has a diameter of some 40 miles (65 km). Total land area is 49.1 square miles (127.2 square km).[78]

Pohnpei

Pohnpei has 133.4 square miles of land area, of which 130 is accounted for by Pohnpei island.[79] Pohnpei is surrounded by a barrier reef with many small islets. The island has been called the "garden of Micronesia," due to heavy rainfall, fertile soil, and tropical foliage.[80]

Kosrae

Kosrae is 42.3 square miles[81] and characterized as being volcanic in origin and hilly, rising to 2,064 feet (629 metres). Kosrae produces taro, oranges, breadfruit, and bananas and has valuable timber. Lelu is an old whaling port, which has ruins of ancient stone walls and dikes.[82]

Maritime Security

The Pacific Islands face a multitude of maritime security threats, including illegal, unreported and unregulated (IUU) fishing, financial crime, drug trafficking, human trafficking, gang activity, and cybercrime. Fisheries are extremely important to Pacific Island economies. The U.S. is responsible for security and defense matters in and relating to the FSM, as well as Palau, and the Republic of the Marshall Islands, under their respective COFA with the U.S.[83]

The U.S. is a key partner on maritime security through U.S. Coast Guard and the Oceania Maritime Security Initiative (OMSI) shiprider agreements with 10 Pacific Island countries, which allow local law enforcement officers to embark on U.S. Coast Guard and U.S. Navy vessels, in order to observe, protect, board, and search vessels suspected of violating laws or regulations within their exclusive economic zones. FSM and other Oceania states have among the largest exclusive economic zones in the world, which make surveillance and enforcement of such a large area quite challenging for island nations with limited financial resources. Under the Western and Central Pacific Fisheries Commission, the U.S. supports maritime security through participation in the Pacific Islands Forum Fisheries Agency's regional surveillance operations and inspections.[84]

Australia, France, New Zealand, and the U.S. cooperate as the Quadrilateral Defense Coordination Group to coordinate maritime security efforts in the region, including joint operations. In addition, the FSM and the U.S. signed a maritime boundary treaty in 2014. The U.S. and 16 Pacific Island parties agreed to adopt amendments to the 1987 Treaty on Fisheries in December 2016 and are currently working on implementation.[85] Bilateral security cooperation between the U.S. and the FSM better ensures their own security, to contribute to global peacekeeping operations, and to respond to disasters and other crises.[86]

Climate

FSM has a tropical climate with consistent warm temperatures with averages of 80° F year-round, with highs in the upper 80s and lows in the upper 70s. The rainfall on each island varies and the dry and wet seasons vary. Rainfall is heaviest during the summer months.[87] In Yap average annual rainfall is about 120 inches (3,000 mm).[88]

Climate Change

The FSM has an entire range of climate and disaster risks, including rising sea levels, water shortages, extreme climate variability, coastal erosion, and typhoons.[89] The FSM is vulnerable to the impacts of climate change. Most of the outer islands are low-lying atolls which are vulnerable to rising sea levels because they reach only a few meters above sea level. In addition, increases in ocean temperatures and acidification cause coral reef damage and bleaching. This contributes to coastal erosion, leaving the islands more vulnerable to storm surges and floods.[90]
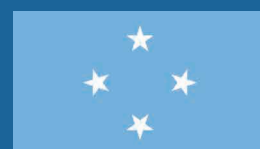
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Disaster Overview

FSM is spread out across a vast ocean expanse making it vulnerable to the impacts of climate change and natural disasters.[91] The islands are located in the area of the north-western Pacific Ocean known as the Typhoon belt.[92] It is also in the geographical location known as the Ring of Fire. The Ring of Fire, is an area housing one of the world's main tectonic plates and contains over 450 (75%) of the world's active volcanoes,[93] and 90% of the world's earthquakes.[94] Consequently, the country counts heavy, year-round rainfall, earthquakes, and most frequently, typhoons as its main source of natural disasters. Typhoons plague FSM during the months of June through December.[95] The majority of the population reside on the high islands in the coastal areas exposing them to extreme weather-related hazards due to climate change. The region's scarcity of land, potential for drought and exposure to cyclones are constant challenges.[96] The country also struggles from man-made disasters due to the results of overfishing, water pollution, toxic pollution from mining and solid waste disposal. These environmental challenges converge with critical socioeconomic vulnerabilities and compound the issues for the people of FSM. Partial documented disaster information, calculate total expenditures on response and recovery from natural disasters between 1990 and 2004 at USD $106 million.[97]

FSM is also considered a Pacific Small Islands Developing State (SIDS), where vulnerable populations and critical infrastructures are exposed to climate-related hazards of increasing intensities. Persons in Pacific SIDS are found to be three to five times more at risk than those in other parts of the region and are more likely to also be situated in high multi-hazard risk areas and are therefore not only the hardest hit but also excluded and disempowered.

Disasters affect the four states of FSM as follows:

Kosrae is located in the south and east of the typhoon track and rarely affected directly by typhoon. It has experienced three severe droughts resulting from El Nino in 1982-83, 1992-93 and 1997-98.

Chuuk is located off the major typhoon tracks still experiences several storms that have passed close enough to the island to cause widespread damage. Tropical storms generally occur between the months of July and November.

Severe typhoons with winds in excess of 100 mph can strike portions of Chuuk, including Super Typhoon Nina which struck the islands in November 1987 and also Typhoon Chata'an in July 2002. Typhoon Chata'an brought heavy rainfall causing extensive flooding, mudslides, and landslides which resulted in deaths and required more than USD $10.6 million in federal assistance.

Pohnpei sits south and east of the typhoon belt, but periodically experiences short, severe tropical storms. Tropical disturbances often form near the northern part of Pohnpei though most do not reach the islands but develop into typhoons north and west of the state.

Yap has experienced two major typhoon disaster declarations, Typhoon Lupit in 2003 and Typhoon Sudal in 2004.[98]

Country Risk Profile

Risk involves exposure to hazards, vulnerability, as well as lack of coping capacity, all of which are important factors in Disaster Risk Management. Figure 2 shows INFORM's risk profile for the Federated States of Micronesia. INFORM is a global, objective, and transparent tool for understanding the risk of humanitarian crises. INFORM is a composite indicator, developed by the European Commission's Joint Research Centre, combining 53 indicators into three dimensions of risk: hazards (events that could occur) and exposure to them, vulnerability (the susceptibility of communities to those hazards) and the lack of coping capacity (lack of resources that can alleviate the impact). It is a collaboration of the Inter-Agency Standing Committee Reference Group on Risk, Early Warning and Preparedness and the European Commission. The index results are published once every year.

INFORM gives each country a risk score of 1-10 (1 being the lowest 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 vulnerable a country is. The purpose of INFORM is to provide an open, transparent, consensus-based methodology for analyzing crisis risk at the global, regional or national level. FSM has a 2019 Risk Index of 4.4; a Natural Hazard and Exposure risk of 2.7/10; a Vulnerability score of 5.3/10; and a Lack of Coping Capacity score of 5.8/10. Recent Shocks (10), Aid Dependency (9.4), and Physical exposures to tsunamis (8.6) are the categories posing the highest risk to FSM. Additional details

in Table 1 are the INFORM Highest and Lowest Risk Indicators.[99]

The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) Asia-Pacific Disaster Report 2019 proposed a vulnerability index to account for Asia-Pacific states' vulnerability, based on the proportion of the population in rural areas, the extent of rural poverty, and proportion of employment in the agricultural sector with regard to the

RISK PROFILE
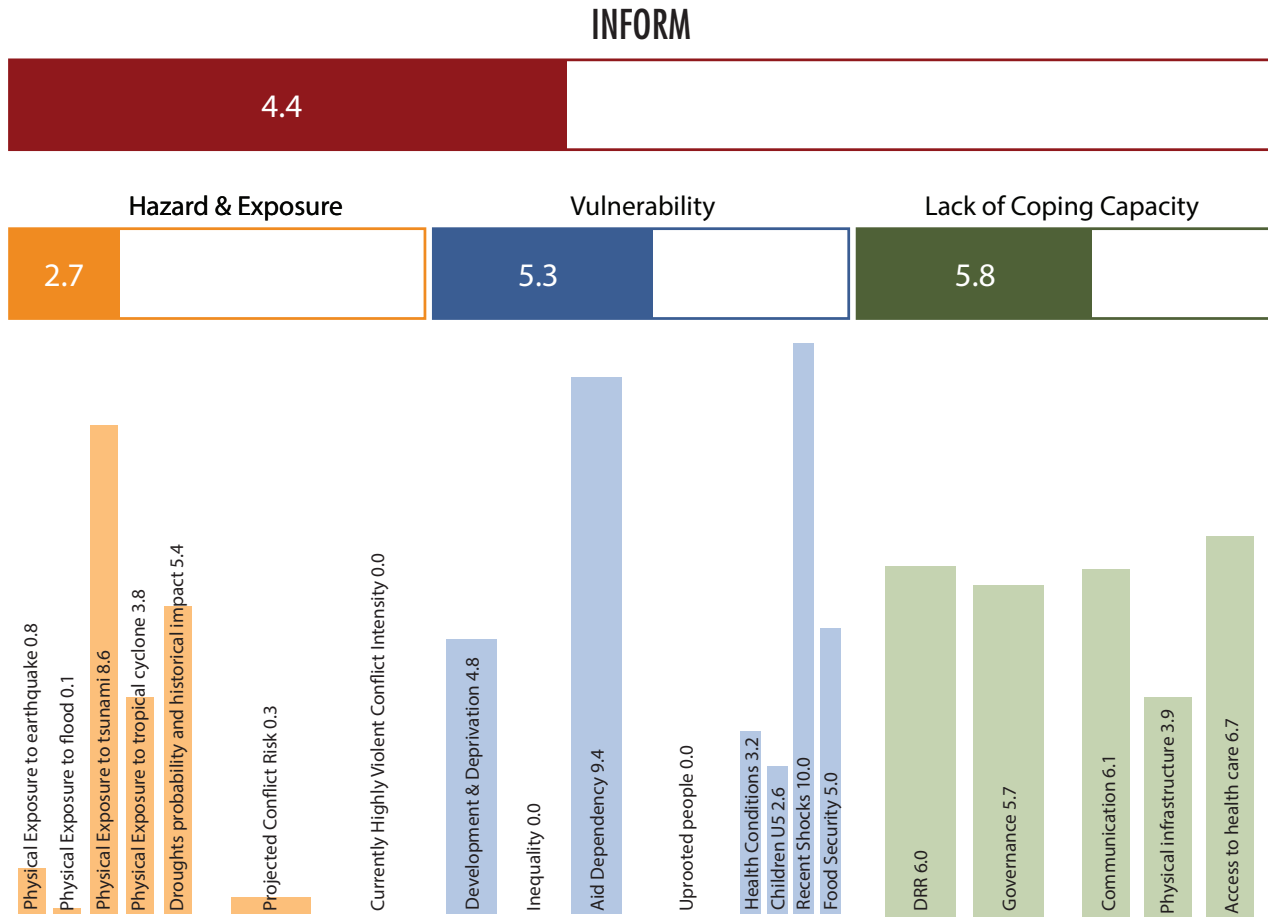
Figure 2: INFORM's risk profile for the Federated States of Micronesia

RISK INDICATORS

	Indicator	Component	Index	Value	Unit
Highest 5 Risk Indicators	Humanitarian & Development Aid	Economical Dependency	10.0	-0.51	USD Million
	People affected by Natural Disasters	Other Vulnerable Groups	10.0	14987.00	Number
	Average Dietary Energy Supply Adequacy	Other Vulnerable Groups	10.0	141.00	%
	Physicians Density	Access to health care	9.6	3.24	per 10,000 people
	Mobile cellular subscriptions	Communication	9.1	103.45	per 100 people
Lowest 5 Risk Indicators	Prevalence of Undernourishment	Other Vulnerable Groups	0.0	2.40	%
	Total Persons of concern	Uprooted people	0.0	337177.00	Number
	Current High Violent Conflict Intensity Score	Current Conflicts Intensity	0.0	0.08	Index
	Physical exposure to Flood	Flood	0.1	258244.53	Average annual population exposed per country
	Physical exposure to earthquake MMI VIII	Earthquake	0.1	0.00	Average annual population exposed per country

Table 1: INFORM Country Risk Profile

country's exposure to disaster. Figure 3 shows a scatter plot of Asia-Pacific Countries exposure and vulnerability index, indicating propensity of countries to the impacts of droughts.[100] According to the chart, FSM is the most vulnerable in the group and fifth most exposed tied with Lao. Additionally, the report found almost 40% of disaster impacts are on the social sectors of health, education, and livelihoods, resulting in deeper inequalities of opportunity that are transmitted over generations. This creates a vicious cycle of poverty, inequality and disasters.

The effects of disasters on FSM and its people include:
- Loss of life
- Injury
- Damage to and destruction of property
- Damage to subsistence and cash crops
- Loss of livelihood
- Disruption of lifestyle
- Disruption of services
- Damage to infrastructure and disruption of government systems
- National economic loss; and
- Sociological and psychological after-effects.[101]
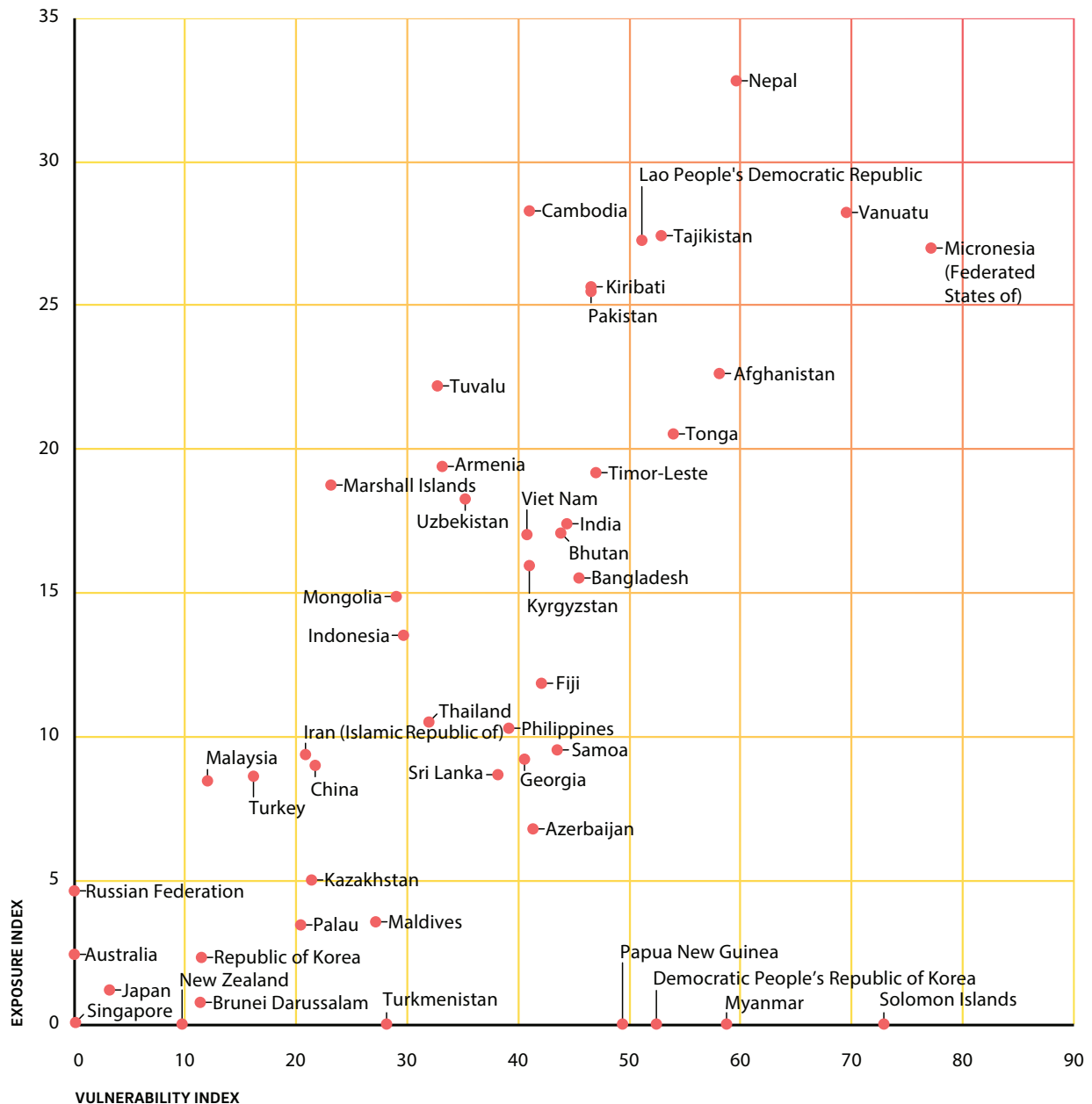
Figure 3: Vulnerability Index and Exposure Index in Asia and the Pacific

More frequent extreme events and climate change in FSM could pose severe threats to for the resilience of the island communities. With the severity of mounting impacts to the environment, infrastructure, and economy in the FSM, several non-profit organizations are working with the government to identify and conserve marine protected areas and protect resources for food security. Additionally, understanding that FSM alone cannot mitigate global climate change, tracts of land on the higher elevated islands of FSM have been secured by some of the low-lying atolls for possible relocation when their homes are no longer habitable due to sea water level rise.[102]

Hazards

Significant possible threats or hazards to the Federated States of Micronesia include: [103]
- Tropical storms and typhoons
- Tidal and wave surges
- Floods
- Earthquakes
- Landslides
- Tsunamis
- Droughts
- Pandemics
- Agriculture pests and diseases
- Aviation and maritime disasters
- Fires
- Industrial accidents; and
- Marine pollution

Typhoon
Typhoons are a common occurrence in the FSM. The high-speed circular wind systems of the typhoons destroy houses, plantations, and the environment, taking the lives of people and animals. Typhoons are most frequent in Western Micronesia, especially in Yap, and the outlying islands of that group. The frequency of typhoons across the region decreases from the west to the east except during El Niño years when typhoons shift further to the east. During the El Niño/Southern Oscillation (ENSO), global atmospheric disturbances including elevated seawater temperatures and lowered sea-level in the center of the ENSO affected area, rise in atmospheric temperature and the sea-surface temperature, may cause conditions for more frequent and severe storms. Additionally, the occurrence of typhoons in the eastern part of the FSM is strongly influenced by the El Niño phenomenon and typhoons are 2.7 times more likely to occur in El Niño years.[104]

Landslides
Landslides are often regarded as secondary disasters as they can be naturally triggered by primary disaster events including earthquakes, floods, volcanic eruptions, or hurricanes. However, landslides can result in more damage and life loss than the primary event.

Human deforestation, common to areas of FSM, is also known to increase the probability of landslides in certain slopes. Additionally, slopes with previous landslide occurrence are also likely to experience them in the future, and people are recommended to settle away from steep slopes, streams and rivers, intermittent-stream channels, and the mouths of mountain channels; which can present a challenge in settings such as the islands in FSM where communities often settle on a coast at the base of a slope and near a source for fresh water. A notable landslide in 2002 killing 43 people in FSM highlighted the need to improve the state's infrastructure for communications and to sensitize warning systems in emergency situations within and between islands.[105]

Drought
Unlike many other natural disasters, the effects of droughts often accumulate slowly over an extended period, in some cases over several years. Additionally, drought can spread over large geographical areas with impacts that compound and can be difficult to measure. Recently, FSM has been impacted by periods of moderate to severe drought due to the El Niño phenomenon. When lower than normal rainfall over a period of months develop, drought conditions affects the islands. In particular, parts of Chuuk and Yap States within FSM have been affected. El Niño events can also be associated with higher rainfall, likely leading to flooding, infrastructure damage and the pollution of water sources.[106] El Nino-induced droughts caused critical shortages of water in FSM in 2015.[107]

Earthquakes
FSM is located in the Pacific Ring of Fire, known for its volcanic and tectonic activity.[108] Consequently, FSM has experienced earthquakes. Most recently in 2017 a series of earthquakes struck the FSM, affecting communities in the state of Yap.[109]

Sea Level Rise
Sea level rise is one of the major signs of climate change.[110] The FSM has 30,000 citizens living on atolls vanishing due to rising sea levels

associated with climate change. The people living on these islands already have drinking water shortages and their food security is in critical danger due to rising sea level.[111] FSM's average sea level rise is at an average of 7 to 8 millimeters per year. Although, some places are facing sea level rise of 10 millimeters per year, making FSM experiencing the fastest rate of sea level rise in the world. This increases their vulnerability to the effects of climate change.[112] Additional challenges of sea level rise including shrinking water reserves and rising sea levels mixing saltwater with the groundwater in several areas, make it more difficult to irrigate agricultural land. The high level of salinity also poisons the ground, making it infertile for years.[113]

Recent History of Natural Disasters

Typhoon Wutip – February 2019

February 19-22, 2019, Category 2 Typhoon Wutip passed over Chuuk, Pohnpei, and Yap states in FSM. With wind speeds of more than 100 miles per hour, Typhoon Wutip displaced approximately 165 people and damaged or destroyed 160 homes in both Chuuk and Yap. The strong winds inundated the sea water, destroying food sources in affected areas and rendering water sources unsafe to drink. In response to the storm's impact, local authorities declared states of emergency for Chuuk and Yap and requested international assistance. Additionally, USAID's Office of U.S. Foreign Disaster Assistance (USAID/OFDA) provided $100,000 to support immediate disaster relief

activities for affected populations and deployed staff based in the region to FSM to help coordinate response activities.[114]

Photo 4 depicts human supply chains delivering relief supplies. These supplies included rice, cooking oil, vegetables & fruit to people affected by Typhoon Wutip. A UN migration barge with IOM Micronesia was used to deliver supplies.[115]

Tropical Depression Jelawat – March 2018

In mid-March 2018, FSM was affected by Tropical Depression Jelawat, causing critical damage to infrastructure and resulting in one death. The heavy rainfall centered on Pohnpei State and resulted in flooding, landslides. In response, a state of emergency and presidential declaration of emergency were declared, authorizing the release of $50,000 from FSM's Disaster Assistance Emergency Fund. On May 6, U.S. Ambassador to FSM declared a disaster due to flood and infrastructure damage, allowing the U.S. Department of Homeland Security Federal Emergency Management Agency (FEMA) and USAID to perform a joint damage assessment of the affected areas which indicated a need for repair of critical infrastructure and agricultural damage rehabilitation assistance in landslide and flood-affected areas. The U.S. President, declared a Presidential Disaster Declaration under the COFA between the USG and the Government of the FSM, released federal funding for USG emergency relief and reconstruction assistance to FSM. Additionally, USAID/OFDA, with funding from FEMA, supported agricultural rehabilitation assistance. USAID Philippines

Photo 4: Typhoon Wutip Response

support included repair to damaged public infrastructure.[116]

Earthquake – December 2017

A strong earthquake with a magnitude of 6.6 struck east-northeast of Yap in Micronesia in the Pacific Ocean on December 8, 2017. The quake, initially measured with a magnitude of 6.8 by the Alaska Tsunami Warning Center but later scaled down, was at depth of 46 km (28 miles). Although it was a strong earthquake, no damages or casualties were reported. [117]

Drought – 2015/2016

Many parts of FSM experienced drought conditions from El Niño impacts. Lower than normal rainfall affected parts and drought affected Yap, and Chuuk.[118]

Typhoon Maysak – March/April 2015

FSM's Chuuk and Yap states were ravaged by Typhoon Maysak from March 29 to April 1, 2015, causing four deaths, affecting approximately 29,700 people, and damaging houses, crops, fruit trees, and public infrastructure. On April 2, the U.S. Ambassador declared a disaster due to the effects of the typhoon. USAID/OFDA responded with preliminary amount of $50,000 and deploying staff to FSM to conduct assessments and assist with coordinating response activities. Additionally, the U.S. issued a Presidential Disaster Declaration for FSM, authorizing the release of federal funding for emergency relief and reconstruction assistance from FEMA and other U.S. Government agencies. As a result, with FEMA funding, USAID/OFDA provided additional funding of nearly $7.5 million ($2 million to IOM and $622,000 to the UN Food and Agriculture Organization) to provide logistics support; distribute shelter materials and other relief items; support WASH interventions; and help restore agricultural production. Additional funding from FEMA financed USAID's reconstruction activities, which included the repair and construction of damaged homes and public buildings, totaled more than $40 million. Reconstruction activities in FSM led by USAID/Philippines concluded in May 2018.[119]

December 2008 – High Tides and Flooding

In December 2008, FSM President Mori declared an emergency following tidal surges that flooded business properties, homes and coastlines, resulting in the need to evacuate the affected areas. The storm washed 200 meters of shoreline with sea and salt water, causing coastal erosion and soil damage, and 29 islands were completely inundated.[120]

Typhoon Sudal – April 2004

In 2004 Typhoon Sudal damaged 90 percent of homes and infrastructure on Yap Island and affected more than 6,000 people.[121] A State of Emergency was declared for Yap by both national and state Governments. Joint assessments of the islands of Yap State were conducted by the Government and FEMA.[122]

Typhoon Lupit – November 2003

From November 21-25, 2003, Typhoon/tropical storm Lupit passed through Chuuk State and Yap State of FSM, increasing its strength. The Government of FSM requested international assistance. The typhoon began to impact the eastern part of Yap State on November 23 and continued to intensify as it travelled through the neighboring islands. It was reported that its sustained winds were estimated at 194 km/h and its gusts at 240 km/h at one stage. Potable water supplies were contaminated by the storm surge. The contamination of water supplies has resulted in reported outbreaks of communicable diseases in some affected communities. Food crops in all low-lying areas in north-eastern and southern outlying islands were almost totally destroyed which seriously affected the life of the islands people who depended on crops as a major source of food. Public facilities and properties, roads and seawalls were all impacted and sustained damage. Approximately 200 homes were destroyed.[123]

Landslide – July 2002

On July 2, 2002, approximately 20 inches of rain fell on FSM in a 24-hour period, accumulating over 3 inches (75 mm) per hour, and resulting in approximately 265 landslides over the course of the tropical storm. Most of the landslides and all fatalities took place on the first day, though the landslides continued over several more days. Within twelve hours, forty people were killed, and later, three additional people died from their injuries. The previous landslide reported in FSM took place in the state of Chuuk in 1976, when monthly precipitation levels peaked at 28.4 inches, or 709.75 mm. The overall mortality rate for this event was 1.47 deaths per 1,000 habitants.[124] Additionally, the landslides caused the destruction or damage of 231 structures, including homes, schools, community centers, roads, crops, water supplies, and medical dispensaries.[125]

Typhoon Mitag-March 2002

Tropical Storm Mitag began to impact the eastern part of Yap State on February 28, 2002. It became a typhoon and struck Yap Main

Island for a few hours on March 3rd. Maximum sustained winds were estimated at 95 knots (approximately 175 km/h), with gusts up to 115 knots (approximately 212 km/h). Most of the islands neighboring Yap Main Island were also impacted by the typhoon. The atolls of Ifalik, Woleai, and Eauripik sustained major damage. There were no deaths or serious injuries reported, but destructive winds and a tidal surge destroyed nearly all the food crops in low-lying areas in the north, northeast, and southern parts of Yap Main Island, up to 400-500 m inland. The tidal surge brought many low-lying areas, including parts of Colonia (the main town), under water for several hours. Some 150-200 people lost their homes, and approximately 130 were housed in temporary shelters. The coastline, the retaining walls and the food crops on Rumung Island, near Maap, in the north of Yap Main Island, were also extensively damaged by the storm surge, which went as far as 1,200 m inland. Power in Colonia was cut for several hours when the typhoon struck but was restored soon after winds subsided. However, downed power lines meant that the north and south of the main island still did not have power three days later. Damages were caused to public facilities, property and roads. Homes and private property including boats, vehicles, and merchandise in stores were destroyed.[126]

Country Risks

Environmental Degradation

Micronesian officials have escalating concerns regarding the environmental degradation of the country due to the effects of climate change. Rising sea levels continue to erode coastlines, threaten the fishing industry, contaminate drinking water with salty ocean water, and trigger ever fiercer storms. This continues to alarm the population and government.[127] Additionally, environmental degradation due to urbanization is a growing problem on the major islands of FSM. On the island of Pohnpei, which hosts both the national capital of Palikir and the Pohnpei state capital of Kolonia, and on the island of Weno, abandoned cars have become a major environmental problem.

Of major environmental concern for the islands is the protection and preservation of the beauty of the island's nature for future generations. The main source of transportation within the islands for the inhabitants is either walking or using private vehicles since the islands do not have public transportation

systems. There are also no auto repair shops on the island and the island roads often are not maintained and cause wear and tear on the vehicles. Cars imported to the island and then damaged are abandoned. With no way to remove them from the island or repair them, there has been an influx of abandoned vehicles around the island. In addition, the absence of proper regulatory measures from the government sector and no vehicle scrappage facility, the abandoned vehicles stay forever on the islands and present a problem, negatively impacting the tourism industry.[128]

Internal Conflict

A desire for greater independence from the central government has been a primary political issue for the four states of FSM.[129] Chuuk State, in particular, with a population counting approximately half of the country's residents, has been moving to secede from FSM to become an independent nation called, the Republic of Chuuk.

In 2014, the President of FSM publicly rejected the movement and urged other citizens to sign an online petition against the secession movement. Instead, he urged citizens to work together to improve financial resources in preparation for the 2024 Compact Sector Grants replacement of the Compact Trust Fund which will reduce the amount of U.S. funding made available to the country.[130] Concerns surrounding the need to maintain U.S. funding will likely defer any significant move towards independence for the near future.[131]

Food Security

A decline in agriculture, fishing, and local food production over the last 50 years in the Pacific has exacerbated food security, especially in the FSM. As a result, populations have had to incorporate more processed and imported foods, because of cost and convenience, and lack of access to fresh and local produce. These changes to nutrition come at high financial, social, and environmental cost to small island states and households. Secondarily, non-communicable diseases have grown rapidly throughout Micronesia and household expenses are dominated by imported foods, especially rice. Further consequences to global climate change are likely to further hamper local food production and continue to increase the reliance on imported food.[132]
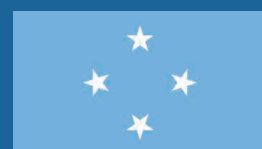
FEDERATED STATES OF MICRONESIA
Organizational Structure

Disaster Management Reference Handbook | November 2019

Organizational Structure for Disaster Management

The National Disaster Response Plan (2016) defines the measures to be taken at all government levels to ensure that effective disaster preparedness, response, relief and recovery are carried out. It outlines institutional arrangements and includes provisions for accessing international support. Figure 4 shows the Disaster Management Outline Institutional Framework for FSM.[133]

When a disaster event has affected the FSM, the President, on the advice of the National Disaster Committee (NDC) and on request from a state governor, declares a state of disaster in the whole or part of FSM. There are three phases of activation for a disaster or potential disaster: standby, activation for watch and support, and full activation. States, municipalities and villages are tasked with parallel planning and institutional development for disasters so that, when a disaster strikes, information may flow upward from the village, to the state, to the national level, and support can flow back down the ladder.[134]

Lead Government Agencies in Disaster Response

The National Disaster Committee is the strategic decision-making body for committing resources and priorities and advising the President during a disaster. The NDC is responsible for establishing disaster management arrangements for preparedness and response at the national and sector levels and for providing for planning and resourcing. Figure 5 depicts the National Level Outline Institutional Structure for Disaster Management in FSM. It provides more detailed information than Figure 4, to include coordination working groups, Red Cross, USAID rep, etc.[135]

Figure 4: FSM Disaster Management Outline Institutional Framework

Figure 5 content:

Executive:
Roles: receive advice
declare disaster
commit powers & resources

The President

Access to:
FSM, Compact, UN
Regional PHT Bi-lateral
support

Oversight:
Roles: strategic overview of disaster
advise President
commit resources
access Compact & Intl support

National Disaster Committee Chair: Dir OEEM
Secretaries of Departments
Directors of Offices and Agencies
Red Cross

Lead Advisor: Director of OEEM
Other Lead Agents: Health,
Transport, Agriculture, Police
SAR, Environment

Operations:

National Emergency Operations Centre
NEOC Management Unit: NEOC Ops
Manager

Operations:
Planning:
Watch & Assess
alerts
Receive & assess
info
Prepare SitRep
Initiate response
actions
Communications:
Manage & log
comms
Radio/tel/fax/internet
Public info & media:
Issue warnings &
info
Prepare media
releases
Manage national
image

Review situation
Prepare Action Plan
Review SitRep

Logistics:
Hold inventory/
facilitate
Deployment &
delivery

Support:
Admin/staff/finance/
audit/Dept FA &
Imm/Customs/IM

National Emergency Coordination Team Chair: Disaster Coordinator
Members: Chairs of Coordination Working Groups
Sector Divisional Heads   Red Cross USAID Rep

Operations:
FSM, Compact, UN
Regional PHT Bi-lateral
support

Coordination Working Groups

Deploy & Assess
Chair: EM Division
Dept. of Justice
Naitonal Police
Division
Maritime Patrol
TC & I Marine Trans
Sector reps - IDA
Red Cross
NGO's - IOM/others

Social Support
Co Chair: H & Ed
a). Dept. of Health &
SA
EHPH P & R Unit
Division Social Affairs
Women/special needs
b). Dept. of Education
Ed Services & Shelter
NGO's: PRAL/IOM

Livelihood
Chair: A/Sec RM & D
Dept. Res & Dev
Agriculture Unit
Fisheries Unit
Tourism Unit
Division Social Affairs
Women/special needs
NGO's: PWA/USDA/
CSP/IFCP

Infrastructure
Chair: A/Sec TC & I
Dept. TC & I
Marine Trans
Division
Comms Division
Civil Aviation
Division
Infrastructure
Division - IDA
DR & D Energy Unit
Telecoms Ops/Water
Ops/PetroCorp Ops

Figure 5: National Level Outline Institutional Structure for Disaster Management

NOTE: In 2017, the Department of Environment Climate Emergency Management (DECEM) was founded to stand as the national emergency response framework owner and coordinator. Giving this recent creation, DECEM is not reflected in organizational charts; rather the Office for Environment and Emergency Management (OEEM) is still used in these figures. Moreover, OEEM is still listed in all literature although DECEM is likely the new agency, as it was during the 2019 response to Typhoon Wutip.[136]

National Disaster Committee (NDC)

The NDC is responsible to the President for policy development and for the strategic management of planning and arrangements for disaster preparedness and response. It is also responsible for the overview of disaster events and for accessing international, regional and bi-lateral support arrangements for disaster response.

The NDC has responsibility for oversight of arrangements for all hazards through six agencies (pre-2017's founding of DECEM):
1. Office for Environment and Emergency Management (OEEM), Division for Emergency Management – all hazards (excluding those listed below)
2. Dept. of Health and Social Affairs – pandemics and health incidents
3. Dept. of Resources and Development – agriculture incidents
4. OEEM, Division of Environment & Sustainable Development – environmental incidents
5. Dept. of Transportation, Communications and Infrastructure – aircraft and ship incidents
6. Dept. of Justice, Division of National Police – search and rescue at sea

The NDC has oversight of the operational arrangements of the National Disaster Coordination Team (NDCT) and the National Emergency Operations Centre (NEOC), to be activated for the operational management of disaster events. For health, agriculture and environmental disaster events, as well as aircraft, shipping and sea search and rescue incidents, these arrangements may support the lead agent in disaster coordination.

The members of NDC are:
• Chair (President of FSM)
• Departmental secretary or designee
• Director of office, agency or designees
• Representative of Micronesia Red Cross Society (MRCS)

- Representative of the Chamber of Commerce
- Representative(s) of nongovernment organizations
- President of National Council of Women

Office for Environment and Emergency Management (OEEM)

The President is responsible for coordinating national activities and assisting states. The President designates a government agency to be responsible for disaster management, and the secretary or director of that agency is the President's designee. Currently this is the Director of the Office for Environment and Emergency Management (OEEM).

The National Disaster Coordination Team (NDCT) operates through and is supported by the National Emergency Operations Centre (NEOC). NEOC is managed by the OEEM Emergency Management Division (EM), responsible for preparedness and operational response arrangements at the national level, and for supporting state level arrangements.[137]

National Disaster Coordination Team (NDCT)

The NDCT is established for managing disaster events together with NEOC. NDCT Coordination Working Groups (CWGs) are established for:

- Deployment and Assessment – to manage initial relief deployment and Initial Damage Assessment to verify and support state assessments.
- Social Support – to provide support for health services, public and family health, WASH, protection and special needs, education services, displaced people, shelter and camp management.
- Livelihood – to support subsistence and basic economic activity in affected areas to promote self-reliance.
- Infrastructure – to manage restoration of minimum basic services to affected communities and support longer-term rehabilitation.

The functions of NDCT are:

- to manage and coordinate the response components of the Disaster Management Operations;
- to support, verify and supplement the Initial Damage Assessment carried out at the state level;
- to coordinate and provide direction to the NDCT Coordination Working Groups;

to coordinate with, and provide support and direction as appropriate during national declarations, to State Disaster Coordination Teams (SDCTs); and
to report to and take strategic direction from the NDC.

State Operations

At the state level, the Governor is responsible for coordinating state and municipal disaster preparedness and response activities and for supporting arrangements at the village level and in the outlying islands. The Governor appoints the head of a state office to be responsible for disaster management. State Disaster Committees (SDCs) have collective oversight of state disaster management arrangements and for strategic oversight and advice to the Governor during emergencies and disasters. The SDC comprises the Heads of State Offices responsible to the Governor and its lead advisor is the head responsible for disaster management.

At the state operations level, the SDC lead advisor allocates the disaster management operations function to a division within the office, which is then designated the State Disaster Management Office (State DMO), and is responsible for preparedness and operational response arrangements through the state and for managing the State Emergency Operations Centre (SEOC). The state establishes functions and accountabilities through their municipalities with arrangements and connections to their villages and outlying islands. Other operational partners will be the State Disaster Coordination Team (SDCT), Coordination Working Groups of state sector agencies, and others. During emergencies and disasters, SDCT operates through and is supported by the SEOC. SDCT is chaired by the Manager of the State DMO. This manager is the State Disaster Coordinating Officer (State DCO).[138]

Key Disaster Management Partners

Partners, Red Cross, NGOs and civil society agencies undertake in disaster management activities in FSM, including the provision of relief and recovery support during and after a disaster event. These agencies are required to adhere to the frameworks outlined in national and state plans to provide for effective integration of their activities.[139] Non-local support arrangements are dominated by the FSM-U.S. Compact and FSM relationships with UN agencies. External

support arrangements are outlined in these formal relationships and can be operationalized via the National Disaster Coordination Team (NDCT).[140]

The international humanitarian community coordinates large responses by functional sectors using the Cluster System, which also operates in the greater southern Pacific region. Thus, the UN's FAO, WFP, UNICEF, WHO, UNDP and UN Women are partners in various preparedness and risk reduction projects and can be called upon during emergencies. The UN agencies in the region also cooperate closely via the Pacific Humanitarian Team (PHT), which includes international and national NGOs, including OXFAM and Save the Children.[141] Due to the COFA between U.S. and the FSM, U.S. federal disaster funds have been used to support disaster response.[142] Moreover, the Micronesia Red Cross Society (MRCS) is present and a constant partner for disaster responses.

The UN Development Programme (UNDP) is a partner in development, disaster risk reduction and disaster response in FSM. Among its key projects are the Pacific Adaptation to Climate Change (PACC) alongside the Secretariat of the Pacific Regional Environment Program (SPREP). PACC demonstrates best-practice adaptation in coastal zone management, food security and food production, and water resources management. FSM is a participant in the Coastal Management Capacity portion of the program.[143] The key impact has been in innovative technologies in road design. PACC FSM also works on a policy level to include climate change in FSM's policies and strategic plans and to support programs aimed at improving environmental awareness and education.[144]

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The UN Food and Agriculture Organization (FAO) assists FSM via regional-level initiatives and demand-driven country-specific plans. The major goals are: 1) strengthened policy, legislative, regulatory and strategic planning frameworks; and 2) increased availability and utilization of local food, including capacity building to address dietary and lifestyle-related health problems.[145] FAO has assisted the national government in formulating a national

agricultural policy to improve food security and national health both in terms of livelihoods and in terms of drought resilience.[146]

FAO Representative:
E-mail: SAP-SRC@fao.org

The International Organization for Migration (IOM) maintains a country program office in FSM, located in Pohnpei. IOM offices in FSM and other Pacific Island states are coordinated by IOM Australia in Canberra,[147] all of which are overseen by the IOM Regional Office for Asia and the Pacific (ROAP) in Bangkok.[148] Out of FSM's four states, the two westernmost, Chuuk and Yap, are most at risk of natural hazards and the adverse effects of climate change, having recently experienced super typhoons (e.g. Typhoon Maysak). IOM responded to Typhoon Wutip in February 2019; it coordinated closely with USAID/OFDA, and national and state governments to implement a disaster response. Projects such as the Disaster Preparedness for Effective Response Program (PREPARE) help build FSM's resilience in mitigating the effects of rapid- and slow-onset disasters. IOM is also an implementing partner on Climate Adaptation Disaster Risk Reduction and Education Program (CADRE+) that offers School Emergency Management Plans (SEMPs) to provide protocols, such as drills, for schools to respond and recover from an emergency, disaster, or other event resulting in the disruption of normal school operations. Other activities include conducting disaster risk reduction lessons in classrooms and capacity-building through training on Essentials for Humanitarian Assistance.[149] USAID/OFDA has supported CADRE+ since 2015 to improve resilience to natural and climate-induced hazards. Since FY 2015, USAID/OFDA has provided IOM a total of nearly $2.5 million to support DRR activities in FSM and RMI.[150]

International Organization for Migration (IOM)
Tel: +691 320 8735, +691 320 8795
Fax: +691 320 8745
Website: http://micronesia.iom.int

In 2017, Catholic Relief Services (CRS) opened an office in Yap, FSM, to support the Government of the State of Yap in its efforts to protect its people, state infrastructure and the economy from the effects of various disasters. They are a non-profit organization. To increase

the capacity of vulnerable communities to prepare for and recover from frequent typhoons and droughts, CRS launched the Adaptive Community Transformation (ACT) project on Yap.[151]

USAID/OFDA supports CRS. In FY 2017 and 2018, USAID/OFDA provided approximately $3 million to CRS to implement disaster risk reduction activities in Yap. As part of a multi-year program, CRS is facilitating the development of a state disaster risk management plan; training households to develop and adopt household-level preparedness plans; promoting effective hygiene practices; and supporting vulnerable households to diversify or enhance agricultural livelihood strategies.[152]

The World Health Organization (WHO) office in the Western Pacific, based in Manila, Philippines, is responsible for FSM via the Representative Office in the South Pacific, in Suva, Fiji. Priority #2 of WHO's work in FSM is to build core capacities for proactive preparedness in health emergencies and natural disasters via the following steps:

1. establish a risk communication system with the capacity to manage public, internal and partner communication for all phases of public health emergencies;
2. set up a multisectoral approach to respond to events that may constitute public health emergencies;
3. put indicator- and event-based surveillance system(s) in place to detect public health threats with systematic data analysis, risk assessment and reporting; and
4. put in place a national laboratory system capable of conducting 3–4 core tests, along with a system to transport specimens to international reference laboratories for timely diagnosis and quality assurance.[153]

Western Pacific Office
Manila, Philippines
Dept. of Health and Social Affairs
Tel: +63 2 528 8001
Fax: +63 2 521 1036

Country Liaison Office, Micronesia, Marshall Islands and Palau
Dept. of Health and Social Affairs
Palikir, Pohnpei, FSM
Tel: +691 320 2619, +691 320 2643, +691 320 2872
E-mail: wpfsmclo@who.int

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 by their National Societies, with a view to preventing and alleviating human suffering. It was founded in 1919 and includes 191 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.[154]

The Micronesia Red Cross Society (MRCS) assists communities throughout FSM in disaster preparedness and response, health, education, youth programs, climate change, and HIV/AIDS awareness and education. Since its recognition by IFRC as a full member in 2003, MRCS has increased membership across the four states. It is headquartered in Pohnpei and maintains a Chapter office in each of the other three states of Chuuk, Kosrae and Yap.[155]

In recent years, severe degradation of the coastal environment in FSM include the cutting of mangroves, which can help reduce the effects of storm surges. When Typhoon Maysak struck FSM in 2015, the storm destroyed hundreds of homes and 90 percent of crops and fruit trees in affected areas of Chuuk and Yap states. To reduce the impact of natural hazards, the MRCS works with USAID's Office of U.S. Foreign Disaster Assistance (USAID/OFDA) to implement the Micronesia Community Resilience and Capacity Development (CRCD) project, which includes community preparedness and coastal restoration activities in Chuuk. Since CRCD activities began in 2016, community members have successfully established nurseries and planted more than 11,650 coconut, mangrove, and pandanus tree seedlings.[156]

Contact information for the Micronesia Red Cross Society is below:

Micronesia Red Cross Society
Kolonia
Pohnpei State
Tel: (691) 3207077
Fax: (691) 3206531
E-mail: mrcs@mail.fm
Website: https://www.redcross.fm/

U.S. Government Agencies in Federated States of Micronesia

The U.S. Embassy in FSM is the base for agents of the U.S. Departments of State, Defense, Agriculture and the Interior. USAID operations encompassing FSM are based in Fiji, and the Peace Corps ended operations in FSM in 2018.

U.S. Department of Agriculture (USDA)

USDA'S Rural Development Program seeks to increase economic opportunity and improve the quality of life for all rural residents. In FSM, Rural Development's most widely utilized programs are its Single-Family Housing Programs that provide financing for renovations to existing homes to remove health and safety hazards. Rural Development's Community Programs provide public and non-profit bodies with grants and loans that can be used for the construction of essential public facilities, repairs, and the purchase of equipment for fire and rescue, telecommunications, schools, libraries, hospitals, etc.[157]

The Natural Resources Conservation Service (NRCS) of USDA provides technical assistance to local farmers, NGOs in FSM and federal, state and local governments. The agency's mission in FSM is to promote the conservation of soil and water resources, to facilitate the technical transfer of natural resource related skills, and to strengthen the capacity of local organizations to work hand-in-hand with their citizens in locally led efforts to maintain productive and resilient lands that sustain their agriculture and agroforestry systems. NRCS staff help individual farmers with conservation plans to protect and improve the soil resources on their farms and promote best practices for resource utilization.[158]

USDA Rural Development III (FSM) Office Pohnpei
Tel: +691-320-2581, +691-320-2583, +691-320-5583
Fax: +691-320-2662

USDA NRCS contacts for Pohnpei Field Office Kolonia, Pohnpei
Tel: +691-320-5893
Fax: +691-320-2086

USAID

USAID's Office of U.S. Foreign Disaster Assistance (USAID/OFDA) collaborates closely with FEMA, as well as USAID/Philippines and USAID's Bureau for Asia, to implement humanitarian programs in FSM and RMI. They support activities in response to natural disasters and provide technical assistance to coordinate response and early recovery activities.

USAID assumed responsibility for disaster response and reconstruction in November 2008 in FSM and RMI in the from the FEMA, reflecting the transition of FSM and RMI from U.S.-administered trust territories to independent nations. Since the arrangement, FEMA provides USAID with funding to conduct response and reconstruction activities following a U.S. Presidential Disaster Declaration (PDD), and USAID maintains FEMA's previous commitment to supplement host government efforts to provide humanitarian assistance in the event of a significant disaster. To provide a framework for U.S. Government (USG) disaster response and reconstruction in FSM and RMI under this hybrid agreement, USAID and FEMA developed an Operational Blueprint, which guides coordination between the two agencies.[159]

USAID/OFDA's approach is to strengthen the capabilities of first responder agencies, enhance and expand end-to-end early warning systems, and improve preparedness in at-risk communities. This approach helps Pacific island nations bolster their capacity to match their already-strong commitment to achieve self-reliance in disaster risk management.[160] USAID has helped island communities establish customized disaster management plans, and the organization trains government and nongovernmental partners to improve community resilience. USAID has trained over 1,500 Micronesians to help complete repairs or reconstruction of houses and public buildings, such as schools, clinics and community centers.[161]

Several key initiatives are underway in FSM. USAID's Adaptive Community Transformation (ACT), launched in 2017, is a multi-year program that brings USAID/OFDA together with Catholic Relief Services, to increase the capacity of vulnerable communities in Yap to prepare for and recover from typhoons and droughts. The project engages community leaders and individual households to build capacity on emergency preparedness planning and early warning systems. In part, this project supports vulnerable households to diversify or enhance livelihood strategies to make food production more resilient to disasters. Meanwhile, the Micronesia Community Resilience and

Capacity Development Project supports the American Red Cross and Micronesia Red Cross Society to strengthen local capacity and reduce communities' vulnerability to disaster risks by improving sanitation infrastructure and increasing water supply. USAID/OFDA also supports IOM's Climate Adaptation, Disaster Risk Reduction, and Education (CADRE+) program, which builds the resilience of school-aged children and community members and helps build response committees, develop school emergency management plans and train teachers in disaster and evacuation center management. USAID/OFDA supports IOM to pre-position emergency relief supplies in Chuuk and Yap.[162]

Contact information for the USAID office in FSM is located below.

USAID Mission Contact
FSM Humanitarian Focal Point for Disaster Response & Preparedness
Tiare Eastmond
Regional Advisor - Pacific
USAID/Office of U.S. Foreign Disaster Assistance
teastmond@usaid.gov
+1 (703) 623-9294
+692.455.0093
Current Location: Majuro, Marshall Islands

USAID Deputy Mission Director for the Pacific Islands and Mongolia
U.S. Agency for International Development c/o American Embassy
Manila, Philippines
Office +63 2 301 2000 x5130
Mobile +63 0917 852 6022
secallahan@usaid.gov

Contact information for the U.S. Embassy in the Federated States of Micronesia is located below.

U.S. Embassy in the Federated States of Micronesia
Kolonia, Pohnpei
Phone: +691 320-2187
Fax: +691 320-2186
Website: https://fm.usembassy.gov/

Participation in International Organizations

FSM is a member or participant of the following international and regional organizations:

African, Caribbean, and Pacific Group of States (ACP), Asian Development Bank (ADB), Alliance of Small Island States (AOSIS), the Economic and Social Commission for Asia and the Pacific (ESCAP), Food and Agriculture Organization (FAO), Group of 77 (G-77), International Bank for Reconstruction and Development (IBRD), International Civil Aviation Organization (ICAO), Institute of Catastrophe Risk Management (ICRM), International Development Association (IDA), International Finance Corporation (IFC), International Federation of Red Cross and Red Crescent Movement (IFRC), International Monetary Fund (IMF), International Olympic Committee (IOC), International Organization for Migration (IOM), Inter-Parliamentary Union (IPU), International Telecommunications Satellite Organization (ITSO), International Telecommunication Union (ITU), Multilateral Investment Guarantee Agency (MIGA), Non-Aligned Movement (NAM), Organisation for the Prohibition of Chemical Weapons (OPCW), Pacific Islands Forum (PIF), the South Pacific Regional Trade and Economic Co-operation Agreement (SPARTECA), the Pacific Community (SPC), Pacific Regional Environment Programme (SPREP), United Nations (UN), United Nations Conference on Trade and Development (UNCTAD), United Nations Educational, Scientific, and Cultural Organization (UNESCO), World Health Organization (WHO), World Meteorological Organization (WMO).[163,164]

Foreign Disaster Relief and Emergency Response

External support arrangements through the Compact between FSM and the U.S., as well as the UN regional office are initiated at the direction of the President of FSM on the advice of and through the National Disaster Committee (NDC). Operational deployment of these arrangements, including via the humanitarian Cluster system and at the state level, are through the National Disaster Coordination Team (NDCT). USAID/OFDA works with implementing partners from within the UN system and local/international NGOs.[165]

An example of disaster response in FSM is Typhoon Wutip (February 2019) which affected Chuuk and Yap. The Category 2 typhoon displaced at least 165 people and damaged or destroyed approximately 160 houses (combined).[166] Figure 6 shows the area that Typhoon Wutip affected. [167]

Strong winds and sea water inundation also
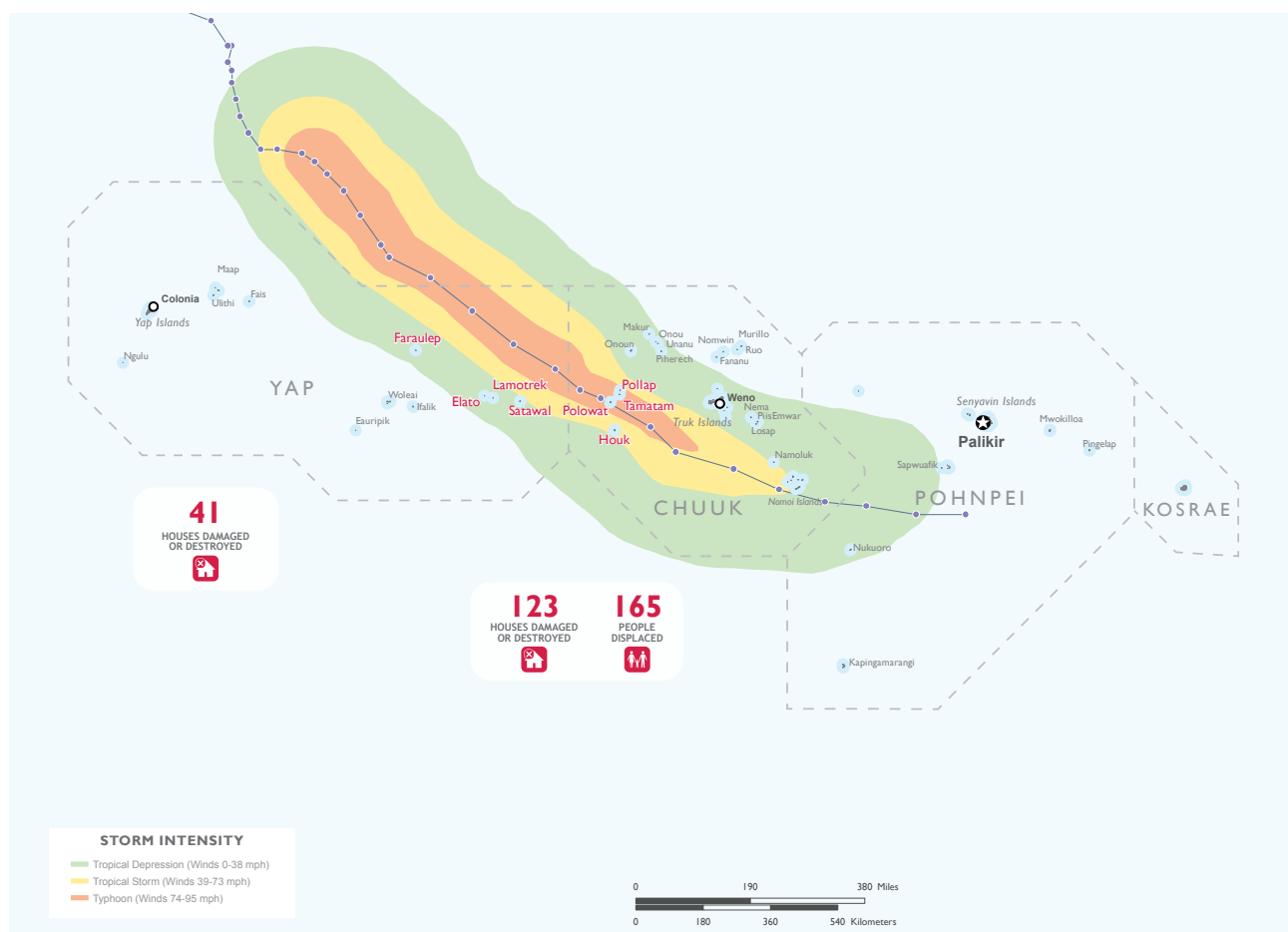
Figure 6: Typhoon Wutip Disaster Path

STORM INTENSITY
- Tropical Depression (Winds 0-38 mph)
- Tropical Storm (Winds 39-73 mph)
- Typhoon (Winds 74-95 mph)

41 HOUSES DAMAGED OR DESTROYED

123 HOUSES DAMAGED OR DESTROYED

165 PEOPLE DISPLACED

destroyed food sources and rendered water sources unsafe to drink. Local authorities declared states of emergency followed by a national disaster declaration by the FSM President who requested international assistance. The U.S. then declared a disaster and USAID/OFDA provided $100,000 to support immediate disaster relief activities and deployed staff to help coordinate response activities in collaboration with FSM authorities.[168]

Storms such as Wutip threaten or hit FSM annually, and there have been cases of fatalities. After a 2018 storm, assessments indicated a need for repair of critical infrastructure and agricultural areas. FEMA and USAID/OFDA supported agricultural rehabilitation assistance and USAID/Philippines worked to repair damaged public infrastructure[169]. After a 2015 typhoon, with FEMA funding, USAID/OFDA provided nearly $7.5 million to IOM and $622,000 to the UN Food and Agriculture Organization to provide logistics support, distribute shelter materials and other relief items, support WASH interventions, and help restore agricultural production.[170]

Photo 5 shows IOM delivering USAID funded plastic sheeting to provide for emergency shelter needs for those affected by Typhoon Wutip.[171]

Photo 5: USAID Partner IOM Delivers Emergency Shelter to FSM

Laws, Policies, and Plans on Disaster Management

FSM has the following acts, plans, frameworks and policies regarding disaster management:

National Disaster Response Plan (2016)
The National Disaster Response Plan defines the measures to be taken at the national government level to ensure that effective disaster preparedness, response, relief and recovery are carried out.

FSM's Plan proclaims that everyone (individuals, communities, agencies, sectors and levels of government) have a role within their community to prepare for and manage the impacts of disasters. It supports community self-sufficiency and reinforces local mechanisms in preparing for, managing and recovering from disasters. The Plan sets clear arrangements with accountability measures so that everyone can carry out their role; and it provides for access to support and resources through national, regional and international arrangements based on the assessed scope and scale of an emergency or disaster event.[172]

Integrated Disaster Risk Management and Climate Change Policy (2013)
The Government of FSM adopted a policy for nationwide integrated disaster risk management and climate change in December 2013; it superseded the Nationwide Climate Change Policy (2009). The policy provides for:
- strong horizontal and vertical coordination between sectors, national, state and community levels using an all-of-government, all-of-country coordinated approach that emphasizes partnerships between the public sector, private sector and civil society; and
- special attention to gender issues and the needs of marginalized groups, such as small atoll communities, persons with disability and the elderly.

Strategic outcomes of the policy include:
- Economic resilience – that all sectors, private and public, can recover swiftly due to reduced reliance on imported commodities;
- Food, water and energy security – that locally-grown, high quality food; safe and clean water; and safe and affordable energy supplies are uninterrupted;
- Infrastructure safety – that infrastructure and settlements are able to withstand the impacts of hazards, including sea level rise;
- Waste management and sanitation – that hazardous substances and wastes are handled safely;
- Health and social protection – that epidemics and other hazards are reduced, and that vulnerable groups have improved resilience;
- Education – that learning occurs in safe locations and is uninterrupted.[173]

Each state has published its own Disaster Risk Management and Climate Change policy (Yap and Kosrae in 2015, Pohnpei in 2016 and Chuuk in 2017).[174]

Climate Change Act (2013)
The Climate Change Act introduced legal obligations for certain national government departments and agencies. The Act stated that by 1 October 2014, certain departments must prepare plans and policies on climate change (consistent with the National Wide Integrated Policy). The Office of Environment and Emergency Management (OEEM) is responsible for its overall implementation. Annual progress reporting of implementation of the policy is also stated under the Act.[175]

National Strategic Development Plan (2004-2023)
The NSDP has four main objectives:
- Stability and security – to maintain economic assistance at levels that support macroeconomic stability; to avoid large periodic step downs in funding such as those that characterized the first 14-year Compact funding package.
- Improved enabling environment for economic growth – to be achieved through commitment to economic reform and the provision of an enabling environment to support open, outward-oriented and private sector-led development.
- Improved education and health status – use of the annual Compact grant to support the provision of basic services in education and health.
- Assured self-reliance and sustainability – to be achieved through establishment of a Trust Fund that would, after a period of time, replace the annually appropriated transfers from the U.S.[176]

Disaster Relief Assistance Act (DRAA)

The Disaster Relief Assistance Act of 1989 provides the authority for National Disaster Preparedness Plan and the disaster management system in FSM.[177] Section 707 subsection (3) of the DRAA (1989) requires the preparation and maintenance of a national response plan; Section 707 subsection (2) demands an outline of arrangements for state plans.[178]

Education and Training

The FSM Department of Environment, Climate Change and Emergency Management (DECEM) is the proponent of most trainings with USAID as an exponent. In 2018, the USAID Institutional Strengthening in Pacific Island Countries to Adapt to Climate Change (ISACC) Project provided training implemented by the Pacific Community (SPC) with support from Germany's German Society for International Cooperation (GIZ). The focus was on strengthening monitoring and evaluation (M&E) of national, regional and global resilience systems and the associated capacities within FSM to facilitate informed decisions on prioritization and resource allocation at the national and local levels. The training built on existing activities supported by the USAID ISACC project in FSM, including the recent FSM Climate Change & Disaster Risk Finance Assessment.[179]

Annually, IOM supports training and education via the PREPARE program. Photo 6 shows a teacher in an elementary classroom in Pohnpei, FSM asking her students to name known natural disasters.[180] This has included table-top exercises in each state of FSM in which local and national government representatives work on developing response operation plans. It helps build community-level preparedness through the enhancement of early warning systems, delivery of public information and awareness raising. IOM conducts hundreds of trainings on basic humanitarian standards, emergency first aid, how to use needs/damage assessment forms, essential humanitarian assistance (EHA), emergency first responder (EFR), and boat safety.[181]

Since 2012, the Pacific Community and Germany's GIZ (SPC/GIZ) have run the Coping with Climate Change in the Pacific Islands Region (CCCPIR) program. They became members in the FSM Joint Management Network (JMN), which includes all relevant government and NGO stakeholders in the field of climate change adaptation (CCA) and disaster risk management (DRM). The network coordinates DRM/CCA activities at community level to increase coordination. Of note is the program on Kosrae where CCCPIR is developing management to sustain coastal hazard risk reduction.[182]

Photo 6: Disaster Education in Pohnpei, FSM

Disaster Management Communications

Radio broadcast reaches all islands and is the main national means of communications. All major islands have mobile telephone connections which have swiftly outstripped fixed line telephones for most purposes.[183] However, reaching outlying islands with either radio or mobile telephone remains difficult. All internet connections are via satellite and are easily disrupted by poor weather. A World Bank project to lay cable to promote broadband is expected to benefit FSM's entire telecommunication sector after 2019, including the ability to boost the early warning and disaster communications systems.[184]

The State Disaster Coordination Officer (DCO), subordinate to the governor, serves as the hub of emergency decision-making, monitoring and communications. The DCO is tasked with:

- maintaining communications equipment, evacuation maps, agreements with telecoms and prepositioned assets;
- communicating up to the national level any needs underlying this maintenance; and
- maintaining a training schedule for subordinate state and local entities.

State DCOs manage the early warning systems and are tasked with using telecom infrastructure and radio broadcasts to deliver warnings, including to out-lying islands. This means that FSM Telecom plays a key role delivering warnings crafted by the DCO on behalf of the state governor.

Early Warning Systems

Early warning is intended to concentrate around the state-level agencies who receive some information from villages and municipalities and push some information down to these levels. However, the National Disaster Committee (NDC) is responsible for establishing Early Warning Systems (EWS) procedures and protocols. In the case of a slow-developing emergency, in the Standby phase of operations, the NEOC is tasked with informing potentially affected states; conversely, in a swift-onset emergency, the warnings will flow in the opposite direction. The NEOC SOP includes issues related to public information and media, to include issuing warnings. The State Disaster Committee

(DCS) of each state is responsible for establishing and ensuring the maintenance of the EWS components.[185]

IOM supports training and education to include table-top exercises in each state of FSM in which local and national government representatives work on developing response operation plans. It helps build community-level preparedness through the enhancement of early warning systems, delivery of public information and awareness raising. IOM completed a One-Way Radio Broadcast Assessment that surveyed and mapped medium-wave AM radio broadcasting facilities across FSM. It also provided support to government-owned radio in Chuuk and Yap to improve broadcasting capability, protection to equipment and sustainability. IOM has conducted Radio Station Workshops in Chuuk, Kosrae and Yap for personnel involved in radio programming, and this program developed and transmitted English and local DRR radio messages. UNESCAP worked with FSM in 2018 to build and operate an online geo-portal for early warning systems and disaster risk management. It remains in prototype.[186]

Responsible Agencies for Warnings

Weather Service Offices (WSO) provide essential meteorological information, like El Niño warnings, typhoon information and rainfall data. Three WSO on Pohnpei, Chuuk and Yap are responsible for providing information on weather and climate-related data. The Pacific Region of the National Weather Service (NWS, U.S. Dept. of Commerce) administers programs and facilities throughout the Pacific, to include FSM. The Pacific Tsunami Warning Center and the International Tsunami Information Center fall under the NWS Pacific Region, providing Pacific-basin tsunami watches, warnings, and information and educational services to the disaster preparedness community and the general public.[187]

In 1998, the U.S. National Weather Service's Pacific ENSO Application Climate (PEAC) Center became the official source of climate information and services for FSM's Disaster Management Offices. In 2019, PEAC Center transitioned to PEAC Services. PEAC Services' mission is to produce information products specific to U.S.-Affiliated Pacific Islands (USAPI) on the El Niño - Southern Oscillation (ENSO) climate cycle, its historical impacts and latest long-term forecasts in support of planning

and management activities in water resource management, fisheries, agriculture, civil defense, public utilities, coastal zone management and other economic and environmental sectors.[188] FSM Disaster Management Offices benefit from this climate service to update governors on the current weather and climate status.[189]

Government agencies responsible for hazards and warning:

Earthquake/Tsunami: Pacific Tsunami Warning Center and the International Tsunami Information Center under NWS Pacific Region
Pacific Tsunami Warning Center
Ewa Beach, HI 96706-2928 USA
1-808-689-8207

Flood/Drought/Typhoon: WSO on Pohnpei, Chuuk and Yap
Chuuk Weather Service Office
Chuuk, FSM, 96942
Tel: (011)(691) 330-2548
Fax: (011)(691) 330-4494

Pohnpei Weather Service Office
Pohnpei, FSM, 96941-0069
Tel: (011)(691) 320-2248
Fax: (011)(691) 320-5787

Yap Weather Service Office
Yap, FSM, 96943-0010
Tel: (011)(691) 350-2194
Fax: (011)(691) 350-2446

Disease Outbreaks: Department of Health and Social Affairs
Palikir, FSM 96941
Tel: (691) 320-2872
Fax: (691) 320-5263
E-mail: shealth@mail.fm

Wildfire: Departments of Public Safety/Police of each state
Chuuk Police
Weno, Chuuk FSM 969423
Tel: +691-330-3612 / 911 (Emergency)

Kosrae Police Station
Tofol, Kosrae FSM 96944
Tel: +691-370-3333
Pohnpei State Government
Pohnpei FM 96941
Tel (691) 320-2235
Fax (691) 320-2505

Yap Police
Colonia, Yap FSM 96943
Tel: +691-350-3333/2132 (Emergency)

Maritime Incident/Airplane Crash/Search & Rescue (SAR):
Department of Transportation, Communication and Infrastructure
Palikir, Pohnpei
FM 96941
Tel: 691.320.2865 / 2381 / 5829
Fax: 691.320.5853
E-mail: tci@tci.gov.fm

Department of Justice/Division of National Police (SAR)
Palikir, Pohnpei
FM 96941
Tel: (691) 320-2644/2608
Fax: (691) 320-2234

U.S. Coast Guard, Sector Guam
c/o US Naval Station Victor Pier
Santa Rita, GU 96915
Tel: (671) 355-4824
National Response Center: 1-800-424-8802
Sector Guam OOD Office: (671) 355-4804
Sector Guam OOD Cell: (671) 687-0277

Accidents: Office of Environment and Emergency Management
Palikir, Pohnpei - FM96941
Micronesia
Tel: + 691 320 8814/8815
E-mail: climate@mail.fm; decem.fsm@gmail.com

Armed Forces' Role in Disaster Response

FSM does not have a military force as external defense is guaranteed as part of the Compact of Free Association with the U.S. FSM's Ministry of Public Safety has a role in disaster response via the National Emergency Operations Center (NEOC) and any subsidiary EOCs. This role can include providing police personnel to support initial assessments, law enforcement, crowd control and disaster area evacuation. The Police Search and Rescue Center can provide a secondary location for the NEOC.[190]

Information Sharing

Understanding how to overcome the information challenges that civilian and military agencies experience during a typical disaster

response mission is important. Knowing what the available information resources are will assist Joint Task Force leaders and staff during mission planning.[191] The sharing of information is critical because no single responding entity (host government, NGO, international organizations or assisting country government, including foreign military forces) can be the source of all the required information.[192]

Collaboration, Information Sharing (IS) and networking have been the backbone of successful disaster response and preparation. Disseminating information not only to those in country and threatened by disaster but also to those responding to the emergency has been crucial to timely, efficient and effective disaster response. Recent technology has advanced to aid in both prediction and communication, including when and how to send alerts regarding disasters around the world. These advances have resulted in improved early warning and evacuation measures and opportunities to react and prepare for incoming threats to countries. The following are some of the ways in which information regarding disaster risk management and response are shared.

There are many resources, stakeholders and components to consider regarding information sharing before, during and after a natural disaster. This section will discuss humanitarian, regional, U.S. Government, and DoD informational sources.

Humanitarian Information Sources

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

PreventionWeb is provided by UNISDR to consolidate disaster risk reduction information into an online, easy to understand platform.
Website: https://www.preventionweb.net/english/

International Federation of Red Cross and Red Crescent Societies (IFRC) is the world's largest humanitarian network, with over 13.7 million volunteers helping to reach 150 million people in 191 National Societies, including the Micronesia Red Cross Society (MRCS). IFRC provides support to and coordination among national societies as needed, working before, during and after disasters and health emergencies

to meet the needs and improve the lives of vulnerable people.
Website: https://media.ifrc.org/ifrc

Global Disaster Alert and Coordination System (GDACS)/Virtual OSOCC 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.
Website: 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

Consider other sources of information such as:

Humanitarian Country Teams (HCT)
The 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 the UN, IOM, international NGOs, and the International Red Cross and Red Crescent Movement. During a disaster response, HCT's often produce a Situation Report, often in conjunction with UNOCHA.
Most HCT SitReps can be found through Relief Web: https://reliefweb.int/

Humanitarian Data Exchange (HDX) is an open platform for sharing data across crises and organizations 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.
Website: https://data.humdata.org/

Regional Information Sources

Pacific Humanitarian Team (PHT)
The Pacific Humanitarian Team (PHT) was established by OCHA in 2008 to ensure that regional responders work together to deliver timely and appropriate humanitarian assistance to disaster-affected people across the Pacific. OCHA acts as the Secretariat of the PHT and provides an online platform to share disaster response and preparedness information called Humanitarian Response. It is a platform providing the humanitarian community a means to aid in coordination of operational information

and related activities.
Website: https://www.humanitarianresponse.info

United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) Regional Office for Asia and the Pacific (ROAP) seeks to optimize the speed, volume and quality of humanitarian assistance and coordinates emergency preparedness and response in the world's most disaster-prone region in support of national governments. ROAP covers 41 countries partnering with them for coordinated and effective international responses to emergency situations.
Website: https://www.unocha.org/roap

For UNOCHA situation reports, click on "Subscribe" button on bottom of page.

OCHA, Office of the Pacific Islands

U.S. Government (USG) Sources

Office of Foreign Disaster Assistance (OFDA)
The U.S. Office of Foreign Disaster Assistance is responsible for leading and coordinating the U.S. Government response to disasters overseas. OFDA responds to an average of 65 disasters in more than 50 countries every year. OFDA fulfils its mandate of saving lives, alleviating human suffering and the reduction of the social and economic impact to disasters worldwide in partnership with USAID functional and regional bureaus and other U.S. government agencies. OFDA works with the international population to assist countries prepare for, respond to and recover from humanitarian crises.[193]

USAID/OFDA products are sitreps and maps which are available via email mailing lists.

For OFDA updates on a disaster response, ask the OFDA representative for USINDOPACOM (whose Area of Responsibility includes the Federated States of Micronesia) to add you to the email list:
• OFDAindopacom@ofda.gov

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 called USAID Newsletter which is available digitally at, https://www.usaid.gov/news-information/newsletter
More information and updates from USAID is available via their blog, IMPACT at, https://blog.usaid.gov/ and on Facebook, Instagram, Twitter, and YouTube.

Website: https://www.usaid.gov/

FEMA
The United States Agency for International Development (USAID) coordinates U.S. disaster assistance in the Federated States of Micronesia (FSM). Under the Compact of Free Association (COFA) between the government of the U.S. and the government of FSM, the President of FSM may request a disaster declaration from the U.S. President, which authorizes the Federal Emergency Management Agency (FEMA) to provide U.S. federal disaster funding to USAID to carry out U.S. disaster assistance programs in FSM. USAID supports on-going disaster preparedness and mitigation activities in FSM. FEMA also provides limited financial assistance ($50K annually) to FSM for disaster preparedness activities..[194]
Examples of U.S. responses to disasters in FSM through the joint USAID-FEMA disaster assistance program include the Typhoon Maysak disaster response in 2015,[195] Tropical Depression Jelawat in 2018,[196] and in response to Typhoon Wutip in February 2019.[197] The only other country to which the unique joint USAID-FEMA disaster assistance program applies is the Republic of the Marshall Islands.[198]

FEMA has informational resources online:
Website: https://www.fema.gov
www.fema.gov/blog, www.twitter.com/fema, www.facebook.com/fema, and www.youtube.com/fema.

Pacific Disaster Center
The Pacific Disaster Center (PDC) has trademarked an early warning and decision support system called DisasterAWARE®. DisasterAWARE® is primarily for disaster management practitioners and senior decision makers. It supports disaster risk reduction and best practices throughout all phases of disaster

management from early warning to multi-hazard monitoring. It boasts the largest collection of scientifically verified, geospatial, data and modeling tools to assess hazard risks and impacts.

The PDC also hosts a public application, Disaster Alert which is a free, early warning app to receive customizable map based visual alerts of active hazards. The app offers the fastest, most comprehensive global notification system covering every type of natural and man-made hazard to the public. It is available on both iPhone and Android. There is also a link to Disaster Alert without the app to view the world map documenting 18 hazard types.[199]

Website: https://www.pdc.org/
https://www.pdc.org/apps/disasteraware/

Emergency Operations (EMOPS) system:
(Request account): https://emops.pdc.org/emops/

Joint Typhoon Warning Center provides advanced warning for U.S. Government agencies and organizations in relevant areas.

Website: https://www.metoc.navy.mil/jtwc/jtwc.html

DoD Information Sources

All Partners Access Network (APAN)
APAN is the Unclassified Information Sharing Service (UISS) for the U.S. Department of Defense. 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 humanitarian assistance and disaster response (HADR) operations for over 15 years. 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.[200]
Website: https://www.apan.org/

Note: The Multinational Communications Interoperability Program (MCIP) has an APAN site used in planning exercises and real world HADR information sharing.[201]
Asia Pacific Center for Security Studies (APCSS)
APCSS is a U.S. Department of Defense institute that addresses regional and global security issues, inviting military and civilian representatives of the U.S. and Asia-Pacific nations to its comprehensive program of executive education and workshops.
Website: http://www.apcss.org/

CFE-DM
The Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) is a U.S. Department of Defense organization that was established by 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 DMHA. They produce country focused disaster management reference handbooks, after action reports and disaster management country assessments which provide 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 civ-mil consultations and dialogues with relevant HADR parties such as the AHA Center, UNOCHA and the RHCC. CFE provides DMHA resources and updates at its website, as well as via their Facebook and Twitter accounts.[202]
Website: https://www.cfe-dmha.org/

CFE-DM Disaster Management Reference Handbooks (for 23 countries) are available for download at: https://www.cfe-dmha.org/DMHA-Resources/

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

FEDERATED STATES OF MICRONESIA
Infrastructure

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Infrastructure

FSM's Department of Transportation, Communications and Infrastructure is organized into four divisions, each with its own assistant secretary. This includes Administration, Communications, Infrastructure, and Transportation. Transportation is split across the marine transportation and civil aviation division.[203]

According to the FSM Infrastructure Development Plan FY2016-2025, infrastructure investments by governmental level are: Chuuk-30%, Pohnpei-26%, Yap-17%, Kosrae-16%, and National-11%. Infrastructure investments by sector and are represented in Figure 7.[204]

Figure 8 illustrates the infrastructure investments by funding source with a total investment of $1,082 million over the 10-year Plan period (2016-2025).[205]
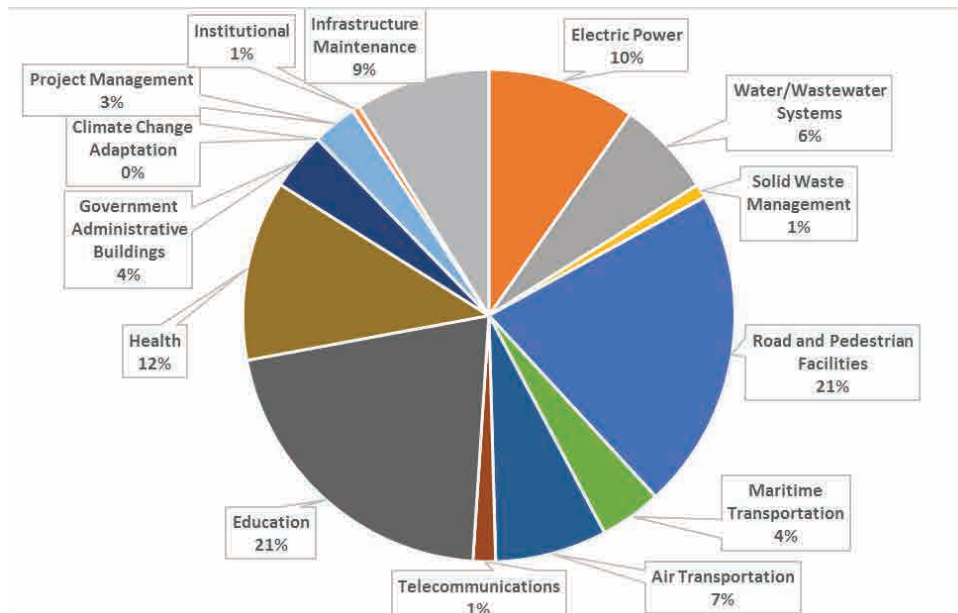
Figure 7: FSM Infrastructure Investment by Sector
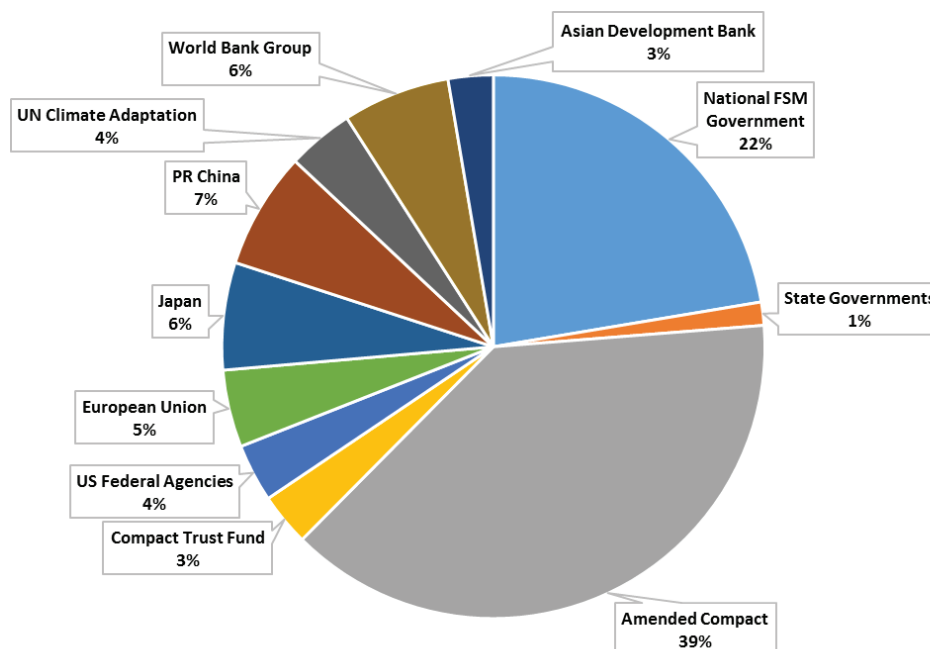
Figure 8: FSM Infrastructure Funding by Source

The sections below give a basic overview of Micronesia's infrastructure. A fuller logistics capacity assessment, which was conducted to aid potential humanitarian assistance operations for Micronesia (as well as 100 other countries), is available at the website for the Logistics Cluster, managed by the UN World Food Programme: https://logcluster.org/dlca/ [206]

Airports

FSM has four international airports, one in each state (Chuuk, Kosrae, Pohnpei, Yap). All four international airports feature runway surfaces that are grooved asphalt and in good condition. Further information on the airports are listed in the Table 2.[207]

In addition to the four international airports, FSM also has nine civil airfields, eight of which are in working condition, across Yap, Chuuk and Pohnpei states. Detailed information on the civil airfields are provided in the Table 3.[208]

Seaports

FSM operates four international seaports, one in each state, Pohnpei, Chuuk, Yap, and Kosrae, all within a protected lagoon environment.

Airport	City	Runway Information	Elevation	IATA	ICAO	FAA	CTAF
Chuuk International Airport	Weno Island	Runways 4&22: 6006 x 150 ft. / 1831 x 46 m	10 feet/ 3.0 m (surveyed)	TKK	PTKK	TKK	123.6 (COMS provided by Truk Radio)
Kosrae International Airport	Okat district, Kosrae Island	Runways 4&22: 6006 x 150 ft. / 1831 x 46 m	11 feet / 3.4 m (surveyed)	KSA	PTSA	KSA	123.6 (COMS provided by Kosrae Radio)
Pohnpei International Airport	Kolonia Town, Pohnpei Island	Runways 9&27: 6001 x 150 ft. / 1829 x 46 m	8 feet/ 2.4 m (surveyed)	PNI	PTPN	PNI	123.6 (COMS provided by Pohnpei Radio)
Yap International Airport	Colonia Town, Yap Island	Runways 7&25: 6000 x 150 ft. / 1829 x 46 m	91 feet/ 27.7 m (surveyed)	YAP	PTYA	T11	123.6 (COMS provided by Yap Radio)

Table 2: FSM Main International Airports

Table Notes:
IATA: International Air Transport Association (IATA)
ICAO: International Civil Aviation Organization, a UN specialized agency
FAA: Federal Aviation Administration, US Dept. of Transportation
CTAF: Common traffic advisory frequency

Civil Airfield	Location	Runway	Elevation
Fais Civil Airfield	Fais Island, Yap State	3000 x 75 ft./ 914 x 23 m	
Airstrip surface: Chip seal, in poor condition, severe cracks, lose debris, last surface work completed in 1992. CTAF: 123.6 (COMS provided by Yap Radio)			
Houk (Pulusuk) Civil Airfield	Houk Island or Pulusuk, Manila Reef Atoll, Pattiw Island Group, Chuuk State	1350 x 50 ft./ 411 x 15 m	
Airstrip surface: Concrete, in fair condition, some significant surface cracks CTAF: 123.6 (COMS provided by Chuuk Radio)			
Mortlock Islands (Ta) Civil Airfield	Ta Island, Satawan Atoll, Chuuk State	1350 x 50 ft./ 411 x 15 m	
Airstrip surface: Concrete, in good condition CTAF: 123.6 (COMS provided by Chuuk Radio)			
Mwoakilloa Civil Airfield	Kahlap Island, Mwoakilloa Atoll (formerly Mokil), Pohnpei State	1200 x 100 ft./ 366 x 30 m	8 feet
Airstrip surface: Concrete, in fair condition, some significant surface cracks CTAF: 123.6 (COMS provided by Pohnpei Radio)			

Table 3: FSM Civil Airfields

Civil Airfield	Location	Runway	Elevation
Onoun (Ulul) Civil Airfield	Onoun Island (or Ulul), Namonuito Atoll (or Magur Islands), Chuuk State	1200 x 75 ft./ 366 x 23 m	
Airstrip surface: Chip seal, in fair condition, some significant surface cracks CTAF: 123.6 (COMS provided by Chuuk Radio)			
Pingelap Civil Airfield	Pingelap Island, Pingelap Atoll, Pohnpei State	1200 x 100 ft./ 366 x 30 m	8 feet
Airstrip surface: Concrete, in fair condition, deteriorated paving in some places, eroded fringe CTAF: 123.6 (COMS provided by Pohnpei Radio)			
Ulithi Civil Airfield	Falalop Island, Ulithi Atoll, Yap State	3000 x 75 ft./ 914 x 23 m	6 feet
Airstrip surface: Concrete, in fair condition. CTAF: 123.6 (COMS provided by Yap Radio) IATA code: ULI FAA code: TT02			
Woleai Civil Airfield	Woleai Atoll, Yap State	1200 x 75 ft./ 366 x 23 m	
— WOLEAI AIRSTRIP CURRENTLY OUT OF SERVICE DUE TO UNSAFE CONDITIONS — Airstrip surface: Chip seal, in extremely poor condition, potholes & severe cracks, no proper drainage, water pools on airstrip, last surface work completed in 1992. CTAF: 123.6 (COMS provided by Yap Radio)			

Table 3: FSM Civil Airfields (cont.)

Almost all inbound and outbound freight is containerized. At all four ports, vessels must have gantry cranes for loading and unloading at the dock, although ports do have top loaders or reach stackers for moving and stacking containers once unloaded. Containers can generally be unloaded at 6-10 per hour at the four international seaports. While the ports are not usually congested, the limited amount of handling equipment is a point of vulnerability, as it could create a potential bottleneck during disasters or other times of high need.[209] The four seaports are listed below:

1. Port of Pohnpei – 6° 58' 50" N, 158° 12' 5" E. This port is on the Island of Pohnpei, which is Pohnpei State's principal island and the largest island in FSM, where the national capital of Palikir is located. As with all other ports in FSM it is overseen by the Department of Transport, Communication and Infrastructure, but the port is operated by the Pohnpei Port Authority. Stevedoring and warehousing is provided by a private company, Federated Shipping Company Ltd. (FSCO).[210] The nearest airport is Pohnpei Airport.

2. Port of Weno (Chuuk) – Also referred to by its complete name, the Port of Chuuk, this port is located on the island municipality of Weno (formerly Moen) in Chuuk State. The port is operated through the Chuuk State Department of Transport and Public Works, which is responsible for administration and regulations, although all port operations are contracted out to private companies. Transco provides the limited amount of port handling equipment and handles stevedoring and port terminal services, while piloting services are provided by a company subcontracted through Transco. The port handles approximately five cargo vessels per month, with vessels up to 13,000 tons able to dock, though larger ships may anchor in the lagoon. The small number of port handling equipment available (e.g. a single top loader) could be a point of vulnerability during high-demand times.[211] The nearest airport is Chuuk International Airport.

3. Port of Yap – Also referred to as Tomil Habor[212], the complete name is Yap Colonia International Port (not to be confused with Kolonia, Pohnpei's state capital) and the port is located near Colonia, Yap's state capital located on Yap Island. The Port of Yap is operated through the Yap State Department of Transport and Public Works, with a private company providing terminal services, stevedoring and freight handling. The port handles approximately 3-5 vessels per month, with the main dock capable of accommodating ships up to 500 feet. Main dock infrastructure is poor, with cyclone-

damaged warehouses and structures in disrepair. Transit warehouse facilities were also in poor condition, with walls and ceiling exposed due to the damage caused by a 2006 tropical cyclone. The poor condition and limited amount of large handling equipment could be a vulnerability point in case of an emergency. The nearest airport is Yap International Airport.[213]

4. Port of Kosrae – With the complete name of Kosrae International Port, the port is alternately referred to as Molsron Lele[214] or Lelu Harbor.[215] It is located near Tofol on the Island of Kosrae, the second largest island in FSM. The port is operated by the Kosrae Port Authority, with terminal services and stevedoring provided by a private company. The main dock infrastructure is in good condition with solid warehouse facilities. The nearest airport is Kosrae International Airport.[216]

Land Routes

Roads

FSM has approximately 240 km (149 miles) of highways, most of which are in poor condition, with only about 42 km (26 miles) being paved.[217] Circumferential roads ringing an island are comprised of both paved and unpaved roads, while most interior roads are unpaved.[218] The majority of the roads are on the main islands of the four states: Yap, Chuuk, Pohnpei, and Kosrae. Few outer islands have roads, with just small walking tracks connecting villages. Each of the four states' Department of Transport and Public works are responsible for road maintenance, though the cost of fuel appears to restrict maintenance activities.[219]

Driving is on the right side of the road. However, the majority of vehicles in FSM are right-hand drive vehicles imported from Japan, where vehicles are driven on the left side of the road. Thus, they are not designed to operate on the FSM road network, as those vehicles do not provide the driver with an optimum field of vision. There is little formal training in road safety or driving,[220] and only a very basic competence test is required to obtain a driver's license. Unlicensed drivers are one of the greater risks on the road. The maximum speed limit on any island is 40 km per hour (25 mph), dropping to around 15 mph in school zones when children are present. However, average driving speeds can be lower than posted limits. It is a rule and a cultural expectation that vehicles must drive slowly through village areas.[221] Most roads are narrow, without sidewalks, and with little or no shoulder for vehicles to pull to the side. All roads are used by pedestrians, children at play, animals, and vehicles. Roads often have potholes and road conditions can worsen significantly after heavy rains, which is not an unusual occurrence.[222] A basic overview of road conditions on the main island of each state follows:

- Pohnpei – Pohnpei has some 100km (62 miles) of paved roads in good condition, with it taking 3-4 hours to drive around the island. Numerous small, unpaved road provide access from the main road to villages or to the ocean.
- Chuuk – Roads on Weno are in poor condition. There are approximately 5km (3 miles) of paved roads in good condition, primarily in Weno township, with the remaining roads unpaved or otherwise in a lesser condition.
- Yap – Roads on Yap are in very good condition, with about 40 km (25 miles) paved roads and 10 km (6 miles) unpaved.
- Kosrae – Paved roads on Kosrae are in fair condition, though most are unpaved. Unpaved roads on the southern and southwestern side of the island are in poor condition and require 4-wheel drive to access.[223]

Those intending to reside in FSM should acquire a local driver's license with the state police, who will in most cases issue a local license to those presenting a U.S. driver's license. For those intending to be visit the country temporarily, a U.S. driver's license is sufficient to rent a car.[224]

Railways

There is no railway network across the Federated States of Micronesia, which is comprised of 607 islands.[225]

Waterways

There are no significant internal waterways in FSM, as most islands are too small to have large, long rivers. While there are numerous freshwater streams, they are usually too small or shallow to be navigable. Many small streams run dry during the driest part of the year. Only on some of the bigger islands do larger rivers flow, such

as on Weno in Chuuk State. Pohnpei Island also has many rivers, being one of the world's wettest locations. Its annual rainfall of 190 inches per year feeds over 40 rivers and many small streams on Pohnpei Island, most of which do not dry out. Kosrae is also an extremely wet island, which feeds many streams and rivers that run quickly through narrow valleys between steep mountain slopes but slow in the lowlands. The largest rivers are on the main islands, which are usually high islands. The outer islands are low islands composed of porous limestone rock and sand, thus lacking in streams and rivers.[226]

Schools

The Germans first instituted public education in the western Pacific islands in the early twentieth century as German colonizers hoped to mold subjects into a more European work ethic. Compulsory education was mandated for ages 6 – 13. Later, during World War I, under Japanese occupation, the Japanese established schools across each of the six island groups with a mandated instruction day of children aged 8 – 14 and included Japanese language, moral and vocational education, mathematics, geography and exercise. By the late 1920s, approximately 50% of school aged children were enrolled in school.

Following World War II, the institution of the Trust Territories of the Pacific Islands (TTPI) charged the United States with the task of advancing the education of the citizens of the TTPI and doubling the education budget of the TTPI from $7.5 million in 1963 to $17.3 million in 1964 and increasing student enrollment from 15,119 at the beginning of 1960 to 28,906 by 1970. Secondary school enrollment in that same period increased from 335 to 5,726. Even post-independence from the TTPI, the four island groups that became FSM continued U.S. modeled education practices including a free, mandatory eight- year schooling covering science, math, language arts, social studies, and physical education beginning at age 6.

The National Literacy Act was established in 1991 and offered adult literacy training in Micronesia. FSM's Department of Education was established in 1992 including four divisions: Curriculum, Standards, Testing, and Evaluation; Vocational Education Manpower Development and Training; Postsecondary and Scholarship; and Federal Community and Foreign Assistance. While there has been progress in educational endeavors in the country as a whole, only 18.4% matriculate to upper level education, 32% to high school, and only 36% through elementary school. Many children do not attend school at all. FSM has only one institute of higher education, the College of Micronesia in Pohnpei which offers various two- and three-year associate degree programs. Micronesian students also seek higher education at the University of Guam.[227] Some graduates with advanced degrees find difficulty utilizing their education and migrate to other countries for more opportunities.[228]

Additionally, the Asian Development Bank/Japan Scholarship Program offers 150 postgraduate scholarships a year to students in FSM for studies in economics, management, science and technology, and other development related fields.[229]

In 2015, Seventh-day Adventist Micronesian schools faced a shortage of teachers when a change in local government regulations required teachers of preschool, grade school, and high school to have a certification or at least two years of college education. Teachers holding those qualifications were inundated with students and reinforcements from the Philippines and the U.S. were recruited to fill space.[230]

Disaster Risk Reduction in the Education Sector

IOM has worked with the education board in FSM to add disasters education to part of the curriculum through the PREPARE Program. The goal is to ensure that students are made aware at an early age of the various natural disasters that might affect the small pacific islands.

IOM's Climate Adaptation, Disaster Risk Reduction and Education (CADRE) program has reached 6,470 students and 300 teachers with materials and drills. It also offers emergency evacuation management training to 231 school leaders and basic first aid to 423 school and community leaders. It extends beyond the school to 842 community members who participated in community drills.[231]

The CADRE Program is a project run by the IOM, which aims to increase the resilience of vulnerable communities in FSM as well as the Republic of Marshall Islands (RMI) against natural hazards, especially climate induced hazards. When the project began in 2011, targeting approximately 10,000 school-aged students, 50 schools, and surrounding communities to provide training and education regarding climate change adaptation and disaster preparedness.[232]

The program is a 36-month project with two Tracks. Track 1 focuses on education, capacity building of students, teachers, administrators and local communities as well as assessment of climate change impacts and disaster risk on school grounds and the surrounding communities. Track 2 utilizes the assessments from Track 1 to roll out adaptation measures based on the recommendations of the assessments.

The CADRE Program's end goals included:
- Supporting sustainable adaptation and preparedness strategies, an increase in the resilience of vulnerable schools and communities to climate change and natural hazards;
- Empowering schools and communities to independently cope with, and respond to, natural disasters; thereby filling a gap in the communication and education sectors by combining climate change adaptation (CCA) and disaster risk reduction (DRR);
- Supporting National Government efforts to implement their national polices and strategies pertaining to adaptation and disaster risk reduction; and
- Implementing practices, which will assist in safeguarding the Millennium Development Goals (MDG) in the context of climate change and the lined impacts of climate change.[233]

Communications

The current communications system relies largely on satellite technology. The government-owned FSM Telecommunications Corporation (FSMTC) is the sole provider of all telecommunication, cable and internet services for the country. FSMTC recently started offering 4G for mobile phone services.[234] In 2016, when it operated on 2G/GSM and 3G/UMTS at 900 MHz, maximum speeds were reportedly 2 Mbps for downloads and 1Mbps for uploads. FSMTC provides 28 WiFi hotspots, predominantly on the main island of each of the four states.[235] FSMTC cell coverage is only available in certain areas on the main islands of Chuuk, Kosrae, Pohnpei, and Yap.[236] FSMTC works to leverage external investments, particularly connections to the international fiber optic network, to bring contemporary telecommunications services and pricing to consumers.[237]

As of 2017, FSM had 6,947 fixed-telephone subscriptions or 6.23 per 100 inhabitants,[238] and 23,114 mobile-cellular telephone subscriptions or 20.74 per 100 inhabitants.[239] An estimated 35.3% of individuals used the internet in 2017,[240] concentrated on the main islands. Individuals with fixed-broadband subscriptions numbered 3,776 in 2017, of 3.39 per 100 inhabitants.[241] FSMTC plans to double the number of cellular towers and provide 3G/4G capability across the cellular network. It will also provide terrestrial fiber optic services in Yap and extend fiber optics in Pohnpei to support the availability of incoming fiber optic capacity.[242]

A VHF/HF radio network is used by the Office of Environment and Emergency Management (OEEM) for communication with communities. However, the current radio network is generally only used during working hours and not monitored 24 hours per day, so providing communities with timely emergency warnings outside working hours can be problematic, especially for rapid-onset disasters (e.g. tsunami). OEEM plans to implement an Emergency/Disaster Alert System project, requiring $800,000, to establish a 24/7 disaster/emergency alert capability.[243]

In Pohnpei, the V6AH station's capacity was increased to reach outer island communities and 40 solar panels were installed for sustainable energy production, which was executed as an IOM project funded by the US and New Zealand. The Pohnpei Disaster Coordination Building's HF and VHF antenna system, damaged by strong winds, was restored through an IOM project in December 2018. This increased broadcasting range from five miles to over 20 miles, reinstating communication to Pohnpei outer islands.[244]

The U.S. Postal Service returned FSM (as well as the Republic of the Marshall Islands) to "mail treated as domestic" status, effective 19 November 2007.[245] The U.S. Postal Service picks up and delivers all mail to each of the four FSM states via air service. FSM is part of the U.S. Zip Code system (Kosrae 96944, Pohnpei 96941, Chuuk 96942, and Yap 96943). The FSM Postal Services delivers mail within the country.[246] The FSM entered into treaty with the International Telecommunications Union on 18 March 1993, and with the Asia-Pacific Telecommunity on 27 January 1994.[247]

Utilities

Power
The FSM have an overall electrification rate

of 75%, as of 2016. In urban areas, usually the main islands of each state, 91% of the population has access to electricity. In rural areas, typically outlying islands, 71% of the population has access to electricity.[248] FSM plans to electrify 90% of rural households by 2020. The country's electricity rates for residential customers averaged $0.39 US dollars (USD) per kilowatt-hour (kWh) in 2016.[249] This reflected a considerable improvement in a relatively short time frame, as rates reportedly exceeded $0.48 USD per kWh the previous year. However, it is still significantly more expensive than the average U.S. residential rate of $0.13 USD/kWh.[250]

While FSM's geography of 607 islands raises the cost of electricity infrastructure, the country is also very dependent on imported fossil fuels for transportation and electricity generation, rendering them vulnerable to global oil price fluctuations. With the exception of the Kosrae Utility Authority, which only serves a single island, the three other states' (Yap, Chuuk, and Pohnpei) utilities serve numerous remote islands in addition to a populous main island or island group. This dispersed geography increases the cost by necessitating multiple independent grids. FSM's many remote islands hinder the electric utilities benefiting from economies of scale in generating power, storing fuel, and procuring equipment, and lead to increased rates due to the challenge of maintaining generating equipment and obtaining replacement parts.

In the 2019 Sustainable Development Report, for Micronesia it was assessed that "major challenges remain" to achieve Sustainable Development Goal 7, affordable and clean energy, by 2030.[251] Nonetheless, the National Energy Policy has the target by 2020 of increasing renewable energy to 30% of energy supply and increasing energy efficiency by 50%.[252] FSM has received assistance from the Clean Energy Solutions Center, via the North Pacific ACP (African, Caribbean and Pacific) Renewable Energy Efficiency Project (North-REP), in regards to developing regulatory requirements, road mapping and financing programs to meet energy targets.[253]

Water and Sanitation

Data for water and sanitation indicators are inconsistently available. From what data is available, a picture emerges of significant progress in recent decades on sanitation, albeit with room for improvement as overall improved sanitation coverage remains low at 57%. However, challenges have been increasing to provide universal basic water services. Since the early 1990s, the country's improved water coverage has actually decreased.[254]

The proportion of the population using latrines or other improved sanitation facilities, including shared, increased from less than 1% in 2000 to more than 37% in 2017. The proportion of the population using septic tanks increased from 14% in 2000 to 38% in 2017, and the percentage of the population utilizing sewer connections in the same time frame increased from 10% to 13%.[255] Approximately 10% of the population still practice open defecation, 33% use unimproved sanitation services. The percent of population using basic sanitation services is 57% according to 2019 UNICEF data,[256] but is reportedly 88% according to 2019 WHO/UNICEF JMP data.[257] A good public health indicator of progress in water and sanitation is the decline in the death rate from diarrhea among children under five years old (per 1,000 live births), which went from six deaths in 2000 to two deaths in 2016.[258]

The water and sanitation infrastructure is highly vulnerable to disasters. In recent years, when Typhoon Maysak struck in 2015, some schools closed for more than a year due to damaged sanitation infrastructure.[259]

Most of the public water supply comes from surface water and the groundwater lens (the convex layer of fresh groundwater that floats above denser saltwater and is commonly found beneath the surface of small coral or limestone islands). The public water supply also includes water collected from the rainwater catchments on the roof or drawn from hand-dug wells. There are approximately 70 public and community water systems in the country. As of 2017, only five undergo any type of treatment or adequate maintenance.[260] As of 2017, 79% of the population had access to at least basic water services, referring to drinking water from an improved source provided collection time does not exceed 30 minutes per round trip.[261]

Significant issues regarding management of water resources are: the impacts of climate change, deforestation of the watersheds, and sanitary controls on the watershed activities of both humans and animals.[262] FSM is among 10 countries where coverage of basic drinking water services decreased from 2000-2015. Of the 10 countries where at least 20% of the national population used limited services, eight are in sub-Saharan Africa and two are in Oceania.[263]

FEDERATED STATES
OF MICRONESIA
Health

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Health

Health Overview

The FSM, like many Pacific island countries and territories, face a triple burden including communicable disease, non-communicable disease, and the health impact of climate change. The number of deaths caused by non-communicable diseases is among the highest in the world, while various communicable diseases also still burden the Pacific. Simultaneously, vulnerability to the effects of climate change has increased the threat of both communicable and non-communicable diseases. This contributes to high rates of morbidity and mortality.[264]

The FSM has experienced some positive health trends in the past last thirty years, but also faces multiple public health threats, as well as challenges with consistently available health data. Among the positive health trends, over the last three decades life expectancy has been increasing, while child mortality has been decreasing. Although life expectancy falls below expected benchmarks, from 1990-2017, the observed rate increased 4.0 years for females and 3.2 years for males, as depicted in Figure 9.[265]

Another improved health outcome is declining child mortality rates, as depicted in Figure 10. From 1990-2017, for children under 5 years of age the observed rate fell from 43.0 to 17.5 deaths per 1,000 live births. Similarly, for children under 1 year old, the observed rate declined from 33.2 to 13.7 deaths per 1,000 live births. Furthermore, these observed mortality rates were even lower than expected rates.

While life expectancy and child mortality numbers offer good news, FSM is trying to address serious health challenges. Notably, it is simultaneously facing a crisis of non-communicable diseases, threats from various communicable diseases, and negative health effects of climate change.

Health Care System Structure

The government has established five strategic health goals, as stated in the FSM Strategic Development Plan:
1. Improve Primary Health Care Services
2. Improve Secondary Health Care Services
3. Prioritize Health Promotion and Services for Major Health Problems
4. Develop A Sustainable Health Care Financing Mechanism
5. Improve Capacity and Accountability Systems[266]

Organizationally, the country's health care system structure is derived from the system that the U.S. Navy and the U.S. Department of the Interior established upon Micronesia reverting to U.S. control after World War II, which is marked by a central hospital established on the main islands with dispensaries on remote islands.

At the national level, the Division of Health, part of the Department of Health, Education, and Social Affairs, does not have a direct role in providing health services, but focuses instead on health planning, donor coordination, and technical and training assistance. In this role, the Division of Health wields considerable influence on the provision of preventive medicine and public health programs, many of which are funded by the U.S. Department of Health and Human Services.[267]

Each state (Yap, Chuuk, Pohnpei, and Kosrae) has a Department of Health Services (DHS), which is responsible for running curative, preventive and public health services. This includes the main hospital, peripheral community health centers, and primary care centers, usually referred to as dispensaries. Most DHSs have structurally weak management systems and minimal capabilities for planning and programming.[268] There is a main public hospital in each of the four states, which is primarily accessible to residents of the urban centers. Lack of public transportation between islands often prevents outer island residents from accessing hospital services. There are six private health clinics in the country and one private hospital.[269] The four state governments subsidize health services, except in the private clinics and hospital.[270]

At the municipal level, including the outlying islands, health care is available through dispensaries, which function like health clinics. Although the dispensaries fall under the state's DHS, their daily operations are under the supervision of the mayors of their localities. Dispensaries are usually staffed by health assistants, who mainly provide diagnosis and treatment of common ailments. Advanced cases are referred to the central hospitals.[271]

	Expected		Observed	
	1990	2017	1990	2017
Females	68.3	73.0	65.6	69.6
Males	64.1	67.6	61.8	65.0
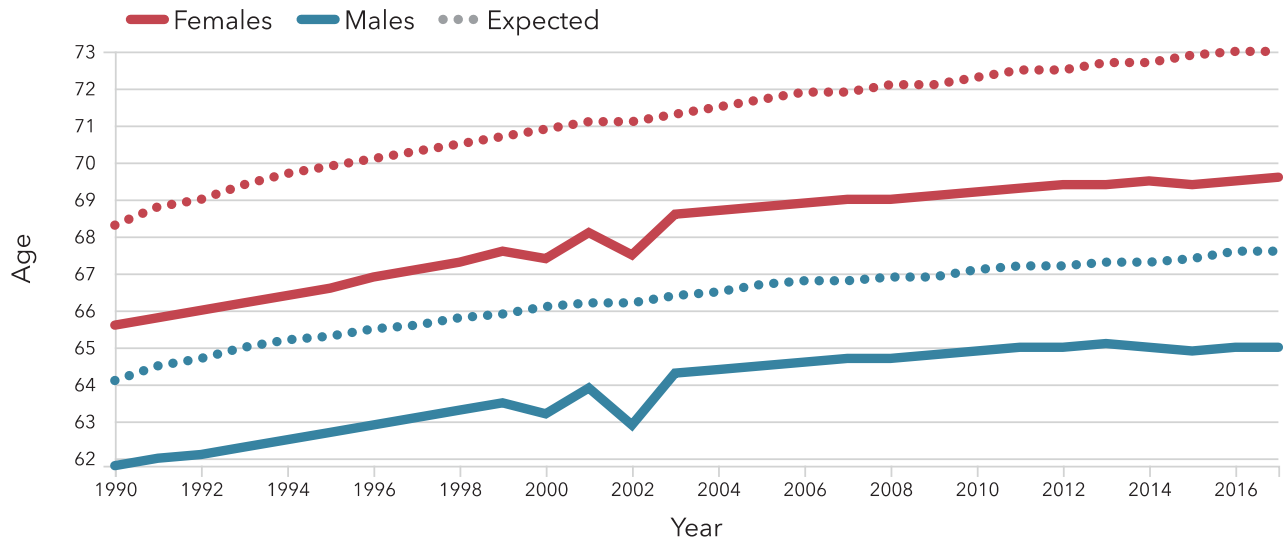
Figure 9: Life Expectancy Increase in FSM from 1990-2017

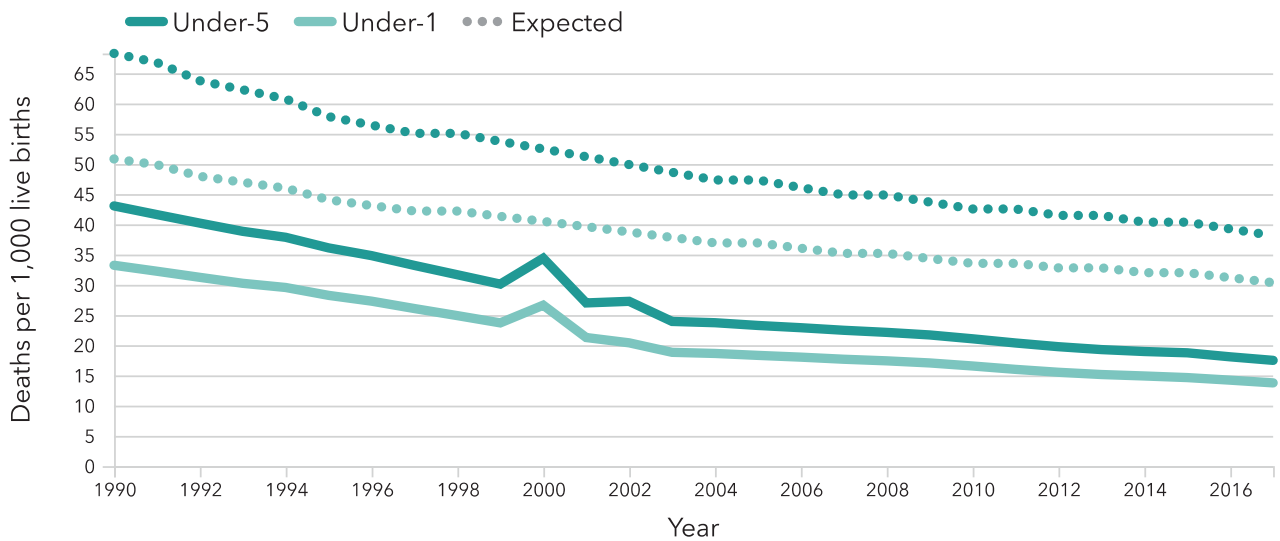|	Expected		Observed	
	1990	2017	1990	2017
Under-5	68.3	38.1	43.0	17.5
Under-1	50.8	30.3	33.2	13.7

Figure 10: Child Mortality Declines in Last Three Decades.

Health Cooperation

The World Health Organization (WHO) is a major partner for health cooperation in the FSM and across the South Pacific. WHO has a country cooperation strategy with the FSM, as well as a regional cooperation strategy with Pacific Island countries and territories, which includes the FSM, both of which outline four national strategic priorities, which each correspond with actions to be undertaken as discussed in Table 4.[272]

In April 2019, FSM was visited by Pacific Partnership, an annual U.S. Navy multinational disaster preparedness mission since 2006, working with partner nations in the region to improve interoperability of militaries and government and provide development assistance with engineering and health engagements. Pacific Partnership medical personnel conducted health symposiums and health care engagements side-by-side with local medical professionals. The 2019 visit marked Pacific Partnership's sixth mission stop in FSM.[273]

National Strategic Priorities	Corresponding Actions
1. To achieve universal health coverage by building resilient and sustainable health systems to enhance the availability of needs-based health services in the country	1.1 Define an essential package of quality health services and role delineation based on lessons gleaned from demonstration programs in all states, including integrated outreach services.
	1.2 Implement an antimicrobial resistance strategy and action plan.
	1.3 Develop a health workforce that is critical to the needs of the country.
	1.4 Strengthen a supportive and sustainable social and physical environment to improve health through legislative approaches.
	1.5 Strengthen the national health accounts system through regular updates.
2. To build International Health Regulations (IHR - 2005) core capacities for proactive preparedness in health emergencies and natural disasters	2.1 Establish a risk communication system with the capacity to manage public, internal and partner communication for all phases of public health emergencies.
	2.2 Set up a multisectoral approach to respond to events that may constitute public health emergencies.
	2.3 Put indicator- and event-based surveillance system(s) in place to detect public health threats with systematic data analysis, risk assessment and reporting.
	2.4 Put in place a national laboratory system capable of conducting 3–4 core tests, along with a system to transport specimens.
3. To build capacity for NCD prevention and control	3.1 Set up a high-level forum such as a national NCD coordination mechanism and organize an annual NCD summit.
	3.2 Scale up Package of Essential Noncommunicable in the dispensaries, health centers and hospital in all states.
	3.3 Establish partnerships between community and primary health care services for community-based rehabilitation and build the assistive technology capacity of health facilities.
	3.4 Conduct NCD surveillance activities.
	3.5 Draft legislation to restrict the use of high-sodium foods, 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.
	3.6 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.
4. To control communicable diseases	4.1 Follow the technical process to achieve and maintain the target of lymphatic filariasis elimination by 2022.
	4.2 Intensify TB and leprosy screening in Chuuk State.
	4.3 Strengthen vector control and ensure reduction of dengue cases and fatalities.
	4.4 Strengthen the immunization program to increase vaccination coverage to meet the national targets.

Table 4: WHO Country Cooperation Strategy & National Strategic Priorities

Communicable Diseases

The population of Micronesia is susceptible to risks from various infectious diseases, including tuberculosis, HIV/AIDS, Hansen's disease (leprosy), dengue, chikungunya, zika virus, and leptospirosis. This section gives an overview of communicable diseases as part of the public health picture of FSM. For travelers heading to FSM, health information specifically for travel preparation can be found in this handbook's Travel Health Information Appendix and from the Centers for Disease Control and Prevention (CDC).

Tuberculosis (TB)

The incidence of TB is relatively high in the FSM, as well as in Kiribati, the Republic of the Marshall Islands, and Tuvalu in the Oceania region. As of 2015, FSM had a tuberculosis incidence rate of 124 per 100,000 people.[274] While TB remains endemic, it has been decreasing over the last couple decades, as 2010-2013 saw an average annual incidence of 197 per 100,000, which in turn was down from 1995-1999 when the average annual incidence was 306 per 100,000. However, an additional challenge is that multidrug-resistant tuberculosis (MDR-TB) is emerging.[275] Chuuk State documented its first cases of MDR-TB when two distinct outbreaks occurred in 2007-2009.[276]

HIV/AIDS

FSM is considered to have a relatively low prevalence of human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS). From 1989, the beginning of the HIV-AIDS epidemic, 46 cases were reported through 2014. Of those, 73% were reported during the 1998-2007 time period. Among the causes of transmission, 67% were via heterosexual sex, while 8% were via male-to-male-sex, and another 8% were mother to child.[277]

Despite relatively low prevalence, HIV has increased significantly in the FSM in the last decade. It shifted from being the 18th cause of death in 2007, to the 6th cause of death in 2017, as shown in Figure 11.[278]

Hansen's disease (Leprosy)

Micronesia, the Marshall Islands and Kiribati have among the highest rates of Hansen's disease, also known as leprosy, in the world. According to the World Health Organisation (WHO), the FSM has the highest prevalence of Hansen's disease in the Pacific, with 13.246 cases per 10,000 people as of the last available data for 2016.[279] Marcus Samo, the Assistant Secretary in FSM's Department of Health Services, considers the disease his country's biggest health concern.[280]

Pohnpei has the largest number of cases of Hansen's disease in the country, with nearly 100 new cases reported in that state every

2007 ranking		2017 ranking		% change 2007-2017
Ischemic heart disease	1	1	Ischemic heart disease	18.2%
Stroke	2	2	Stroke	8.9%
Diabetes	3	3	Diabetes	27.1%
Chronic kidney disease	4	4	Chronic kidney disease	8.6%
Lower respiratory infect	5	5	Lower respiratory infect	-3.6%
COPD	6	6	HIV/AIDS	265.2%
Neonatal disorders	7	7	COPD	2.5%
Alzheimer's disease	8	8	Alzheimer's disease	0.8%
Road injuries	9	9	Self-harm	-1.4%
Self-harm	10	10	Road injuries	-5.4%
HIV/AIDS	18	12	Neonatal disorders	-27.7%

🔴 Communicable, maternal, neonatal, and nutritional diseases
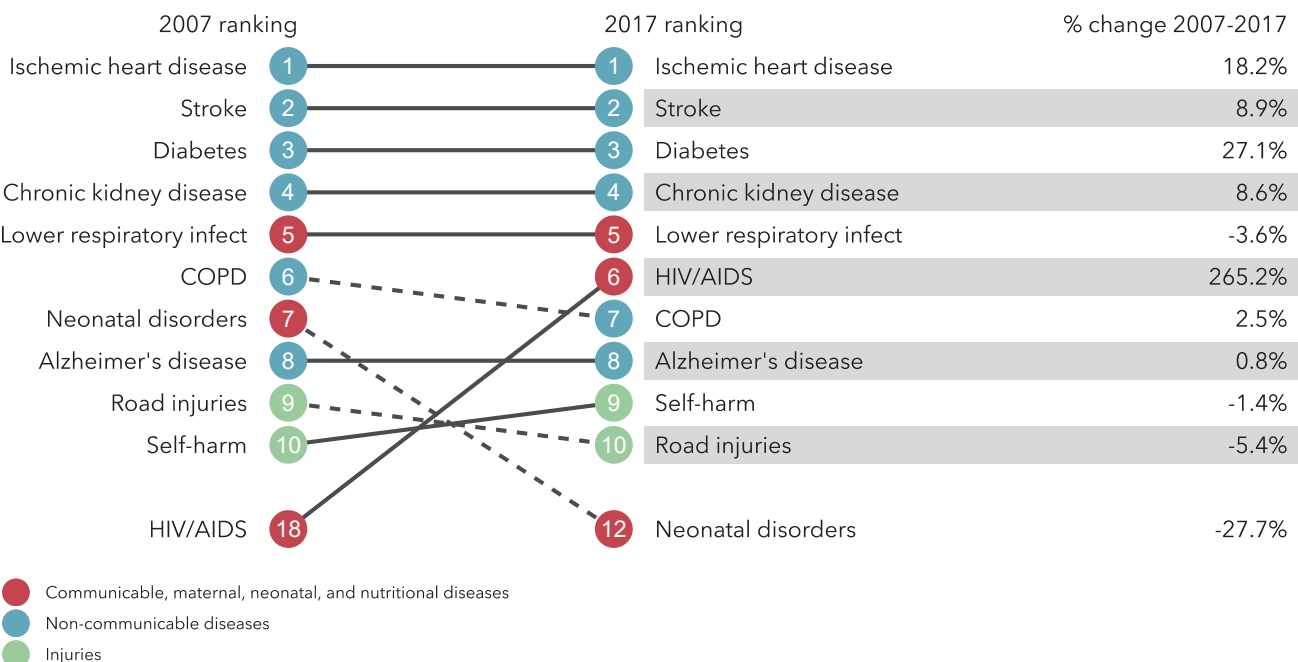🔵 Non-communicable diseases
🟢 Injuries

Figure 11: HIV/AIDS Increase in FSM

year. Elizabeth Keller, Pohnpei's acting chief of Public Health and head of the leprosy program, says those numbers also have a positive side by indicating the government's activities are effective as more people are coming forward to be diagnosed than ever before.[281] Pohnpei public health efforts against the disease include early detection and treatment completion. However, a challenge is the shortage of manpower to go out in the communities and screen all the contacts of leprosy patients, which can be numerous given the prevalence of extended families.[282] Other concerns include a shortage of drugs and inefficient drug distribution. The WHO coordinates or provides free multi-drug therapy (MDT) globally for leprosy, which, in the FSM, is provided free by Novartis. As of April 2019, "We have not received any fresh supply of drugs this year, so we are giving what we have in our stock although they are now expired," stated Dr. Keller, acting chief of Pohnpei State's Department of Health Services and head of the region's leprosy program. An additional issue for tackling Hansen's disease in FSM is there is currently no uniformity in the statistics provided by the national and the state programs. "We don't have a clear database yet. We don't have a trained data analyst or staff who is skilled to compile and visualize statistics," stated Mayleen Ekiek, head of the National Leprosy Programme (NLP). According to Dr. Arturo Cunanan, a world leprosy expert and chief of Cullion Sanitarium and General Hospital in Philippines, "The National Leprosy Programme has not been reviewed for a long time, so we don't know what is working and what is not. Maybe they need a complete overhaul of the system or maybe they just need some training in data, records and office management." Cunanan made his comments while visiting the FSM with the Sasakawa Health Foundation/Nippon Foundation to review the current progress in eliminating leprosy.[283]

Mosquito-borne illnesses

Dengue - FSM has risk of dengue transmission.[284] In August 2019 the FSM government reported a type-3 dengue fever outbreak was affecting the State of Yap.[285] As of 30 August, Yap had 406 suspected cases of dengue fever and 91 confirmed cases, with 32 hospitalized cases and one reported death. There were 14 reported co-infection cases with leptospirosis (also see Leptospirosis section, below).[286] Youths were most likely to be affected

by dengue fever, with 82% of cases in people between the ages of 2 and 19. It was reported on 3 September that the Yap state government closed schools for a month to slow the spread of dengue.[287] In 2012-2013, Kosrae experienced a major dengue outbreak, which peaked around March 2013, when approximately 3.7% of Kosrae State residents had been hospitalized with suspected dengue.[288] In September 2011, a major dengue outbreak started in Yap that lasted through February 2012,[289] and was notable for being caused by two different dengue viruses.[290] There are four types of dengue viruses (DENV-1, DENV-2, DENV-3, DENV-4), which are transmitted through the bites of the daytime-feeding mosquitoes Aedes aegypti and Aedes albopictus. Significant portions of the population have been exposed to serotypes 1, 2 and 4. As of January 2019, FSM officials were taking preventive measures to keep DENV-3 spreading from Palau to Yap, the western-most state in FSM that is closest to Palau.[291] About one in four people infected with dengue will get sick, mostly exhibiting mild symptoms, which commonly include fever, accompanied by nausea, vomiting, rash, aches or pains. However, about 1 in 20 people who get sick will develop severe dengue, which can result in shock, internal bleeding, and even death.[292]

Chikungunya - FSM has risk of transmission of chikungunya, a mosquito-borne illness transmitted primarily through the bite of Aedes aegypti and Aedes albopictus, which feed during the daytime.[293] FSM's first known chikungunya virus disease outbreak occurred in 2013. From August to October 2013, the Yap State Department of Health identified an unusual cluster of illness marked by fever and joint pain, with patient samples having evidence of recent chikungunya virus infection. Over the year-long outbreak, 3% of residents on Yap Main Island were hospitalized, but there were no deaths.[294] A chikungunya case was also lab-confirmed on Pohnpei in 2015.[295] The most common symptoms of chikungunya infection are fever and joint pain, though symptoms may also include headache, muscle pain, joint swelling, or rash.[296]

Zika - Although there is a relatively low risk of Zika virus transmission in FSM,[297] the world's first recorded outbreak of Zika virus disease was actually reported in FSM in 2007. While rare sporadic cases of human infections were found from the 1960s to 1980s across Africa and Asia, the first observed outbreak in a human population occurred in 2007 on the Yap

Main Islands.[298] There have not been recorded outbreaks of Zika virus in FSM since then, and the risk of transmission is low. Many people infected with Zika virus will be asymptomatic or exhibit mild symptoms. However, the virus can be transmitted from a pregnant woman to her fetus, resulting in birth defects, including microcephaly and other fetal brain defects.[299]

Malaria - The WHO has deemed that malaria has not been present in FSM since 1963.[300]

Leptospirosis

A number of studies suggest that leptospirosis is endemic in FSM, posing a high disease burden across Oceania.[301] Leptospirosis is caused by bacteria of the genus Leptospira, which is spread through the urine of infected animals. It can survive in water or soil for weeks to months, and people can become infected via contact with contaminated water, soil, food, or infected animals' body fluids. Many different kinds of wild and domestic animals carry the bacterium, including cattle, pigs, horses, dogs, and rodents. People can be asymptomatic or exhibit a wide range of symptoms, some of which may be mistaken for other diseases. Without treatment, it can lead to kidney damage, meningitis, liver failure, respiratory distress, and death.[302]

A recent leptospirosis outbreak in August 2019 affected Yap State. As of 30 August 2019, there were 378 suspected cases, of which 82 were reported positive based on Rapid Diagnostic Test over all cases recorded in 2019. There were 14 cases that were co-infected with dengue (see Mosquito-borne illnesses section, above). There were 25 hospitalized cases of leptospirosis, but no deaths reported as of time of publication.[303]

In 2011, a four-month hospital survey was conducted in Pohnpei State. Out of 54 participants tested, 20.4% showed evidence of infection, demonstrating a high burden of leptospirosis in that state.[304] In 2012, five people in Yap were confirmed infected with leptospirosis, as discovered during a dengue outbreak investigation, and in 2010 two cases were confirmed in Chuuk.[305] From 1989-1997, eight confirmed cases identified in Hawaii were acquired from Kosrae and Pohnpei.[306]

Non-Communicable Diseases

Non-communicable diseases (NCDs) are the leading cause of death globally, responsible for approximately 70% of all deaths in the world, with the quickest increase in NCD mortality happening in low- and low-middle income economies.[307] The Western Pacific is especially hard hit by NCDs, including the FSM, where NCDs are estimated to account for 75% of all deaths.[308] In FSM, NCDs account for the top four causes of death as shown in Figure 11 in the previous section: ischemic heart disease, stroke, diabetes, and chronic kidney disease. NCDs also comprise five out of the top ten causes of the most death and disability combined, including the top three, heart disease, diabetes, and stroke.[309]

When focusing only on the health problems that cause disability, non-communicable diseases come into even starker focus. NCDs comprise nine of the top ten health problems in FSM that cause the most disability, as illustrated in Figure 12.[310]

Consumption of imported packaged food, lack of physical activity and use of tobacco products directly contribute to the high prevalence of NCDs and obesity in the country.[311] Situated in an economic and historical context, the rise of NCDs in the Pacific strongly correlates with trade and investment liberalization, which facilitates the imports of unhealthy commodities.[312]

Pacific Island leaders have declared NCDs a crisis and expressed commitment to the Pacific NCD Roadmap, which specified policy and legislation to prevent NCDs. To strengthen compliance, the Pacific Monitoring Alliance for NCD Action (MANA) and a mutual accountability mechanism was initiated in recent years.[313] According to Magdalena Walter, FSM's Secretary of Health and Social Affairs told the UN General Assembly in 2018, "The FSM is taking critical steps in the prevention and control of NCDs through a multi sectoral approach, legislation, and innovative community approach."[314]

Training for Health Professionals

The Oceania region faces unique logistical challenges in order to reach many populated islands across thousands of miles of water, which affects not only disaster response but also access to health training. An important regional initiative is the Pacific Open Learning Health Net (POLHN), which focuses on distance education for health professionals working in the Pacific.

POLHN was established in 2003 as a joint initiative between the World Health Organization (WHO), the Government of Japan, and Pacific Ministers of Health. It has since grown to support

2007 ranking		2017 ranking	% change 2007-2017
Diabetes	1 — 1	Diabetes	21.2%
Low back pain	2 — 2	Low back pain	8.7%
Headache disorders	3 — 3	Headache disorders	2.2%
Dietary iron deficiency	4 — 4	Dietary iron deficiency	-2.2%
Depressive disorders	5 — 5	Depressive disorders	4.6%
Other musculoskeletal	6 — 6	Other musculoskeletal	4.3%
Age-related hearing loss	7 — 7	COPD	18.5%
Asthma	8 — 8	Age-related hearing loss	9.0%
COPD	9 — 9	Asthma	12.5%
Anxiety disorders	10 — 10	Anxiety disorders	0.7%

● Communicable, maternal, neonatal, and nutritional diseases
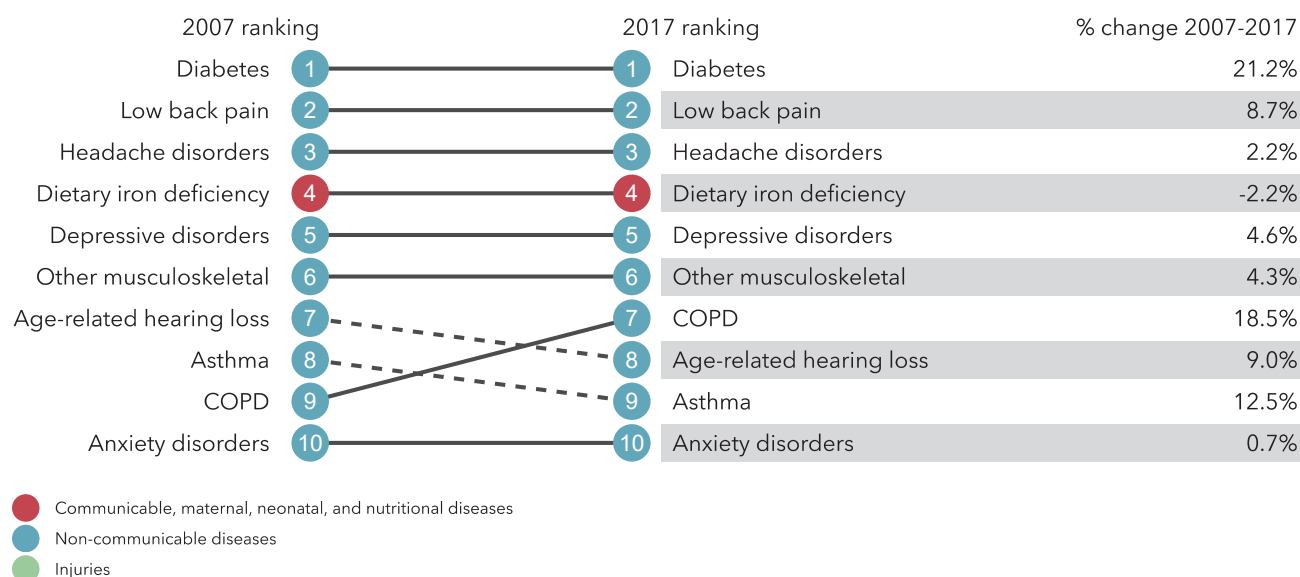● Non-communicable diseases
● Injuries

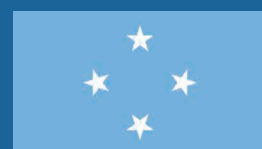Figure 12: Non-communicable Diseases Comprise 9 out of 10 Health Problems

67,000 registered students with health education and training. POLHN uses a combination of digital networks and physical infrastructure. As of 2019, there are 52 e-learning centers, featuring networked computers with internet, printing, and scanning capabilities, in 15 Pacific Island countries and areas, including the FSM.[315] POLHN provides appropriate e-learning curricula in medicine, nursing, health education, and public health, and offers them online as well as on CD and other formats to accommodate the limited bandwidth in many Pacific Islands.[316] POLHN also endorses courses offered through the Global Health eLearning Center (GHeL). This leads to GHeL course certificates being largely accepted by Pacific Ministries of Health to meet requirements for continuing professional development. Many licensure boards, including in the FSM, also recognize POLHN-endorsed GHeL course certificates as evidence of skill development.[317]

The College of Micronesia-FSM has a Public Health Training Program, offering an Advanced Certificate in Public Health, an Associate of Science Degree in Public Health, an Associate of Science Degree in Nursing, and related certificates. The college is comprised of several campuses: 1) National Campus in the capital, Palikir, on Pohnpei; 2) Chuuk Campus; 3) Career

and Technical Education Center, in Kolonia on Pohnpei; 4) Kosrae Campus; 5) Yap Campus; and 6) FSM Fisheries and Maritime Institute, on Yap.[318]

The College of Micronesia-FSM works collaboratively with the University of Guam's School of Health program, Micronesian Area Health Education Center, which organizes education, training, and learning activities for health professions students for the aim of improving health care in underserved communities.[319] The College of Micronesia-FSM also works with the Area Health Education Center of the University of Hawaii's John A. Burns School of Medicine to conduct a pre-medical and pre-dental Health Careers Opportunities Program.[320]

In December 2018, three ophthalmic technicians from the John A. Moran Eye Center in Utah traveled to FSM to train 12 nurses to conduct thorough vision screenings. By training nurses to perform the time-consuming vision screenings, the goal is to increase the capacity of the sole ophthalmologist serving the FSM to focus on performing surgeries. The first of several training sessions were planned over three years. Future trainings are planned to be funded by the National Eye Care Plan, an alliance between FSM and the Moran Eye Center.[321]

FEDERATED STATES OF MICRONESIA
Women, Peace and Security

Disaster Management Reference Handbook | November 2019

Women, Peace and Security

Women are an important component of disaster risk mitigation and response planning. They often enhance disaster planning with different perspectives that often focus on community needs and vulnerable groups. Women may be even more affected by disasters because they often take care of the children, the social welfare of the community including health and education, as well as tend to crops and gardens for food for the family.[322]

Micronesia acceded to the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) in 2004. FSM has not developed a National Action Plan for implementing United Nations Security Council Resolution (UNSCR) 1325 on Women, Peace and Security (WPS). Passed in 2000, UNSCR 1325 was the first resolution where the Security Council addressed the disproportionate effect of conflict on women and girls, and emphasized the importance of women's participation in conflict prevention, peacebuilding, and relief and recovery.[323] As of September 2019, 82 out of 193 UN member states had adopted National Action Plans.[324]

The legal rights of women are protected under Micronesia's National Constitution and the constitutions of the four states, all of which prohibit discrimination on the grounds of sex. Although there is no national legislation criminalizing sexual assault, each state has identical legislation criminalizing sexual assault, and sexual intercourse with girls under 13. There is little data collected regarding the levels of violence against women, but increasing reports indicate domestic violence and gender-based violence are widely considered one of the primary human rights issues facing the country.[325] There is currently no data for Micronesia is available in the World Economic Forum's annual Global Gender Gap Report. Gender-based violence rates are high in FSM and women are vulnerable to trafficking, illegal sex work, unwanted pregnancies, harassment and violence. Cultural factors in the male-dominated society may also limit women's representation in government and politics.[326]

Micronesia's Supreme Court and the Pacific Judicial Strengthening Initiative hosted local Gender and Family Violence Workshops in January 2019 in Pohnpei and Kosrae, to raise awareness of gender-based violence, gender inequality, victim services, and perpetrator accountability.[327]

There are 85 senators across its four State legislatures, among whom two senators are women, in the Chuuk and Pohnpei States. No women are in the national Congress. FSM is one of the few countries never to have elected a woman into its national legislature.[328] FSM's Strategic Development Plan includes a section dedicated to gender, and in particular, the promotion of opportunities for women and children across all societal agencies. The Plan declares, the following strategic goals:[329]

- **Strategic Goal 1:** Enhance and promote the cultural, economic, legal, political and social development of women and children throughout their life cycles
- **Strategic Goal 2:** Enhance the Leadership Capacity and Roles of Women
- **Strategic Goal 3:** Mainstream Gender Issues into Decision-Making, Policies and Strategic Development Plans
- **Strategic Goal 4:** Maximize Women's Contribution to and Participation in Democratic and Development Processes by Creating Opportunities for women's Active Involvement
- **Strategic Goal 5:** Strengthen the Institutional Capacity of the Women's Programs in FSM
- **Strategic Goal 6:** Strengthen the institutional capacity, effectiveness and impact of Youth Organizations
- **Strategic Goal 7:** Strengthen Youth Development through Social, Economic and Political Participation
- **Strategic Goal 8:** Establish social protection and social welfare services for senior citizens
- **Strategic Goal 9:** Address the special economic, political and social needs of disabled persons and persons with special needs

In addition to U.S. funding, Australia provides aid to FSM, with one strategic objective stated to "improve political, economic and social opportunities for women." Benchmarks include the following initiatives: support for the development of legislation providing greater legal protection against gender violence and prosecution of perpetrators; completion of a scoping study to identify key barriers for scaling up women's businesses, supporting the strengthening and development of women's businesses, and helping female employees in the private sector with career advancement; and support the development and initial provision of basic referral services to victims of gender violence.[330]

FEDERATED STATES
OF MICRONESIA
Conclusion

Disaster Management Reference Handbook | November 2019

Conclusion

FSM is vulnerable to natural disasters. Heavy, year-round rainfall, earthquakes, and most frequently, typhoons are its main source of natural disasters.[331] Typhoon Maysak in 2015,[332] and Typhoon Wutip in February 2019 caused serious destruction to FSM.[333] The country is also vulnerable to storm surge, droughts, flooding, as well as, secondary impacts, such as landslides. The majority of the population reside in coastal areas exposing them to extreme weather-related hazards due to climate change. FSM's potential for drought and exposure to cyclones are constant challenges.[334] Man-made disasters due to the results of overfishing, water pollution, toxic pollution from mining and solid waste disposal also plague FSM. These environmental challenges converge with critical socioeconomic vulnerabilities in the country.[335]

These disasters have negative impacts on the social sectors of health, education, and livelihoods, resulting in deeper inequalities of opportunity to the population, which are transmitted over generations.[336] Vulnerability to the effects of climate change has increased the threat of both communicable and non-communicable diseases adding to high rates of morbidity and mortality. The number of deaths caused by non-communicable diseases is among the highest in the world.[337] Despite these setbacks, FSM has been successful in increasing life expectancy and decreasing child mortality rates.[338]

The Government of FSM adopted a policy for nationwide integrated disaster risk management and climate change in December 2013 which superseded the Nationwide Climate Change Policy (2009). Each state has published its own Disaster Risk Management and Climate Change policy (Yap and Kosrae in 2015, Pohnpei in 2016 and Chuuk in 2017).[339]

It has the National Disaster Response Plan (2016) which defines the measures to be taken at the national government level to ensure that effective disaster preparedness, response, relief and recovery are carried out. FSM's Plan proclaims that everyone (individuals, communities, agencies, sectors and levels of government) has a role within their community to prepare for and manage the impacts of disasters. The Plan provides for access to support and resources through national, regional and international arrangements based on the assessed scope and scale of an emergency or disaster event. The FSM government has put in place national frameworks for adaptation including the Strategic Development Plan (SDP) for FSM which provides a road map for social and economic development from 2004 – 2023.[340]

FSM's remote and dispersed island geography has led to heavy dependence on aid funding.[341] USAID/OFDA and FEMA have developed an operational blueprint which guides humanitarian assistance in the event of a significant disaster in FSM. USAID/OFDA collaborates closely with FEMA, as well as USAID/Philippines and USAID's Bureau for Asia, to implement humanitarian programs in FSM. USAID/OFDA supports life-saving activities in response to natural disasters, including drought, floods, and storms, and provides technical assistance to coordinate response and early recovery activities.[342]

This occurred in FSM during the Typhoon Maysak disaster response in 2015. Under the COFA, FEMA provided funds to USAID/OFDA to implement humanitarian response and reconstruction programs in coordination with the Government of FSM. USAID/OFDA also pre-positioned relief commodities distributed in response to Typhoon Maysak.[343] In March 2018, FSM was affected by Tropical Depression Jelawat, and FEMA and USAID performed a joint damage assessment of the affected areas, provided emergency relief and reconstruction assistance, and supporting agricultural rehabilitation assistance.[344] In response to Typhoon Wutip in February 2019, a joint damage assessment was carried out by representatives of USAID/OFDA, FEMA, IOM, and the Government of FSM, and USAID/OFDA and IOM responded with distributions of relief items.[345]

USAID/OFDA also works with implementing partners within the UN system and local/international NGOs.[346] In addition, several non-profit organizations are working with the government to identify and conserve marine protected areas and protect resources for food security as well as various preparedness and risk reduction projects. Many are called upon and present as disaster response partners.[347]

FEDERATED STATES OF MICRONESIA
Appendices

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Appendices

DoD DMHA Engagements in the Past Five Years

Maritime Infrastructure Assessment in FSM (Pacific Partnership 2019) – May 2019

U.S. Navy Sailors assigned to Underwater Construction Team (UCT) 2, Construction Dive Detachment Alpha, with Pohnpei port security divers, conducted a subject matter expert exchange involving a maritime infrastructure assessment of the Pohnpei Harbor and Kapingamarangi Atoll as part of Pacific Partnership 2019 (PP19). The goal of the assessment, which began April 16, was to maintain and expand the harbor port in Pohnpei as well as improve navigation safety in both Pohnpei and Kapingamarangi Atoll in order to empower the FSM to improve their infrastructure and ability to respond to disaster emergencies.[348]

Pacific Partnership – May 2019

Pacific Partnership 2019 concluded its 14th iteration of multi-national humanitarian assistance and disaster relief preparedness in FSM. President Peter Christian noted the 47 hours of humanitarian assistance and disaster response training, six completed engineering projects, 110 medical subject matter expert exchanges, and 16 community outreach events accomplished in Chuuk. The crew of Pacific Partnership and Brunswick concluded their two-week visit to Chuuk after disaster response work in the outer islands. The real-world skills demonstrated in the outer islands translated to successful training in Chuuk.[349]

COPE North – February/March 2019

The U.S., Japan and Australia participated in COPE North 2019 (CN19) at Andersen Air Force Base, Guam, Feb. 18 - Mar. 8, 2019. The exercise was a week-long humanitarian assistance and disaster relief (HADR) training event designed to increase readiness among the allied nations. The exercise's focus on HADR provided critical training to U.S. and allied forces that has a direct impact on the militaries' ability to support the region, including FSM and Palau.[350]

Humanitarian Drop – December 2018

Operation Christmas Drop (OCD), is an annual humanitarian & training tradition started by U.S. Air Force 67 years ago in Micronesia. OCD is the longest-running humanitarian airlift operation run by the U.S. military. FSM Vice President Yosiwo P. George, Commander of U.S. INDOPACOM Admiral Phil Davidson and U.S. Ambassador to the FSM Robert Riley were involved with the pushing off of the first bundle of Christmas gift package from a C-130J Super Hercules above Nama Island. During the one hour airdrop they delivered two big pallets weighing over 800 lb filled with many items including medical supplies, etc. to people living on the remote island of Nama. More than 200 large pallets were delivered to 56 islands throughout Micronesia during the week-long airdrop operated by UA Air Force 36th Wing in 2018.[351]

Pacific Partnership-March 2018

More than 800 military personnel aboard the USS Brunswick and the hospital ship USNS Mercy, along with host nation civilians and nongovernment organization participated in Pacific Partnership's 2018 mission in Indonesia, Malaysia, Palau, Sri Lanka, Thailand, Vietnam and Micronesia. The USS Brunswick is specially configured for humanitarian and disaster relief operations and is currently capable of accommodating a robust multi-specialized team of medical, engineering and civic assistance personnel to support the Pacific Partnership mission.[352]

Oceania Pacific Resilience Disaster Response Exercise and Exchange (PR DREE) – August 2016

The DREE, is a civil-military disaster preparedness and response initiative featuring table-top and field training exercises focused on national readiness to all hazard situations in the Oceania region and provides a framework for civil and military authorities to present best practices, engage in collaborative dialogue, exercise plans and procedures, and enhance response readiness. The 2016 Oceania PR DREE is a civil-military disaster preparedness and response initiative between the Governments of FSM, Vanuatu, Australia, New Zealand, Papua New Guinea, Fiji, Solomon Islands, Tonga, New Caledonia, Cook Islands, RMI, Kiribati, Niue, Palau, Samoa, and the U.S. This exercise is part of a continued annual engagement with these

country partners. The Oceania PR DREE is anchored on Humanitarian Assistance Disaster Relief operations and it practices how militaries support civilian authorities during disaster situations, the reception and dissemination of foreign humanitarian assistance and the strategic communication required to execute emergency management plans.[353]

Pacific Partnership – June 2015

During Pacific Partnership 2015, the Military Sealift Command joint high-speed vessel USNS Millinocket (JHSV 3), and Task Force Forager, arrived in Pohnpei. The crew provided medical, dental, veterinary, engineering and community relations engagements. Pacific Partnership has provided infrastructure development to host nations through the completion of more than 180 engineering products over the years.[354]

International/Foreign Relations

FSM is active in regional organizations, particularly those with economic and environmental remits, such as the Pacific Islands Forum. In addition, it maintains an active presence within the UN structure; it joined the UN in 1991. Ties with the U.S. dominate FSM's overall diplomatic activities due to the Compact of Free Association that delegates security matters to the U.S. Nonetheless, bilateral ties to major regional players are important due to proximity that promotes trade and cultural ties. Australia, Japan and China are consistently among FSM's top trade, aid and investment partners, often ranking just above or behind the U.S.

United States

FSM is in a Compact of Free Association (COFA) with the U.S. The original Compact (1986-2001) was amended in 2004 and now provides the equivalent of $2 billion over the 20 years to 2024, but the relationship of free association continues indefinitely. Under the Compact, the U.S. provides FSM with economic assistance, defense and other services and benefits. In exchange, FSM grants the U.S. certain operating rights in FSM, denial of access to FSM territory by other nations and other agreements[355]. Eligible FSM citizens may live, work and study in the U.S. without visas. FSM citizens volunteer to serve in the U.S. Armed Forces at per capita rates higher than most U.S. states.

U.S. economic and program assistance to FSM tops $110 million every year; this is in addition to a variety of federal grants and services, including progressive dedication of a portion of the annual assistance to a jointly managed trust fund. The assistance aims to assist FSM on its path to economic advancement self-sufficiency. The Joint Economic Management Committee (JEMCO), consisting of representatives of both states, is responsible for ensuring that assistance funds are focused effectively and properly accounted for. Grant assistance under the amended Compact focuses on six sectors: education, health, infrastructure, public sector capacity building, private sector development and the environment.

Many U.S. federal agencies operate in the FSM (Federal Aviation Administration, U.S. Postal Service, Small Business Administration, USAID, and the Departments of Energy, Agriculture, Health and Human Services, Education, State and the Interior. Due to FSM's vulnerability to natural disasters and the potential effects of climate change. U.S. assistance also focuses on strengthening FSM's climate resilience through disaster management.[356]

China

As of 2017, China ranked third among FSM's global trade partners and a distant third among aid donors. Since President Xi took office in 2013, China has expanded its aid and investment activities across the South Pacific, to include FSM. Although FSM has escaped many of the problem projects that have elicited concerned reactions from Washington and Canberra, rising rates of Chinese aid, investment and tourism underscore the potential for FSM to become another target of China's soft diplomacy that eventually would seek to erode FSM's traditional support for U.S.-linked global projects.

Of interest to China are FSM's fishing grounds and the country's position on major sea lanes. There have been signs of mutual interest; in 2016, the FSM legislature passed a resolution calling for its president to restrict EEZ fishing access and instead license it out to a single foreign country, highlighting China as an option. Although this resolution did not go forward, these types of conversations will gain volume ahead of the 2023 U.S.-FSM COFA renewal and the economic implications of the Compact for FSM's long-term development. China has already poured hundreds of millions of dollars into FSM over the past two decades and contributed funds to fill the coffers of the post-compact trust fund.[357]

Over the longer-term, business and cultural exchanges are likely to develop China's foothold. Annually, several dozen students leave FSM to study in Chinese universities, and many graduates who return to FSM may provide the foundation for Chinese investment, particularly in tourism-oriented activities. Nonetheless, rumors of Chinese plans to build mega-resorts in the islands have elicited loud condemnation for their lack of cultural or ecological sensitivity. Beijing will continue to confront such resistance for the time being but is unlikely to stop offering ideas and funding in the coming years.[358]

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 up-to-date information.[359] Embassy requirements to enter a country are listed in the Foreign Clearance Guide at www.fcg.pentagon.mil

Passport/Visa

Travelers to the FSM will need a U.S. Passport valid for at least six months from the time of entry, a completed FSM Immigration Arrival and Departure Record, and a completed FSM Customs Form in order to enter the FSM. Your air carrier will distribute the FSM Immigration Arrival and Departure Record and Customs Form before you arrive in the FSM. U.S. citizens may enter the FSM to live, work or study indefinitely without visa or non-citizen registration requirements. There is no limit to the length of time U.S. citizens can remain in the FSM.

All four states have a 20 USD departure fee, which you must pay when you leave each island. Please make sure you have cash available, as credit cards are not accepted, and ATM machines are not available at any of the airports.

Travel on commercial aircraft between states of the FSM is considered to be international travel, and persons who are not citizens of the FSM are required to comply with passport requirements upon arrival in any state of the FSM from a commercial aircraft regardless of the point of boarding.

FSM Travel Letters: U.S. citizens who reside in Guam or Saipan should avoid traveling to Chuuk State with travel letters issued by the FSM Consulate in Guam. U.S. citizens who enter Chuuk with a travel letter will not be able to exit Chuuk without a valid passport. Travelers, including small children, have been stranded in Chuuk for days and weeks waiting to receive their passport, because there is no U.S. consulate on Chuuk.

HIV/AIDS Restrictions: The U.S. Department of State is unaware of any HIV/AIDS entry restrictions for visitors to the FSM.

Safety and Security

Most crime in the FSM is petty theft motivated by opportunity and impulse. Crime rates are significantly higher in Chuuk than in the other states, and incidents in Chuuk have recently included assaults on U.S. citizens. Sexual assaults occur, but you can reduce your risk if you take security precautions by maintaining situational awareness and avoiding individuals who appear to be intoxicated. Do not attempt to intervene in disputes between local citizens. Compared to norms in the United States, local police are less responsive to victim concerns, particularly in cases involving burglary. Local police may not possess the resources to prosecute crimes.

To remain safe:
- exercise extreme caution at all times
- be alert to any unusual activity around you
- stay off the streets after dark
- drive with the car windows closed and doors locked
- report any suspicious incidents to local police
- ensure that the hotel where you stay is prepared to assist you in an emergency
- women should travel in groups and walk in well-lit areas
- drive defensively and be on the lookout for pedestrians

Unexploded ordnance from World War II remains in some areas. It is dangerous, as well as illegal, to remove "souvenirs" from sunken WWII vessels and aircraft.

Victims of Crime:
U.S. citizen victims of sexual assault should first contact the police. Local authorities are responsible for investigating and prosecuting crimes. Report crimes to the local police at 320-2221 on Pohnpei and 911 on all other islands. The numbers for fire assistance are 330-2222 (Chuuk), 370-3333 (Kosrae), 320-2223 (Pohnpei), and 350-3333 (Yap).

The capacity of local police and fire

departments throughout the FSM is extremely limited. There is often a significant delay before police and firefighters respond to calls, and they may not be able to respond at all. Often, no one picks up at emergency numbers, especially after normal business hours.

The capacity to investigate crimes is extremely limited, and victims may wait months for an arrest, if one ever occurs. The justice system of the FSM is extremely slow, and western legal standards may not be applied. You could be detained without being read your rights and held in unsanitary conditions. Court-appointed attorneys, as well as judges, may not have legal training comparable to that found in the U.S.

The Department of State can:
- help you find appropriate medical care
- assist you in reporting a crime to the police
- contact relatives or friends with your written consent
- explain the local criminal justice process in general terms
- provide a list of local attorneys
- provide our information on victim's compensation programs in the U.S.
- provide an emergency loan for repatriation to the United States and/or limited medical support in cases of destitution
- help you find accommodation and arrange flights home
- replace a stolen or lost passport

Domestic Violence: U.S. citizen victims of domestic violence should contact the Embassy for information on the availability of U.S. based resources to assist you. There are no locally based resources for victims of domestic violence.

Emergency Contact Information
For U.S. Citizens, contact the U.S. Embassy in Kolonia:
U.S. Embassy Kolonia
1286 U.S. Embassy Place, Pohnpei
Kolonia, Federated States of Micronesia
FSM, 96941
Telephone: +(691) 320-2187
Emergency After-Hours Telephone: +(691) 920-2369

If your family needs to reach you in an emergency or because they are worried about your welfare, they should call the State Department's Citizen's Emergency Center at (202) 647-5225. The State Department will relay the message to the Embassy in Kolonia. Our Consular Officers will then try to locate you, pass on urgent messages, and, consistent with the Privacy Act, report back to your family.

Currency Information
The unit of currency is the U.S. dollar.

Travel Health Information

Vaccination and Prescriptions
The CDC provides the following recommendations for travel to FSM. The information in Table 5 is taken directly from the CDC website.[360]

Routine vaccines (for all travelers)	Make sure you are up to date on routine vaccines before every trip. These vaccines include Measles-Mumps-Rubella (MMR) vaccine, diphtheria-tetanus-pertussis vaccine, varicella (chickenpox) vaccine, polio vaccine, and your yearly flu shot.
Hepatitis A (for most travelers)	The CDC recommends this vaccine because you can get hepatitis A through contaminated food or water in FSM, regardless of where you are eating or staying.
Typhoid (for most travelers)	You can get typhoid through contaminated food or water in FSM. The CDC recommends this vaccine for most travelers, especially if you are staying with friends or relatives, visiting smaller cities or rural areas, or if you are an adventurous eater.
Hepatitis B (for some travelers)	You can get hepatitis B through sexual contact, contaminated needles, and blood products, so the CDC recommends this vaccine if you might have sex with a new partner, get a tattoo or piercing, or have any medical procedures.
Measles (all travelers)	When traveling to FSM, travelers should ensure update to date measles-mumps-rubella (MMR) vaccine before travel as follows: • Infants (6 through 11 months old): 1 dose of MMR vaccine before travel. This dose does not count as the first dose in the routine childhood vaccination series. • People 12 months old or older, with no evidence of immunity or no written documentation of any doses: 2 doses of MMR vaccine before travel. The 2 doses must be given 28 days apart. • People 12 months old or older who have written documentation of 1 dose and no other evidence of immunity: 1 additional dose before travel, at least 28 days after the previous dose

Table 5: CDC, Travel Health Information for the Federated States of Micronesia

Non-Vaccine-Preventable Diseases

The following diseases are possible risks with traveling in the Federated States of Micronesia:

- Chikungunya - Mosquitoes carrying chikungunya bite during the day and night, both indoors and outdoors, and often live around buildings
- Dengue – Mosquitos carrying dengue during the day and night both indoors and outdoors and often live around buildings. The leading cause of febrile illness among travelers returning from the Caribbean, South America, South and Southeast Asia.
- Zika – There is no accurate information on the current level of risk. There may be delays in detection and reporting of new outbreaks. Because Zika is a cause of severe birth defects, CDC recommends pregnant women and couples trying to become pregnant within the next 3 months work with their health care providers to carefully consider the risks and possible consequences of travel to areas with risk of Zika.
- Tuberculosis (TB) – Risk is generally low for most tourist travelers. Those anticipating possible prolonged exposure to TB environments (such as working in hospitals, prisons, or homeless shelters) or those who stay for years in an endemic country should have a 2-step tuberculin skin test (TST) or a single interferon-y release assay before leaving the U.S. If pre-departure test is negative, a single TST, or IGRA should be repeated 8-10 weeks upon return.

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.

Prevent Bug Bites

Bugs (like mosquitoes, ticks, and fleas) can spread a number of diseases in FSM. 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.

Safety and Security

As a first step in planning any trip abroad, check the Travel Advisories for your intended destination. You can see the world at a glance on our color-coded map.

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 is the global blueprint and fifteen-year plan to build the world's resilience to natural disasters.[361] The Sendai Framework for Disaster Risk Reduction 2015-2030 outlines seven clear 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 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 the people by 2030.[362]

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.

The Sendai Framework aims to achieve 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 over the next 15 years. It was adopted at the Third United Nations World Conference on Disaster Risk Reduction in Sendai, Japan in 2015.[363] The Sendai Framework is the successor instrument to the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters.[364] Figure 13 shows the Sendai DRR Framework.[365]

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 |

Priorities for Action

There is a need for focused action within and across sectors by States at local, national, regional and global levels in the following four priority areas.

| **Priority 1**
Understanding disaster risk | **Priority 2**
Strengthening disaster risk governance to manage disaster risk | **Priority 3**
Investing in disaster risk reduction for resilience | **Priority 4**
Enhancing disaster preparedness for effective response, and to «Build Back Better» in recovery, rehabilitation and reconstruction |

Figure 13: UN Sendai Framework for Disaster Risk Reduction 2015-2030

Hyogo Framework for Action Country Progress Report

The Hyogo Framework for Action (HFA) was adopted as a guideline to reduce vulnerabilities to natural hazards. The HFA assists participating countries to become more resilient and to better manage the hazards that threaten their development. The levels of progress of the 2013-2015 results of the HFA for The Federated States of Micronesia are represented in Figure 14 and Table 6. Table 7 provides an overview of the overall challenges and the future outlook statement from the HFA report. The 2011-2013 is the most recent HFA report available for FSM.[366]
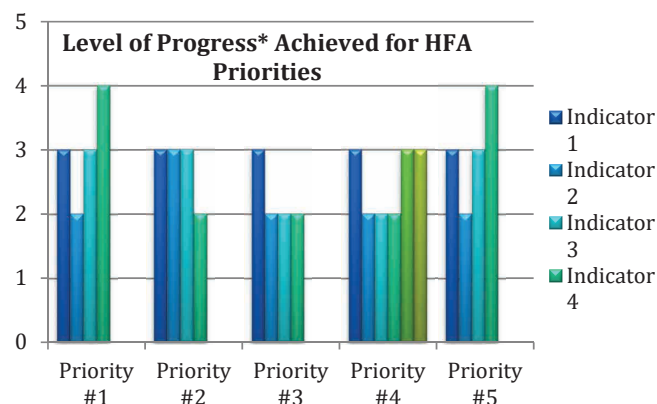
Figure 14: HFA Level of Progress Achieved

Priority for Action #1: Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.		
Core Indicator*	Indicator Description	Level of Progress Achieved
1	National policy and legal framework for disaster risk reduction exists with decentralized responsibilities and capacities at all levels.	3
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.	3
4	A national multi sectoral platform for disaster risk reduction is functioning.	4
Priority #2: Identify, assess and monitor disaster risks and enhance early warning		
Core Indicator*	Indicator Description	Level of Progress Achieved
1	National and local risk assessments based on hazard data and vulnerability information are available and include risk assessments for key sectors.	3
2	Systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities.	3
3	Early warning systems are in place for all major hazards, with outreach to communities.	3
4	National and local risk assessments take account of regional / trans-boundary risks, with a view to regional cooperation on risk reduction.	2

Table 6: National Progress Report on the Implementation of the HFA

Priority #3: Use knowledge, innovation and education to build a culture of safety and resilience at all levels		
Core Indicator*	Indicator Description	Level of Progress Achieved
1	Relevant information on disasters is available and accessible at all levels, to all stakeholders (through networks, development of information sharing systems, etc.).	3
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.	2
4	Countrywide public awareness strategy exists to stimulate a culture of disaster resilience, with outreach to urban and rural communities.	2

Priority #4: Reduce the underlying risk factors		
Core Indicator*	Indicator Description	Level of Progress Achieved
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.	3
6	Procedures are in place to assess the disaster risk impacts of major development projects, especially infrastructure.	3

Priority #5: Strengthen disaster preparedness for effective response at all levels		
Core Indicator*	Indicator Description	Level of Progress Achieved
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.	4

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 6: 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:	Planning department and sector agencies do not see disaster risk reduction as a priority, or do not understand linkages. Absence of DRR policy, national legislation, or action plan. Absence of a multi-stakeholder forum that includes strong representation from civil society. Weak coordination and dissemination of DRM information.
Future Outlook Priorities:	A National DRM Policy is developed to complement the National CC Policy and DRM is being effectively implemented through the development of supporting legislation, improved coordination and the integration of disaster risk reduction into sectoral, agency and state development plans.

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:	Limited technical capacity in DRM planning. Weak capacity at sub-national levels (staffing, resources) – State and Community levels. Limited use of available technical agencies. Difficulty of accessing remote communities on outer islands.
Future Outlook Priorities:	Increased capacity for effective disaster risk reduction planning through training and capacity building of relevant institutions such as the National DM Task Force, OEEM staff, and State level players, as well as development of appropriate tools and systems for DRR, and improved use of existing technical and educational institutions, such as College of Micronesia.

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:	Limited national capacity for conducting post-disaster damage assessments and analysis and integration of lessons learned. Strong reliance on international partners. Logistical constraints.
Future Outlook Priorities:	State and community level programmes and capacities for emergency preparedness, response and recovery are strengthened including improved coordination between different levels of government.

Table 7: HFA Country Progress Report Future Outlook Areas, Federated States of Micronesia

Country Profile

The information in the Country Profile section is sourced directly from the CIA World Factbook. Additional numbers on country comparison to the world can be found by going directly to the CIA website. [367]

The Caroline Islands are a widely scattered archipelago in the western Pacific Ocean; they became part of a UN Trust Territory under US administration following World War II. The eastern four island groups adopted a constitution in 1979 and chose to become the Federated States of Micronesia (FSM). (The westernmost island group became Palau.) Independence came in 1986 under a Compact of Free Association (COFA) with the US, which was amended in 2004. The COFA has been a force for stability and democracy in the FSM since it came into force in 1986. Present concerns include economic uncertainty after 2023 when direct US economic assistance is scheduled to end, large-scale unemployment, overfishing, overdependence on US foreign aid, and state perceptions of inequitable allocation of US aid.

As a signatory to the COFA with the US, eligible Micronesians can live, work, and study in any part of the US and its territories without a visa - this privilege reduces stresses on the island economy and the environment. Micronesians serve in the US armed forces and military recruiting from the Federated States of Micronesia, per capita, is higher than many US states.

Geography:

Oceania, island group in the North Pacific Ocean, about three-quarters of the way from Hawaii to Indonesia
6 55 N, 158 15 E
Oceania

total: 702 sq km

land: 702 sq km

water: 0 sq km (fresh water only)
note: includes Pohnpei (Ponape), Chuuk (Truk) Islands, Yap Islands, and Kosrae (Kosaie)

country comparison to the world: 192. four times the size of Washington, DC (land area only)

Area comparison map:

Print Land boundaries: 0 km

Coastline: 6,112 km

Maritime claims:

territorial sea: 12 nm

exclusive economic zone: 200 nm

Climate:

tropical; heavy year-round rainfall, especially in the eastern islands; located on southern edge of the typhoon belt with occasionally severe damage

Terrain: This entry contains a brief description of the topography.
islands vary geologically from high mountainous islands to low, coral atolls; volcanic outcroppings on Pohnpei, Kosrae, and Chuuk

Elevation: This entry includes the mean elevation and elevation extremes, lowest point and highest point.

lowest point: Pacific Ocean 0 m

highest point: Nanlaud on Pohnpei 782 m

Natural resources: timber, marine products, deep-seabed minerals, phosphate

Land use:

agricultural land: 25.5% (2011 est.)

arable land: 2.3% (2011 est.) / permanent crops: 19.7% (2011 est.) / permanent pasture: 3.5% (2011 est.)

forest: 74.5% (2011 est.)

other: 0% (2011 est.)

Irrigated land: 0 sq km NA (2012)

Population distribution: the majority of the population lives in the coastal areas of the high islands; the mountainous interior is largely uninhabited; less than half of the population lives in urban areas

Natural hazards:

typhoons (June to December)

Environment - current issues: overfishing; climate change; water pollution, toxic pollution from mining; solid waste disposal

Environment - international agreements:

party to: Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Desertification, Hazardous Wastes, Law of the Sea, Ozone Layer Protection
signed, but not ratified: none of the selected agreements

Geography - note: composed of four major island groups totaling 607 islands

Population: 103,643 (July 2018 est.)

country comparison to the world: 194

Nationality:

noun: Micronesian(s)

adjective: Micronesian; Chuukese, Kosraen(s), Pohnpeian(s), Yapese

Ethnic groups: Chuukese/Mortlockese 49.3%, Pohnpeian 29.8%, Kosraean 6.3%, Yapese 5.7%, Yap outer islanders 5.1%, Polynesian 1.6%, Asian 1.4%, other 0.8% (2010 est.)

Languages: English (official and common language), Chuukese, Kosrean, Pohnpeian, Yapese, Ulithian, Woleaian, Nukuoro, Kapingamarangi

Religions: Roman Catholic 54.7%, Protestant 41.1% (includes Congregational 38.5%, Baptist 1.1%, Seventh Day Adventist 0.8%, Assembly of God 0.7%), Mormon 1.5%, other 1.9%, none 0.7%, unspecified 0.1% (2010 est.)

Age structure:
0-14 years: 29.81% (male 15,707 /female 15,186)
15-24 years: 19.38% (male 10,068 /female 10,020)
25-54 years: 39.57% (male 19,799 /female 21,208)
55-64 years: 7.09% (male 3,574 /female 3,777)
65 years and over: 4.15% (male 1,943 /female 2,361) (2018 est.)

Print Dependency ratios:

total dependency ratio: 62.4 (2015 est.)

youth dependency ratio: 55.3 (2015 est.)

elderly dependency ratio: 7.1 (2015 est.)

potential support ratio: 14.1 (2015 est.)

Median age:

total: 25.5 years

male: 24.7 years

female: 26.2 years (2018 est.)

country comparison to the world: 156

Population growth rate: -0.55% (2018 est.)

country comparison to the world: 223

Birth rate: 19.6 births/1,000 population (2018 est.)

country comparison to the world: 80

Death rate: 4.2 deaths/1,000 population (2018 est.)

country comparison to the world: 208

Net migration rate: -20.9 migrant(s)/1,000 population (2018 est.)

country comparison to the world: 224

Population distribution: the majority of the population lives in the coastal areas of the high islands; the mountainous interior is largely uninhabited; less than half of the population lives in urban areas

Urbanization: urban population: 22.8% of total population (2019)

rate of urbanization: 1.05% annual rate of change (2015-20 est.)

Major urban areas - population: 7,000 PALIKIR (capital) (2018)

Sex ratio:

at birth: 1.05 male(s)/female

0-14 years: 1.03 male(s)/female

15-24 years: 1 male(s)/female

25-54 years: 0.93 male(s)/female

55-64 years: 0.95 male(s)/female

65 years and over: 0.82 male(s)/female

total population: 0.97 male(s)/female (2018 est.)

Maternal mortality rate: 100 deaths/100,000 live births (2015 est.)

country comparison to the world: 72

Infant mortality rate:

total: 19.1 deaths/1,000 live births

male: 21.2 deaths/1,000 live births

female: 16.9 deaths/1,000 live births (2018 est.)

country comparison to the world: 81

Life expectancy at birth:

total population: 73.4 years

male: 71.3 years

female: 75.6 years (2018 est.)

country comparison to the world: 137

Total fertility rate: 2.37 children born/woman (2018 est.)

country comparison to the world: 83

Drinking water source:

Improved : urban: 94.8% of population

rural: 87.4% of population

total: 89% of population

unimproved : urban: 5.2% of population

rural: 12.6% of population

total: 11% of population (2015 est.)

Current Health Expenditure: 13.1% (2015)

Physicians density: 0.19 physicians/1,000 population (2009)

Hospital bed density: 3.2 beds/1,000 population (2009)

Sanitation facility access:

Improved : urban: 85.1% of population (2015 est.)

rural: 49% of population (2015 est.)

total: 57.1% of population (2015 est.)

unimproved : urban: 14.9% of population (2015 est.)

rural: 51% of population (2015 est.)

total: 42.9% of population (2015 est.)

HIV/AIDS - adult prevalence rate: NA

HIV/AIDS - people living with HIV/AIDS: NA

HIV/AIDS - deaths: NA

Major infectious diseases:

note: active local transmission of Zika virus by Aedes species mosquitoes has been identified in this country (as of August 2016); it poses an important risk (a large number of cases possible) among US citizens if bitten by an infective mosquito; other less common ways to get Zika are through sex, via blood transfusion, or during pregnancy, in which the pregnant woman passes Zika virus to her fetus

Obesity - adult prevalence rate: 45.8% (2016)

country comparison to the world: 10

Education expenditures: 12.5% of GDP (2015)

country comparison to the world: 2

Unemployment, youth ages 15-24: This entry gives the percent of the total labor force ages 15-24 unemployed during a specified year.

total: 18.9%

male: 10.4%

female: 29.9% (2014)

country comparison to the world: 71

Country name:

conventional long form: Federated States of Micronesia

conventional short form: none

local long form: Federated States of Micronesia

local short form: none

former: New Philippines; Caroline Islands; Trust Territory of the Pacific Islands, Ponape, Truk, and Yap Districts

abbreviation: FSM

etymology: the term "Micronesia" is a 19th-century construct of two Greek words, "micro" (small) and "nesoi" (islands), and refers to thousands of small islands in the western Pacific Ocean

Government type: federal republic in free association with the US

Capital:

name: Palikir

geographic coordinates: 6 55 N, 158 09 E

time difference: UTC+11 (16 hours ahead of Washington, DC, during Standard Time)

note: Micronesia has two time zones

Administrative divisions: 4 states; Chuuk (Truk), Kosrae (Kosaie), Pohnpei (Ponape), Yap

Independence: 3 November 1986 (from the US-administered UN trusteeship)

National holiday: Constitution Day, 10 May (1979)

Constitution: history: drafted June 1975, ratified 1 October 1978, entered into force 10 May 1979

amendments: proposed by Congress, by a constitutional convention, or by public petition; passage requires approval by at least three-fourths majority of votes in at least three-fourths of the states; note – at least every 10 years as part of a general or special election, voters are asked whether to hold a constitution convention; a majority of affirmative votes is required to proceed; amended 1990 (2018)

Legal system: mixed legal system of common and customary law

International law organization participation: has not submitted an ICJ jurisdiction declaration; non-party state to the ICCt

Citizenship:

citizenship by birth: no

citizenship by descent only: at least one parent must be a citizen of FSM

dual citizenship recognized: no

residency requirement for naturalization: 5 years

Suffrage: 18 years of age; universal

Executive branch: chief of state: President David W. PANUELO (since 11 May 2019); Vice President Yosiwo P. GEORGE (since 11 May 2015); note - the president is both chief of state and head of government

head of government: President David W. PANUELO (since 11 May 2019); Vice President Yosiwo P. GEORGE (since 11 May 2015)

cabinet: Cabinet includes the vice president and the heads of the 8 executive departments

elections/appointments: president and vice president indirectly elected by Congress from among the 4 'at large' senators for a 4-year term (eligible for a second term); election last held on 11 May 2019 (next to be held in 2023)

election results: David W. Panuelo elected president by Congress; Yosiwo P. George reelected vice president

Legislative branch: description: unicameral Congress (14 seats; 10 members directly elected in single-seat constituencies by simple majority vote to serve 2-year terms and 4 at- large members directly elected from each of the 4 states by proportional representation vote to serve 4-year terms)

elections: last held on 5 March 2019 (next to be held in March 2021)

election results: percent of vote - NA; seats - independent 14; composition - men 14, women 0

Judicial branch:

highest courts: Federated States of Micronesia (FSM) Supreme Court (consists of the chief justice and not more than 5 associate justices and organized into appellate and criminal divisions)

judge selection and term of office: justices appointed by the president of the Federated States of Micronesia with the approval of two-thirds of Congress; justices appointed for life

subordinate courts: the highest state-level courts are: Chuuk Supreme Court; Korsae State Court; Pohnpei State Court; Yap State Court

Political parties and leaders: no formal parties

International organization participation: ACP, ADB, AOSIS, FAO, G-77, IBRD, ICAO, ICRM, IDA, IFC, IFRCS, IMF, IOC, IOM, IPU, ITSO, ITU, MIGA, OPCW, PIF, Sparteca, SPC, UN, UNCTAD, UNESCO, WHO, WMO

Diplomatic representation in the US: Ambassador Akillino Harris SUSAIA (since 24 April 2017)

chancery: 1725 N Street NW, Washington, DC 20036

telephone: [1] (202) 223-4383

FAX: [1] (202) 223-4391

consulate(s) general: Honolulu, Tamuning (Guam)

Diplomatic representation from the US: chief of mission: Ambassador Robert Annan Riley III (since 16 August 2016)

telephone: [691] 320-2187

embassy: 1986 U.S. Embassy Place, Kolonia, Pohnpei, FM 96941

mailing address: P. O. Box 1286, Kolonia, Pohnpei, 96941; U.S. Embassy in Micronesia, 4120 Kolonia Place, Washington, D.C. 20521-4120

FAX: [691] 320-2186

Flag description: light blue with four white five-pointed stars centered; the stars are arranged in a diamond pattern; blue symbolizes the Pacific Ocean, the stars represent the four island groups of Chuuk, Kosrae, Pohnpei, and Yap

National symbol(s): four, five-pointed, white stars on a light blue field; national colors: light blue, white

National anthem:
name: Patriots of Micronesia

lyrics/music: unknown

note: adopted 1991; also known as "Across All Micronesia"; the music is based on the 1820 German patriotic song "Ich hab mich ergeben", which was the West German national anthem from 1949-1950; variants of this tune are used in Johannes Brahms' "Festival Overture" and Gustav Mahler's "Third Symphony"

Economy - overview:
Economic activity consists largely of subsistence farming and fishing, and government, which employs two-thirds of the adult working population and receives funding largely - 58% in 2013 – from Compact of Free Association assistance provided by the US. The islands have few commercially valuable mineral deposits. The potential for tourism is limited by isolation, lack of adequate facilities, and limited internal air and water transportation.

Under the terms of the original Compact, the US provided $1.3 billion in grants and aid from 1986 to 2001. The US and the Federated States of Micronesia (FSM) negotiated a second (amended) Compact agreement in 2002-03 that

took effect in 2004. The amended Compact runs for a 20-year period to 2023; during which the US will provide roughly $2.1 billion to the FSM. The amended Compact also develops a trust fund for the FSM that will provide a comparable income stream beyond 2024 when Compact grants end.

The country's medium-term economic outlook appears fragile because of dependence on US assistance and lackluster performance of its small and stagnant private sector.

GDP (purchasing power parity):
$348 million (2017 est.)
$341.1 million (2016 est.)
$331.4 million (2015 est.)

note: data are in 2017 dollars

country comparison to the world: 215

GDP (official exchange rate): $328 million (2017 est.)

GDP - real growth rate:
2% (2017 est.)
2.9% (2016 est.)
3.9% (2015 est.)

country comparison to the world: 153

GDP - per capita (PPP):
$3,400 (2017 est.)
$3,300 (2016 est.)
$3,200 (2015 est.)

note: data are in 2017 dollars

country comparison to the world: 189

GDP - composition, by end use:

household consumption: 83.5% (2013 est.)

government consumption: 48.4% (2016 est.)

investment in fixed capital: 29.5% (2016 est.)

investment in inventories: 1.9% (2016 est.)

exports of goods and services: 27.5% (2016 est.)

imports of goods and services: -77% (2016 est.)

GDP - composition, by sector of origin:

agriculture: 26.3% (2013 est.)

industry: 18.9% (2013 est.)

services: 54.8% (2013 est.)

Agriculture - products: taro, yams, coconuts, bananas, cassava (manioc, tapioca), sakau (kava), Kosraen citrus, betel nuts, black pepper, fish, pigs, chickens

Industries: tourism, construction; specialized aquaculture, craft items (shell and wood)

Industrial production growth rate: NA

Labor force:
37,920 (2010 est.)

country comparison to the world: 200

Labor force - by occupation:
agriculture: 0.9%
industry: 5.2%
services: 93.9% (2013 est.)

note: two-thirds of the labor force are government employees

Unemployment rate: This entry contains the percent of the labor force that is without jobs. Substantial underemployment might be noted.
16.2% (2010 est.)
country comparison to the world: 177

Population below poverty line: 26.7% (2000 est.)

Household income or consumption by percentage share:

lowest 10%: NA

highest 10%: NA
Distribution of family income - Gini index:
61.1 (2013 est.)

country comparison to the world: 3

Budget:

revenues: 213.8 million (FY12/13 est.)

expenditures: 192.1 million (FY12/13 est.)

Taxes and other revenues: 65.2% (of GDP) (FY12/13 est.)

country comparison to the world: 7

Budget surplus (+) or deficit (-): 6.6% (of GDP) (FY12/13 est.)

country comparison to the world: 4

Public debt:
24.5% of GDP (2017 est.)
25.3% of GDP (2016 est.)

country comparison to the world: 176

Fiscal year: 1 October - 30 September

Inflation rate (consumer prices):
0.5% (2017 est.)
0.5% (2016 est.)
country comparison to the world: 28

Commercial bank prime lending rate:
15.73% (31 December 2017 est.)
15.7% (31 December 2016 est.)

country comparison to the world: 34

Stock of narrow money:
$NA (31 December 2016)
$44.07 million (31 December 2015 est.)
$196 million (31 December 2013 est.)

country comparison to the world: 190

Stock of broad money:
$178.3 million (31 December 2015 est.)
$225.2 million (31 December 2013 est.)
country comparison to the world: 189

Stock of domestic credit:
$56.98 million (31 December 2017 est.)
-$103 million (31 December 2015 est.)
country comparison to the world: 189

Market value of publicly traded shares: NA

Current account balance:
$12 million (2017 est.)
$11 million (2016 est.)

country comparison to the world: 63

Exports: $88.3 million (2013 est.)

country comparison to the world: 197

Exports - commodities: fish, sakau (kava), betel nuts, black pepper

Imports:
$167.8 million (2015 est.)
$258.5 million (2013 est.)

country comparison to the world: 211

Imports - commodities: food, beverages, clothing, computers, household electronics, appliances, manufactured goods, automobiles, machinery and equipment, furniture, tools

Reserves of foreign exchange and gold:
$203.7 million (31 December 2017 est.)
$135.1 million (31 December 2015 est.)

country comparison to the world: 174

Debt - external:
$93.6 million (2013 est.)
$93.5 million (2012 est.)

country comparison to the world: 194

Stock of direct foreign investment - at home:
$15.8 million (2013 est.)
$34.4 million (2012 est.)
country comparison to the world: 139

Exchange rates: the US dollar is used

Electricity access:

electrification - total population: 75.4% (2016)

electrification - urban areas: 91.9% (2016)

electrification - rural areas: 70.7% (2016)

Electricity - production: 192 million kWh (2002)

country comparison to the world: 193

Electricity - consumption: 178.6 million kWh (2002)

country comparison to the world: 195

Electricity - exports: 0 kWh (2013 est.)

country comparison to the world: 171

Electricity - imports: 0 kWh (2013 est.)
country comparison to the world: 175

Electricity - installed generating capacity: 18,000 kW (2015 est.)
country comparison to the world: 206

Electricity - from fossil fuels: 96% of total installed capacity (2015 est.)

country comparison to the world: 41

Electricity - from nuclear fuels: 0% of total installed capacity (2015 est.)

country comparison to the world: 143

Electricity - from hydroelectric plants: 1% of total installed capacity (2013 est.)

country comparison to the world: 149

Electricity - from other renewable sources: 3% of total installed capacity (2013 est.)

country comparison to the world: 127

Crude oil - production: 0 bbl/day (2014)

country comparison to the world: 174

Crude oil - exports: 0 bbl/day (2014)

country comparison to the world: 165

Crude oil - imports: 0 bbl/day (2014)

country comparison to the world: 167

Crude oil - proved reserves: 0 bbl (1 January 2014)

country comparison to the world: 169

Refined petroleum products - production: 0 bbl/day (2014)

country comparison to the world: 178

Refined petroleum products - exports: 0 bbl/day

country comparison to the world: 182

Natural gas - production: 0 cu m (2014)
country comparison to the world: 171

Natural gas - proved reserves: 0 cu m

country comparison to the world: 170
105 Mt (2010 est.)

country comparison to the world: 214

Telephones - fixed lines:

total subscriptions: 6,947

subscriptions per 100 inhabitants: 7 (2017 est.)

country comparison to the world: 202

Telephones - mobile cellular:

total subscriptions: 23,114

subscriptions per 100 inhabitants: 22 (2017 est.)

country comparison to the world: 209

Telephone system:

general assessment: adequate system (2016)

domestic: islands interconnected by shortwave radiotelephone (used mostly for government purposes), satellite (Intelsat) ground stations, and some coaxial and fiber-optic cable; mobile-cellular service available on the major islands (2016)

international: country code - 691; satellite earth stations - 5 Intelsat (Pacific Ocean); in 2015, Fiber Optic was launched and is the primary communication path to the outside world (2016)

Broadcast media: no TV broadcast stations; each state has a multi-channel cable service with TV transmissions carrying roughly 95% imported programming and 5% local programming; about a half-dozen radio stations (2009)

Internet country code: .fm

Internet users:
total: 33,000

percent of population: 31.5% (July 2016 est.)

country comparison to the world: 200

Broadband - fixed subscriptions: This entry gives the total number of fixed-broadband subscriptions, as well as the number of subscriptions per 100 inhabitants. Fixed broadband is a physical wired connection to the Internet (e.g., coaxial cable, optical fiber) at speeds equal to or greater than 256 kilobits/second (256 kbit/s).
total: 3,776

subscriptions per 100 inhabitants: 4 (2017 est.)

country comparison to the world: 179

Civil aircraft registration country code prefix: V6 (2016)

Airports: 6 (2013)

country comparison to the world: 173

Airports - with paved runways:

total: 6 (2017)
1,524 to 2,437 m: 4 (2017)
914 to 1,523 m: 2 (2017)

Roadways:
note - paved and unpaved circumferential roads, most interior roads are unpaved

Merchant marine:

total: 63

by type: general cargo 40, oil tanker 6, other 17 (2018)

country comparison to the world: 105

Ports and terminals: major seaport(s): Colonia (Tamil Harbor), Molsron Lele Harbor, Pohnepi Harbor

Military branches: no regular military forces (2012)

defense is the responsibility of the US
Disputes - international: none

Illicit drugs: major consumer of cannabis

Acronyms and Abbreviations

Acronym	Definition
ACP	African, Caribbean, and Pacific Group of States
ACT	Adaptive Community Transformation
ADB	Asian Development Bank
AOSIS	Alliance of Small Island States
APAN	All Partners Access Network
APCSS	Asia Pacific Center for Security Studies
CADRE+	Climate Adaptation Disaster Risk Reduction and Education Program
CCA	climate change adaptation
CCCPIR	Coping with Climate Change in the Pacific Islands Region
CDC	Centers for Disease Control and Prevention (U.S.)
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CFE-DM	Center for Excellence in Disaster Management & Humanitarian Assistance
CIA	Central Intelligence Agency
COFA	Compact of Free Association
CRCD	Community Resilience and Capacity Development
CRS	Catholic Relief Services
CWG	Coordination Working Groups
DCO	State Disaster Coordination Officer
DECEM	Department of Environment Climate Emergency Management
DHS	Department of Health Services
DMHA	Disaster Management and Humanitarian Assistance
DMO	Disaster Management Office
DoD	Department of Defense
DOI/OIA	Department of Interior Office of Insular Areas
DoJ	The Department of Justice
DOS	U.S. Department of State
DRAA	Disaster Relief Assistance Act
DREE	Disaster Response Exercise and Exchange
DRM	disaster risk management
DRR	Disaster Risk Reduction
EFR	emergency first responder
EHA	essential humanitarian assistance
EMOPS	Emergency Operations
ENSO	El Niño/Southern Oscillation
ESCAP	Economic and Social Commission for Asia and the Pacific
EWS	Early Warning Systems

Acronym	Definition
FAO	UN Food and Agriculture Organization
FEMA	Federal Emergency Management Agency
FSCO	Federated Shipping Company Ltd
FSM	Federated States of Micronesia
FSMTC	The government-owned FSM Telecommunications Corporation
G-77	Group of 77
GHeL	Global Health eLearning Center
GIZ	German Society for International Cooperation
HADR	humanitarian assistance and disaster response
HFA	Hyogo Framework for Action
HIV	human immunodeficiency virus
IBRD	International Bank for Reconstruction and Development
ICAO	International Civil Aviation Organization
ICRM	Institute of Catastrophe Risk Management
IDA	International Development Association
IFC	International Finance Corporation
IFRC	International Federation of Red Cross and Red Crescent Movement
IHR	International Health Regulations
IMF	International Monetary Fund
IOC	International Olympic Committee
IOM	International Organization for Migration
IPU	Inter-Parliamentary Union
IS	Information Sharing
ISACC	Institutional Strengthening in Pacific Island Countries to Adapt to Climate Change
ITSO	nternational Telecommunications Satellite Organization
ITU	International Telecommunication Union
IUU	illegal, unreported and unregulated
JEMCO	Joint Economic Management Committee
JMN	Joint Management Network
MANA	Pacific Monitoring Alliance for NCD Action
MCIP	Multinational Communications Interoperability Program
MDG	Millennium Development Goals
MDT	multi-drug therapy
MMR	measles-mumps-rubella
MRCS	Micronesia Red Cross Society
NCD	Non-communicable disease
NDC	National Disaster Committee
NDCT	National Disaster Coordination Team

Acronym	Definition
NEOC	National Emergency Operations Centre
NGOs	non-governmental organizations
North-REP	North Pacific Renewable Energy Efficiency Project
NRCS	Natural Resources Conservation Service
OCD	Operation Christmas Drop
OEEM	Office for Environment and Emergency Management
OMSI	Oceania Maritime Security Initiative
OPCW	Organisation for the Prohibition of Chemical Weapons
PACC	Pacific Adaptation to Climate Change
PDC	Pacific Disaster Center
PDD	Presidential Disaster Declaration
PEAC	ENSO Application Climate
PHT	Pacific Humanitarian Team
PICTs	Pacific Island Countries and Territories
PIF	Pacific Islands Forum
POLHN	Pacific Open Learning Health Net
PREPARE	Preparedness for Effective Response Program
RMI	Republic of Marshall Islands
ROAP	Regional Office for Asia and the Pacific
SAR	Search and Rescue
SCDs	State Disaster Committees
SDCTs	State Disaster Coordination Teams
SDP	Strategic Development Plan
SIDS	Small Islands Developing State
SME	subject matter experts
SPC	Pacific Community
SPREP	Secretariat of the Pacific Regional Environment Program
TB	Tuberculosis
TST	tuberculin skin test
TTPI	Trust Territories of the Pacific Islands
U.S.	United States
UCT	Underwater Construction Team
UISS	Unclassified Information Sharing Service
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	UN Development Programme
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNSCR	United Nations Security Council Resolution

Acronym	Definition
USAID	United States Agency for International Development
USAID OFDA	United States Agency for International Development's Office of Foreign Disaster Assistance
USAPI	U.S.-Affiliated Pacific Islands
USD	U.S. Dollars
USDA	U.S. Department of Agriculture
WASH	water, sanitation and hygiene
WHO	World Health Organization
WMO	World Meteorological Organization
WSO	Weather Service Offices

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