



PALAU **NATIONAL DISASTER** **PREPAREDNESS BASELINE** **ASSESSMENT**

**A DATA-DRIVEN TOOL FOR
ASSESSING RISK AND BUILDING
LASTING RESILIENCE**





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- Disaster Executive Council
- Office of Climate Change
- Office of the President of Palau
- Office of the Vice-President of Palau
- National Emergency Committee
- Palau Automated Land and Resource Information System Office (PALARIS)
- Palau Red Cross Society (PRCS)

LIST OF ABBREVIATIONS

AAR: After-Action Report	CBO: Community-based Organization	CSO: Civil Society Organization
ADB: Asian Development Bank	CCA: Climate Change Adaptation	DEC: Disaster Executive Council
ARFF: Aircraft Rescue and Fire Fighting	CCG: Central Control Group	DEH: Division of Environmental Health
BANGO: Palau Association of NGOs	CDA: Comprehensive Disaster Assessment	DLCA: Digital Logistics Capacity Assessments
BCD: Bureau of Commercial Development	CEDAW: Convention on the Elimination of all forms of Discrimination Against Women	DM: Disaster Management
BDA: Bureau of Domestic Affairs	CFE-DM: Center for Excellence in Disaster Management and Humanitarian Assistance	DMA: Disaster Management Analysis (of the NDPBA)
BFA: Bureau of Foreign Affairs and Trade	COFA: Compact of Free Association	DMLE: Division of Marine Law Enforcement (of the Ministry of Justice)
BHR: Bureau of Human Resources	COG: Continuity of Government	DRM: Disaster Risk Management
BLHR: Bureau of Labor and Human Resources	COOP: Continuity of Operations	DRR: Disaster Risk Reduction
BOA: Bureau of Agriculture	COP: Common Operating Picture	EDCR: Enhancing Disaster and Climate Resilience (in the Republic of Palau through Improved Disaster Preparedness and Infrastructure)
BOBP: Bureau of Budget and Planning	COVID-19: Coronavirus Disease 2019	EEZ: Exclusive Economic Zone
BOM: (Australian) Bureau of Meteorology	CREWS: Climate Risk Early Warning System	ENSO: El Niño Southern Oscillation
BPS: Bureau of Public Safety	CRRF: Coral Reef Research Foundation	EOC: Emergency Operations Center
BPSS: Bureau of Public Service System	CSIRO: Commonwealth Scientific and Industrial Research Organisation	EQPB: Environmental Quality Protection Board

LIST OF ABBREVIATIONS

ESF: Emergency support function

EU: European Union

EWS: Early Warning System

FAO: Food and Agriculture Organization of the UN

FEMA: Federal Emergency Management Agency

FRDMA: Fiscal Responsibility and Debt Management Act

FY: Fiscal Year

GCF: Green Climate Fund

GFDRR: Global Facility for Disaster Reduction and Recovery

GFR: General Fund Reserve

GIS: Geographic Information System

GLISPA: Global Island Partnership

GOJ: Government of Japan

GoP: Government of Palau

GP: Guiding Principle

GT: Global Target

HAZMAT: Hazardous Materials

HFA: Hyogo Framework for Action

HMSC: Palau Hazard Mitigation Subcommittee

ICP: Incident Command Post

ICRC: International Committee of the Red Cross

ICS: Incident Command System

IDA: Initial Damage Assessment

IFRC: International Federation of the Red Cross and Red Crescent Movement

ILO: International Labor Organization

IMF: International Monetary Fund

INDOPACOM: INDO-Pacific Command (see also USINDOPACOM)

INGO: International Non-governmental Organization

IOC: Intergovernmental Oceanic Commission (of UNESCO)

IOM: International Organization for Migration

ITCZ: Inter-Tropical Convergence Zone

JICA: Japan International Cooperation Agency

LiDAR: Light Detection and Ranging

MCCA: Ministry of Community and Cultural Affairs

MHRCTD: Ministry of Human Resources, Culture, Tourism, and Development

MLED: Palau Marine Law Enforcement Division

MNRET: Ministry of Natural Resources, Environment and Tourism

MOAFE: Ministry of Agriculture, Fisheries, and Environment

MOE: Ministry of Education

MOF: Ministry of Finance

MOFBBP: Ministry of Finance-Bureau of Budget and Planning

MOH: Ministry of Health and Human Services

MOJ: Ministry of Justice

MOS: Ministry of State

MOU: Memorandum of Understanding

MPIIC: Ministry of Public Infrastructure, Industries and Commerce

NAP: National Adaptation Plan

NATPLAN: Republic of Palau National Spill Contingency Plan

NCCC: National Climate Change Coordinator

NDBP: National Development Bank of Palau

LIST OF ABBREVIATIONS

NDC: National Disaster Coordinator

NDPBA: National Disaster Preparedness Baseline Assessment

NEC: National Emergency Committee

NEMO: National Emergency Management Office

NEOC: National Emergency Operations Center

NEPC: National Environmental Protection Council

NGO: Nongovernmental Organization

NOAA: National Oceanic and Atmospheric Administration (of the United States)

NQS: National Qualification System

NWS: National Weather Service (of the United States)

OCC: Office of Climate Change

OHCHR: Office of the High Commissioner for Human Rights

OPS: Office of Planning and Statistics

PACIOOS: Pacific Islands Ocean Observing System

PALARIS: Palau Automated Land and Resource Information System Office

PCC: Palau Community College

PCCP: Palau Climate Change Policy

PCRIC: Pacific Catastrophe Risk Insurance Company

PCRIP: Pacific Catastrophe Risk Insurance Program

PDC: Pacific Disaster Center

PDFR: Palau Division of Fire and Rescue

PDOT: Palau Division of Transportation

PEPER: Palau Emergency Preparedness and Enhanced Resilience (project funded by OFDA)

PFA: Priority for Action

PI-CASC: Pacific Islands Climate Adaptation Science Center

PICRC: Palau International Coral Reef Research Centre

PIFS: Pacific Islands Forum Secretariat

PIO: Public Information Officer

PIRCA: Pacific Island Regional Climate Assessment

PNCC: Palau National Communications Corporation

PNDRMF: Palau National Disaster Risk Management Framework

PNMS: Palau National Marine Sanctuary Act

PPP: Public-Private Partnership

PPUC: Palau Public Utilities Corporation

PRCS: Palau Red Cross Society

PTWC: Pacific Tsunami Warning Center

R&D: Research and Development

RDAT: Red Cross Disaster Action Team or Rapid Damage Assessment Team

ROP: Republic of Palau

RVA: Risk and Vulnerability Assessment (of NDPBA)

SAR: Search and Rescue

SDG: Sustainable Development Goal

SDMC: State Disaster Management Committee

SDRMC: State Disaster Risk Management Coordinator

LIST OF ABBREVIATIONS

SDS: Statistics Dissemination System

SEMP: School Emergency Management Planning

SFDRR: Sendai Framework for Disaster Risk Reduction

SME: Small and Medium Enterprise

SOP: Standard Operating Procedure

SOPAC: South Pacific Applied Geoscience Commission

SPC: Pacific Community

SPREP: Secretariat of the Pacific Regional Environment Programme

TNC: The Nature Conservancy

U.S. NWS: United States National Weather Service

U.S. PTWC: United States Pacific Tsunami Warning Center

UN OCHA: UN Office for the Coordination of Humanitarian Affairs

UN: United Nations

UNDP: United Nations Development Programme

UNDRR: United Nations Office for Disaster Risk Reduction

UNESCAP: United Nations Economic and Social Commission for Asia and the Pacific

UNESCO IOC: United Nations Educational, Scientific and Cultural Organization-Intergovernmental Oceanographic Commission

UNESCO: United Nations Educational Scientific, and Cultural Organization

UNFPA: United Nations Population Fund

UNHCR: UN High Commissioner for Refugees

UNICEF: United Nations Children's Fund

UNSCR: United Nations Security Council Resolution

USAID BHA: United States Agency for International Development Bureau of Humanitarian Affairs

USAID: United States Agency for International Development

USEOP: United States Embassy of Palau

USINDOPACOM: United States INDO-Pacific Command

USP: University of the South Pacific

WFP: World Food Programme

WHO: World Health Organization

WMO: World Meteorological Organization

WPS: Women, Peace, and Security

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NDPBA

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

PDC's National Disaster Preparedness Baseline Assessment (NDPBA) is more than just an assessment; it is a sustainable system for understanding, updating, accessing, and applying critical risk information in decision making. The NDPBA provides the necessary tools, scientific data, and evidence-based practice to effectively reduce disaster risk – informing decisions at the national and subnational levels. The NDPBA includes a Risk and Vulnerability Assessment (RVA) which examines several components of risk including hazard exposures, vulnerability, and coping capacity. These findings are further reviewed through the lens of PDC's unique Disaster Management Analysis (DMA). The DMA contextualizes the RVA and guides recommendations designed to increase resilience and reduce disaster risk.

PDC worked in partnership with the Republic of Palau National Emergency Management Office (NEMO) to integrate national priorities and stakeholder feedback throughout every step of the process. Based on the findings of this analysis, a series of recommendations and a five-year plan for implementation has been developed as part of this final report. The NDPBA provides essential tools and data for disaster risk monitoring and aligns recommended actions with the United Nations (UN) Sustainable Development Goals (SDGs) and the Sendai Framework for Disaster Risk Reduction 2015-2030.

The Government of Palau faces continuous and mounting effects of climate change, flooding, landslide, tropical cyclone, earthquake, tsunami, and coastal inundation hazards, in addition to the global COVID pandemic. These events present challenges and opportunities to help understand and actively observe the capabilities of Palau's disaster management structure.

The NDPBA was funded by the United States Government through the United States Indo-Pacific Command (USINDOPACOM). While NEMO was PDC's in-country partner during this project, PDC also developed relationships and data-sharing agreements with multiple government and non-governmental agencies that supported the data gathering and vetting process, most notably the Climate Change Office and PALARIS.

To access all findings, recommendations, and data (tabular and spatial), developed for this analysis, please visit the PDC's DisasterAWARE® platform at <https://disasteraware.pdc.org/>.

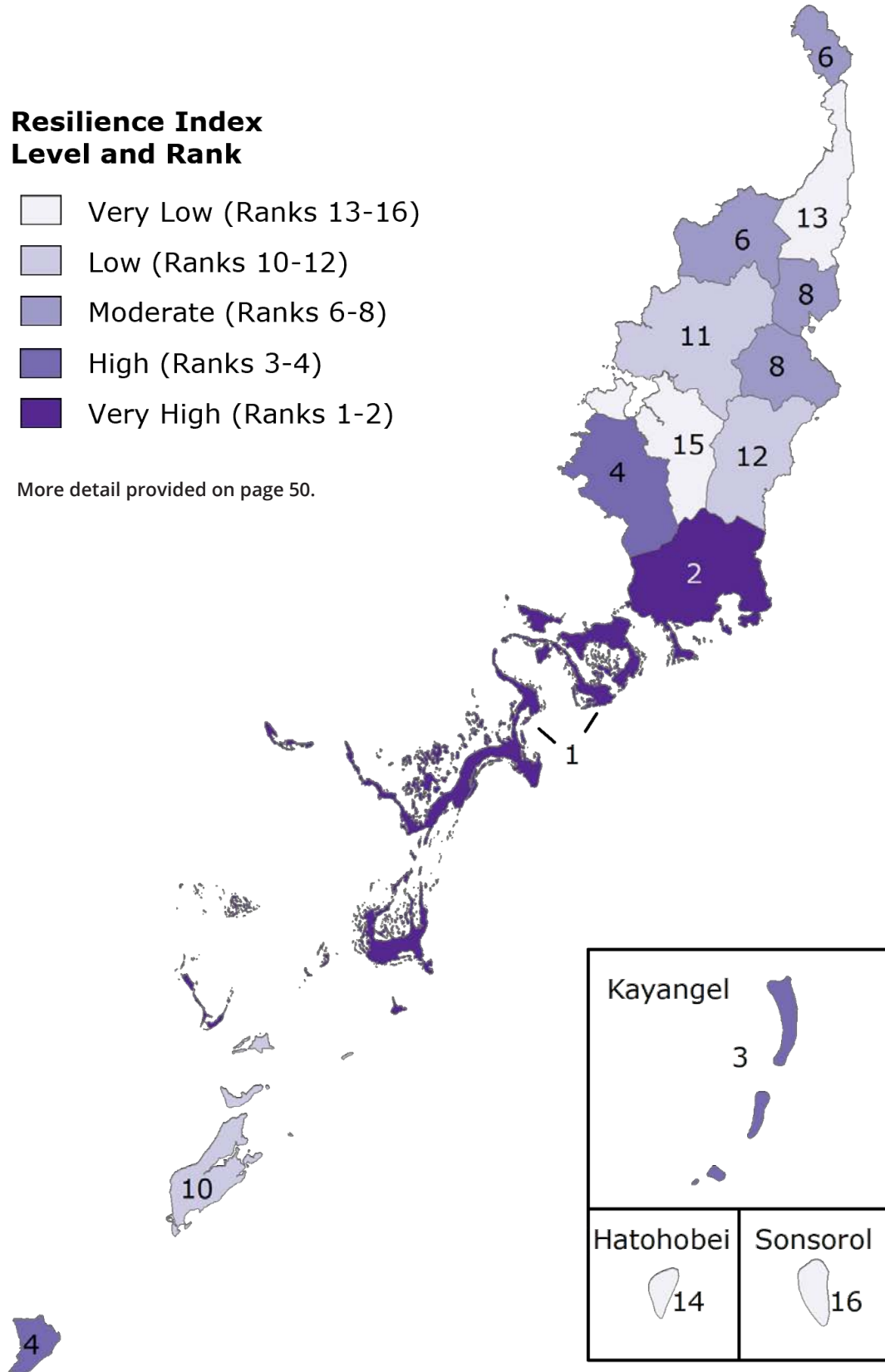


SUMMARY OF FINDINGS

Resilience Index Level and Rank

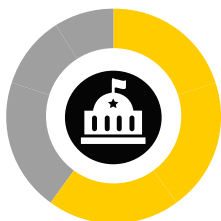
- Very Low (Ranks 13-16)
- Low (Ranks 10-12)
- Moderate (Ranks 6-8)
- High (Ranks 3-4)
- Very High (Ranks 1-2)

More detail provided on page 50.

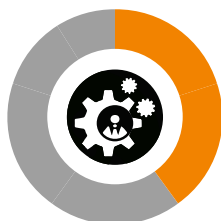


DISASTER MANAGEMENT ANALYSIS THEMES

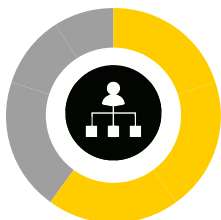
■ Limited or No Capacity ■ Early Capacity Development ■ Achievement with Significant Limitation ■ Substantial Progress with Some Limitation ■ Advanced Capacity



Enabling Environment



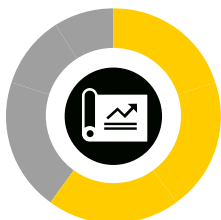
Capabilities and Resources



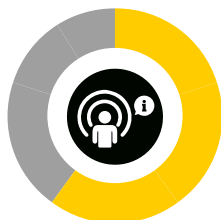
Institutional Arrangements



Capacity Development



Disaster Governance Mechanisms



Communication and Information Management

RECOMMENDATIONS



These recommendations are included in greater detail in the body of the report. Our hope is that the Government of Palau and key development and disaster management partners will leverage the results of this comprehensive assessment to enable a more robust and sustainable disaster risk reduction effort that will contribute to saving lives and property.

IN LIGHT OF OUR FINDINGS, PDC MAKES THE FOLLOWING RECOMMENDATIONS:

1

Update the legal framework to support national and community disaster preparedness in Palau.

2

Strengthen the institutional capacity of the National Emergency Management Office (NEMO) and the Office of Climate Change (OCC).

3

Increase resilience at the subnational, local, and community levels.

4

Leverage existing partnerships with international aid organizations, international/foreign funding agencies, donors, and the US military to enhance regional capacity.

5 **Develop a formal mechanism** to assess progress made toward achievement of the DRR (Sendai Framework), Climate Adaptation (Paris Agreement), and UN SDGs.

6 **Update** the Palau National Disaster Risk Management Framework (PNDRM) and the Palau Climate Change Policy (PCCP).

7 **Develop resilience/COOP/COG plans** for the country's critical infrastructure sectors and integrate plans across sectors.

8 **Build human resource capacity** across the nation to support DM efforts.

9 **Implement** a standard incident management system at all levels of government.

10 **Develop/upgrade early warning systems** for hydrometeorological and climate-related hazard events.

11 **Engage** the private sector, NGOs, academia, and media in the government DRM framework.

12 **Explore strategies** to support the Cyclical Reserve and Climate Resilience Fund.

13 **Develop a national risk transfer strategy** for natural hazards, including national and household insurance programs.

14 **Require inventories of disaster warehouses** and maintain inventories locally and at NEMO, PRCS, Palau International Airport, and Port of Koror.

15

Develop a nationwide evacuation and shelter plan.

16

Standardize data collection, management, and dissemination in support of DM and DRM.

17

Increase information access and sharing amongst all DM stakeholders.

18

Engage the public in efforts to reduce vulnerability and increase coping capacity.

19

Reduce marginalization and promote gender equality; actively engage marginalized groups and promote policies to support economic and educational opportunities for women and other underserved communities.

20

Develop sustainable land use planning policies by taking into consideration primary hazards.

21

Upgrade public health and medical facilities and integrate them into the national disaster management system.

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NDPBA

COUNTRY BACKGROUND

GEOGRAPHY

Location: Palau is in the western Pacific Ocean, in the southwest corner of Micronesia. It is 830 miles southwest of Guam, 400 miles north of New Guinea, and 550 miles east of the Philippines. The country consists of over 300 islands including six island groups in the westernmost archipelago in the Caroline Island chain, with only 12 of them inhabited.

177.2 sq mi

Land Area (459 km²)

988 mi

Coastline (1519 km)

16

Administrative Divisions (States)

0

Land Boundaries

3

Maritime Boundaries

- Micronesia
- Indonesia
- Philippines

4

Major Regions

- Babeldaob Island
- Koror
- Coral Islands and Barrier Reef
- Rock Islands

Ngerulmud

Capital

Koror

Largest City

DEMOGRAPHICS

17,614

Total population (2020 Census)

224 of 235

Rank, most populous country in the world (UN Population Division, 2022)



-0.4%

Average annual population growth (2000-2010)

11,199 63.6%

Urban population (Koror)
63.6% of total population (2020 Census)

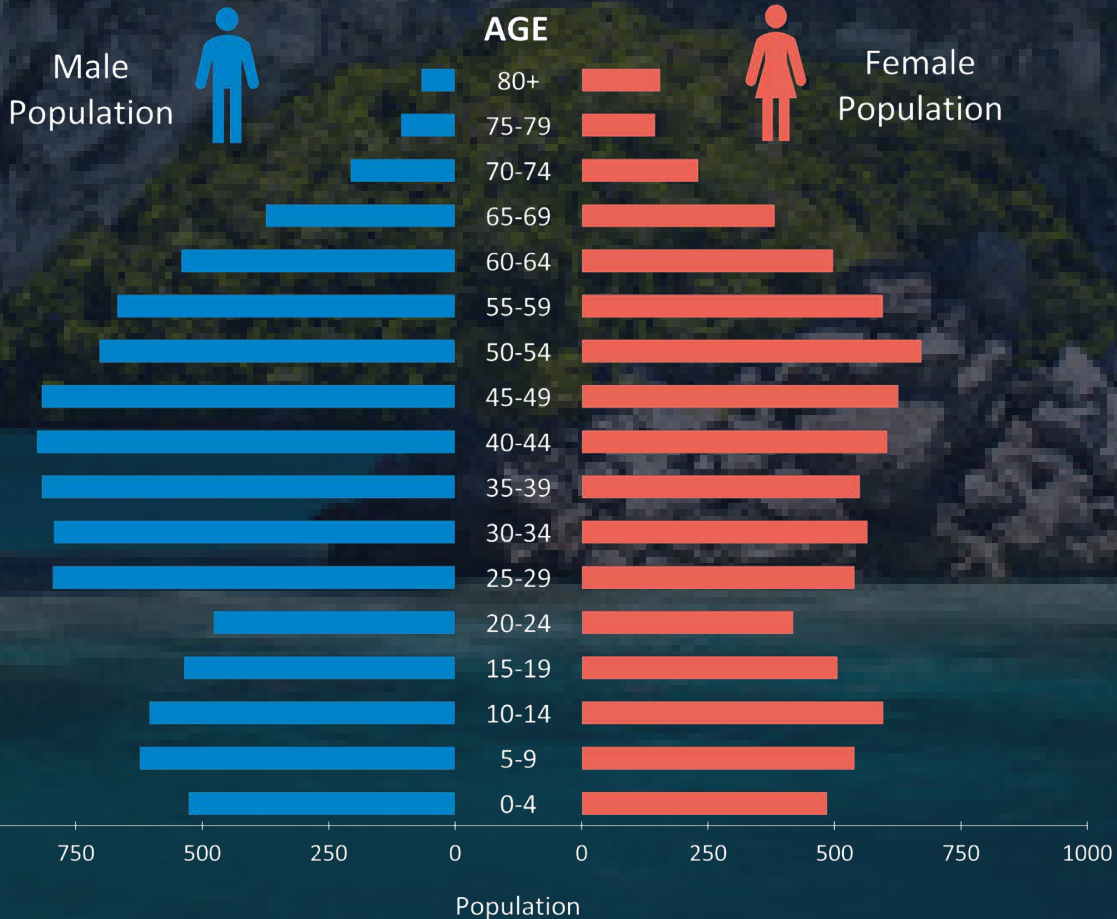
The remaining 15 states, excluding the capital Ngerulmud, are considered rural areas.

Ethnic groups (2020 Census)

- 70.6%** Palauan
- 26.5%** Asian
- 1.2%** Carolinian
- 0.8%** Caucasian

Religions (2020 Census)

- 46.4% Catholic
- 26.2% Evangelical
- 5.3% Seven Day Adventist
- 4.9% Modekngai (indigenous)
- 3.8% Muslim
- 1.0% Mormon
- 0.8% Assembly of God
- 0.5% Baptist



HEALTH



1.4

Physicians per 1k people (2014)



7.3

Nurses per 1k people (2018)



4.8

Hospital beds per 1k people (2010)



74

Average life expectancy (2018)



16

Infant mortality ratio per 1,000 live births (2019)

ACCESS TO INFORMATION



97%

Adult literacy rate (2015)



100%

Net enrollment in primary school (2020 Census)



79%

Secondary education completion rate (2020 Census)



36%

Population using the Internet (2016)

ECONOMY

GDP and Key Exports

\$257.7 million (USD)

GDP (2020)

\$14,243 (USD)

GDP per capita (2020)



24.8%

People living below national poverty line (2019)



0.36%

Avg. annual growth in GDP (2010-2020)



Seafood



Office machinery



Parts



Computers



Broadcasting equipment



Scrap vessels

Sectors (% of GDP)

73.7%

Services

13.4%

Industry

3.3%

Agriculture

1.0%

Manufacturing

Palau is a small island developing state (SIDS); 40% of its economy relies on tourism income, thus the COVID-19 pandemic was a major blow to the tourism sector and Palau's economy. Due to the pandemic, Palau's external public debt increased from 31.5% in 2019 to 68.5% in 2021. High energy costs are a major issue for the economy.

Palau's exclusive economic zone (EEZ) of 603,000 km² (233,00 mi²) requires additional and external resources to ensure security and counter-threats against it.

KEY INFRASTRUCTURE

Logistics and Transportation



3

Airports
1 Medium - Roman Tmetuchl International Airport
2 Small (unpaved runways)



32

Seaports/Docks and Marinas
(Largest is Port of Koror)



18

Bridges
(Largest is Palau-Japan Friendship Bridge connecting Koror Island to Babeldaob Island carrying electrical and water lines)



12

Dams



12

Roads



12

Causeways

Emergency Services

3



Police stations

4



Fire stations

1



Hospital
(Belau National)

13



Health Clinics

44



Shelters

2



Emergency Operation Centers

KEY INFRASTRUCTURE

Other Important Infrastructure

- Hotels and Resorts: 51
- Schools: 29
- Financial Services: 9

Telecommunication

- Communication Infrastructure: 34 (including fiber optic stations, short wave transmitters, VHF & UHF repeaters, earth stations, relay towers, broadcasting towers, and a warning siren)

Energy and Power

- Power plants: 6 (largest are Malakai and Aimeliik power stations)
- Electricity production: 89 GWh per year (2019)
- Electricity demand: 89 GWh per year (2019)
- Access to electricity: 100% of population (2020)
- Installed capacity: 20 MW (2022)

Water, Sanitation & Hygiene (WASH)

- Population with access to improved drinking water: 99.7% (2020 est.)
- Population using public water utility as drinking water source: 95%
- Households with access to a flush toilet: 94.5% (2020)

DISASTER MANAGEMENT

Major Capacity Improvements/Milestones (past 15 years)

- Executive Decree No. 397 adopted the Palau National Disaster Risk Management Framework in 2010 and released the amended PNDRMF in 2016.
- In 2015, the government adopted the Palau Climate Change Policy for Climate and Disaster Resilient Low Emissions Development 2015 (PCCP).
- In 2016, NEMO developed the Community-Based Disaster Risk Reduction Toolkit and completed training and awareness outreach to communities in DRR preparedness and response.
- UNDP and the Government of Japan handed over a retrofitted national emergency operations center to NEMO in 2021.

Major Disaster Impacts (2010-2020)

- Typhoon Bopha, 2012: 131 people displaced, \$15-20 million in damage (7.0-9.3% of Palau's GDP)
- Typhoon Haiyan, 2013: \$9.7 million in damage, Category 5 storm (4.3% of GDP)
- Drought from an El Niño, 2016-2017: \$3.2 million in damage (1.1% of GDP) affecting 80% of the country.
- Tropical Cyclone Surigae, 2021: \$4.8 million in damage to health, infrastructure, education, food security, community, and residential buildings, and communications infrastructure.
- COVID-19, 2020-2022: impacted the whole country, and Palau conducted a national emergency response and closed its international borders resulting in a significant decline in tourism-generated income.





THE RVA

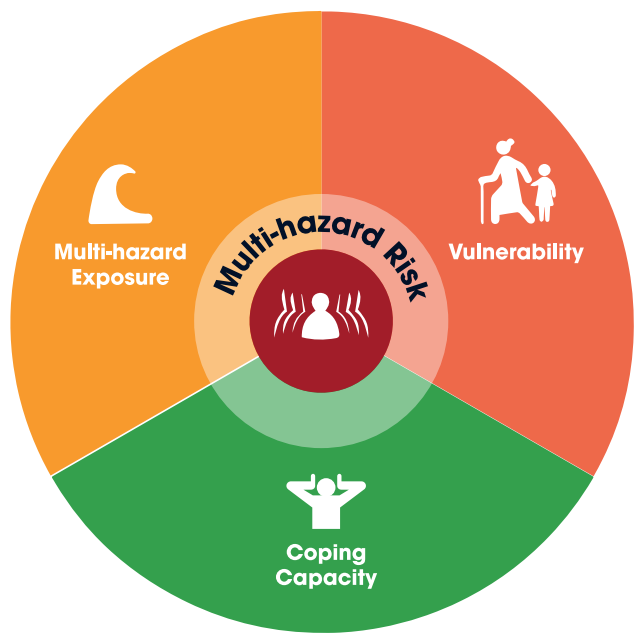
RISK AND VULNERABILITY ASSESSMENT RESULTS

RISK AND VULNERABILITY

ASSESSMENT RESULTS

Provided in this section are the results of the Risk and Vulnerability Assessment (RVA) conducted by PDC as part of the NDPBA. For more information about PDC’s NDPBA Methodology, please visit: <https://www.pdc.org/wp-content/uploads/NDPBA-Data-Sharing-Guide-English-Screen.pdf>

PALAU



COMPONENTS OF RISK



Multi-hazard Exposure



Vulnerability



Coping Capacity



THE RVA

MULTI-HAZARD EXPOSURE

MULTI-HAZARD EXPOSURE

The following hazards were assessed by PDC as part of the National Disaster Preparedness Baseline Assessment:

Global Multi-hazard Exposure Rank (PDC Global RVA)


178 OUT OF 216 COUNTRIES / TERRITORIES ASSESSED

Multi-Hazard Exposure Rank within Oceania Region


11 OUT OF 15 COUNTRIES / TERRITORIES ASSESSED

PALAU HAZARD ZONES


SEA LEVEL RISE

 **22%** Relative Population Exposure
3,880 Raw Population Exposure
\$25.1 Million (USD) Raw Economic Exposure


STORM SURGE

 **24%** Relative Population Exposure
4,250 Raw Population Exposure
\$46.4 Million (USD) Raw Economic Exposure


SEA LEVEL RISE + STORM SURGE

 **29%** Relative Population Exposure
5,130 Raw Population Exposure
\$52 Million (USD) Raw Economic Exposure


TROPICAL CYCLONE WIND

 **99%** Relative Population Exposure
17,200 Raw Population Exposure
\$778 Million (USD) Raw Economic Exposure

EARTHQUAKE

 **9%** Relative Population Exposure
1,620 Raw Population Exposure
\$59.2 Million (USD) Raw Economic Exposure

TSUNAMI

 **23%** Relative Population Exposure
4,130 Raw Population Exposure
\$46.4 Million (USD) Raw Economic Exposure

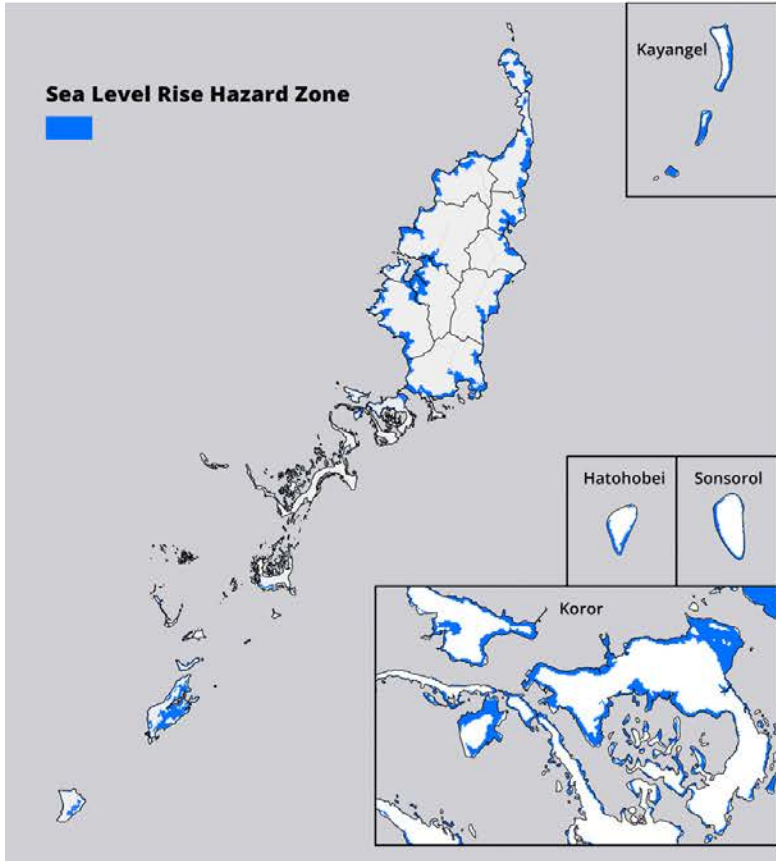
LANDSLIDE

 **22%** Relative Population Exposure
3,880 Raw Population Exposure
\$66.1 Million (USD) Raw Economic Exposure

Palau: Sea Level Rise Hazard Exposure



VIEW IN DISASTERWARE



POTENTIAL POPULATION EXPOSURE



POTENTIAL ECONOMIC EXPOSURE



CRITICAL INFRASTRUCTURE EXPOSED



1 (33%)
Airports



32 (100%)
Seaports



9 (28%)
Schools



0 (0%)
EOC



10 (22%)
Shelters



9 (26%)
Communications



3 (21%)
Hospitals & Clinics



1 (14%)
Police & Fire Stations



11 (40%)
Power Supply & Fuel Storage



2 (7%)
Water Supply & Treatment



16 (31%)
Hotels



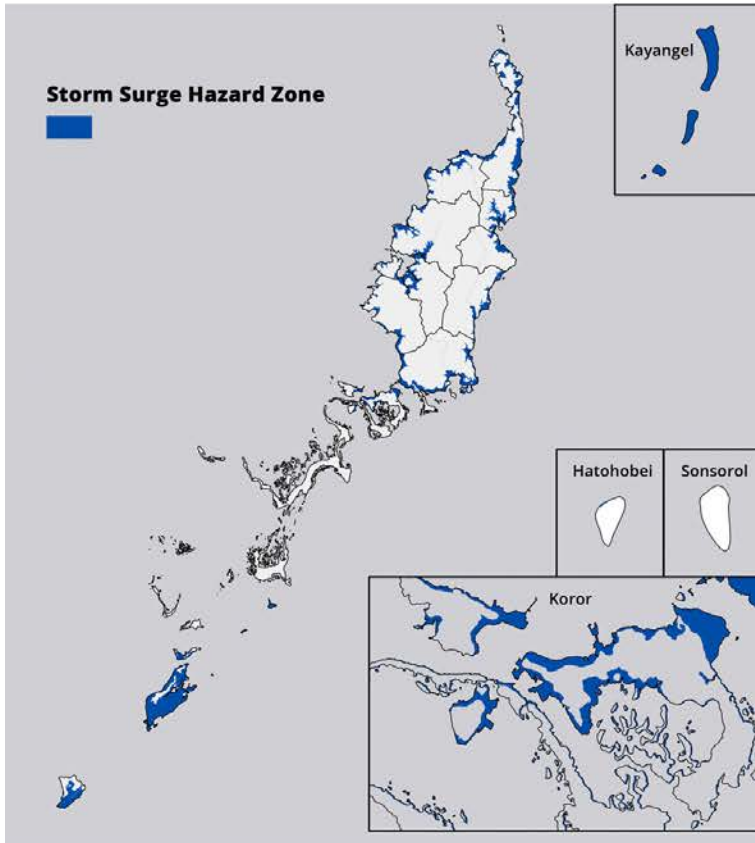
10 (55%)
Bridges

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Data: PDC, Climate Central, USGS, PACIOOS, PALARIS, NEMO, OurAirports, World Port Index, Government of Palau, Ministry of Finance, HDX, HOTOSM.

Palau: Storm Surge Hazard Exposure



VIEW IN DISASTERAWARE



POTENTIAL POPULATION EXPOSURE



POTENTIAL ECONOMIC EXPOSURE



CRITICAL INFRASTRUCTURE EXPOSED



2 (66%)
Airports



21 (65%)
Seaports



9 (28%)
Schools



0 (0%)
EOC



10 (22%)
Shelters



9 (26%)
Communications



5 (35%)
Hospitals & Clinics



1 (14%)
Police & Fire Stations



12 (44%)
Power Supply & Fuel Storage



1 (3%)
Water Supply & Treatment



13 (25%)
Hotels



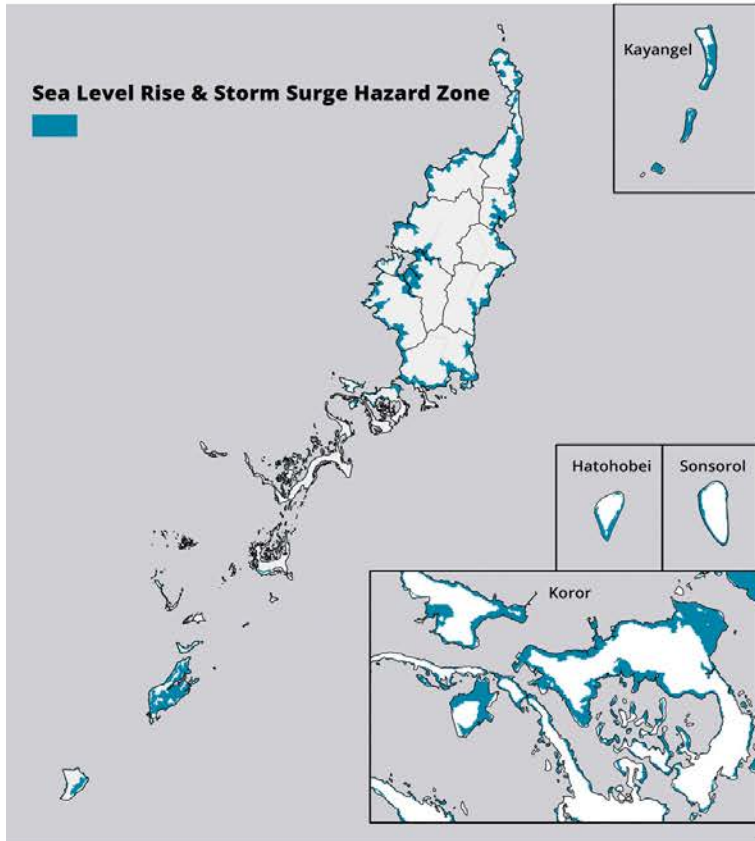
6 (33%)
Bridges

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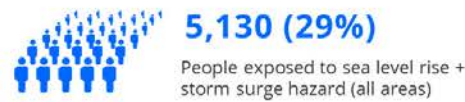
Palau: Sea Level Rise + Storm Surge Hazard Exposure



VIEW IN DISASTERAWARE



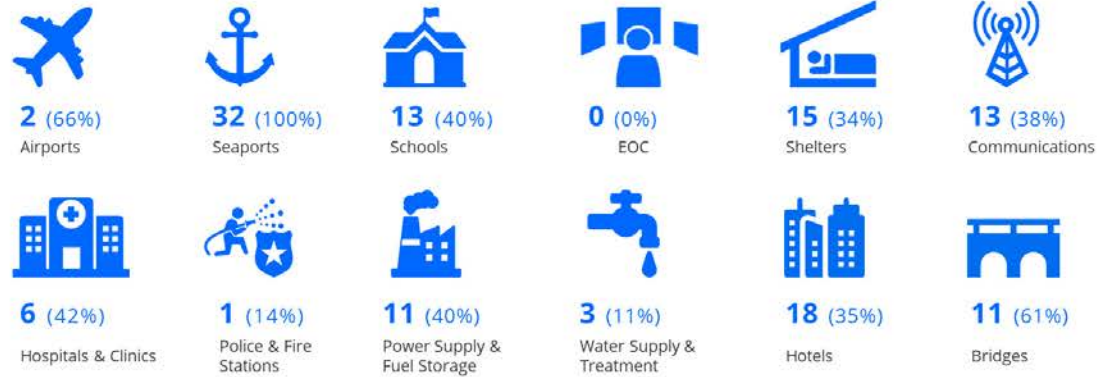
POTENTIAL POPULATION EXPOSURE



POTENTIAL ECONOMIC EXPOSURE



CRITICAL INFRASTRUCTURE EXPOSED

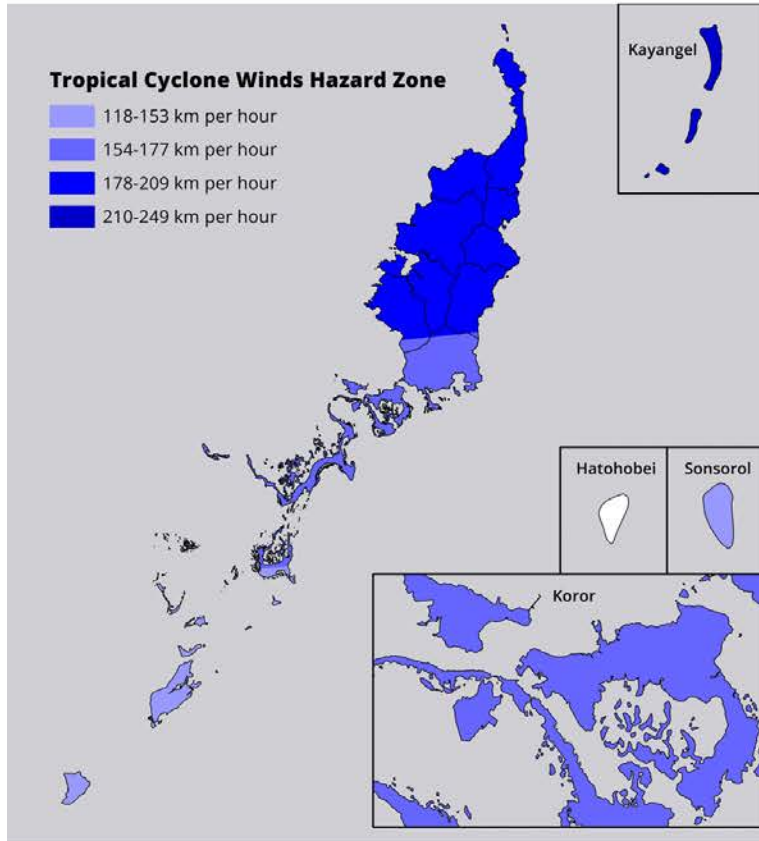


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Data: PDC, Climate Central, USGS, PACIOOS, PALARIS, NEMO, OurAirports, World Port Index, Government of Palau, Ministry of Finance, HDX, HOTOSM.

Palau: Tropical Cyclone Wind Hazard Exposure



VIEW IN DISASTERWARE



POTENTIAL POPULATION EXPOSURE



17,200 (99%)

People exposed to tropical cyclone wind (category 1-5)

POTENTIAL ECONOMIC EXPOSURE



\$778 Million (99%)

Capital stock exposed to tropical cyclone wind (category 1-5)

CRITICAL INFRASTRUCTURE EXPOSED



3 (100%)
Airports



32 (100%)
Seaports



31 (96%)
Schools



2 (100%)
EOC



44 (100%)
Shelters



34 (100%)
Communications



14 (100%)
Hospitals & Clinics



7 (100%)
Police & Fire Stations



27 (100%)
Power Supply & Fuel Storage



27 (100%)
Water Supply & Treatment



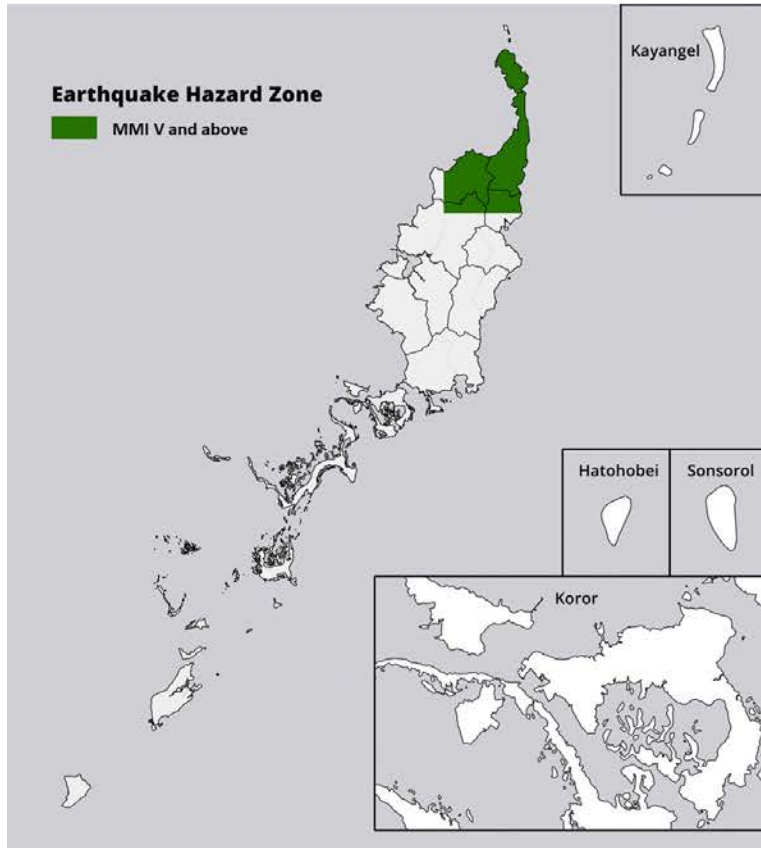
51 (100%)
Hotels



18 (100%)
Bridges

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Data: PDC, USGS, MunichRe, PACIODS, PALARIS, NEMO, OurAirports, WorldPortIndex, Government of Palau, Ministry of Finance, HDX, HOTOSM

Palau: Earthquake Hazard Exposure



POTENTIAL POPULATION EXPOSURE



POTENTIAL ECONOMIC EXPOSURE



CRITICAL INFRASTRUCTURE EXPOSED



0 (0%)
 Airports



6 (18%)
 Seaports



6 (18%)
 Schools



0 (0%)
 EOC



9 (20%)
 Shelters



6 (17%)
 Communications



1 (7%)
 Hospitals & Clinics



1 (14%)
 Police & Fire Stations



0 (0%)
 Power Supply & Fuel Storage



3 (11%)
 Water Supply & Treatment



0 (0%)
 Hotels



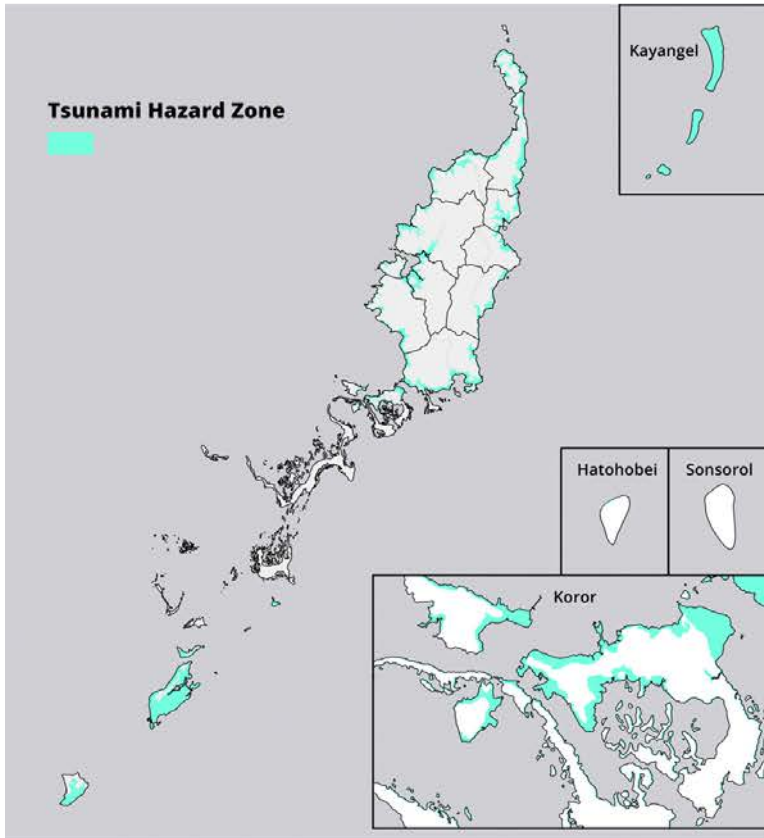
1 (5%)
 Bridges

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Palau: Tsunami Hazard Exposure



VIEW IN DISASTERAWARE



POTENTIAL POPULATION EXPOSURE



POTENTIAL ECONOMIC EXPOSURE



CRITICAL INFRASTRUCTURE EXPOSED



1 (33%)
Airports



21 (65%)
Seaports



9 (28%)
Schools



0 (0%)
EOC



10 (22%)
Shelters



9 (26%)
Communications



5 (35%)
Hospitals & Clinics



1 (14%)
Police & Fire Stations



11 (40%)
Power Supply & Fuel Storage



1 (3%)
Water Supply & Treatment



13 (25%)
Hotels



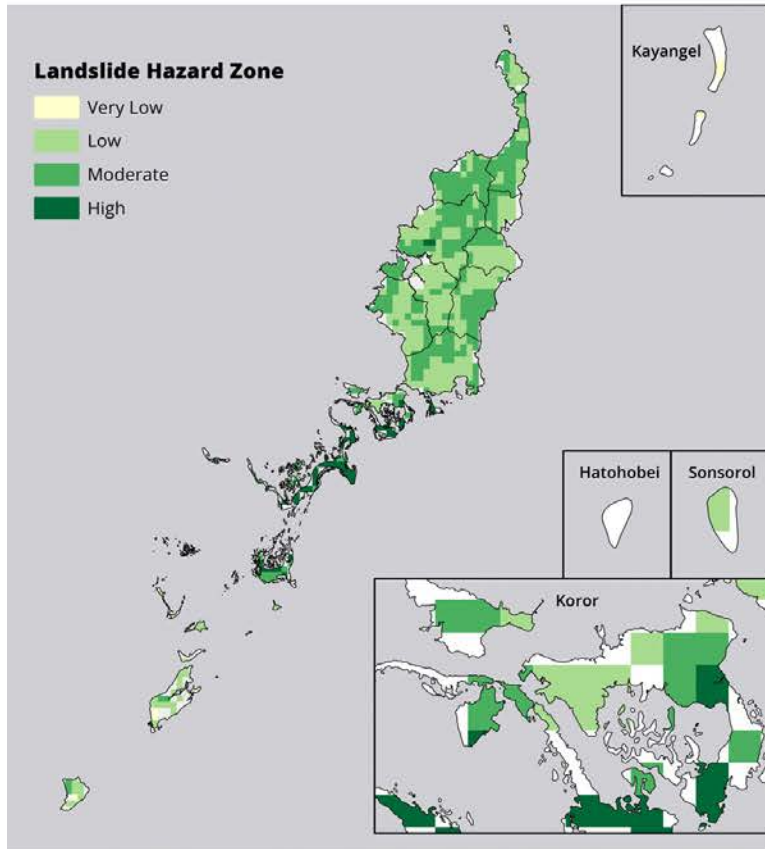
6 (33%)
Bridges

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Palau: Landslide Hazard Exposure



VIEW IN DISASTERWARE



POTENTIAL POPULATION EXPOSURE



POTENTIAL ECONOMIC EXPOSURE



CRITICAL INFRASTRUCTURE EXPOSED



0 (0%)
Airports



7 (21%)
Seaports



6 (18%)
Schools



0 (0%)
EOC



10 (22%)
Shelters



9 (26%)
Communications



0 (0%)
Hospitals & Clinics



2 (28%)
Police & Fire Stations



21 (77%)
Power Supply & Fuel Storage



13 (48%)
Water Supply & Treatment



16 (31%)
Hotels



2 (11%)
Bridges

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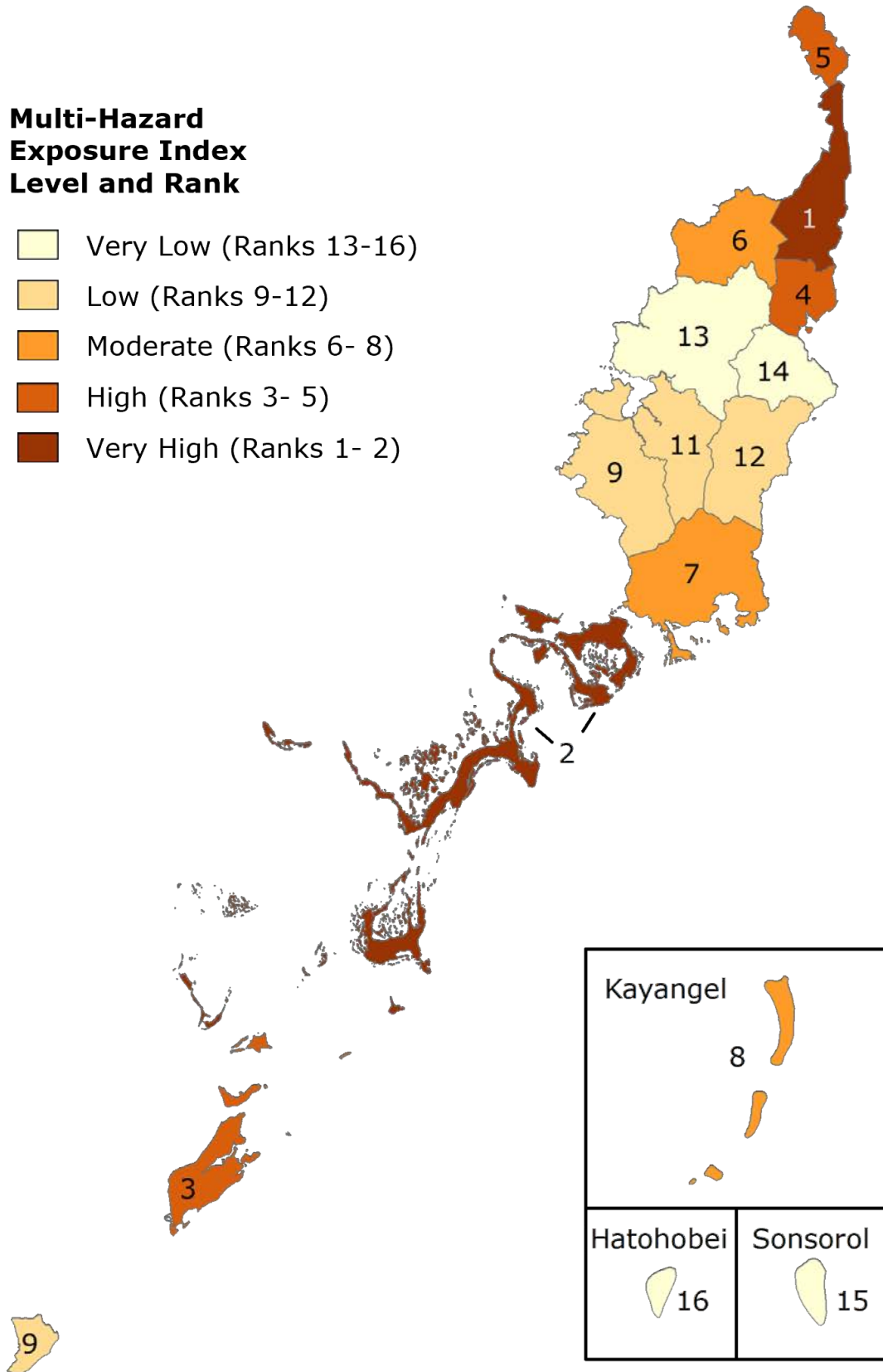
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MULTI-HAZARD EXPOSURE BY STATE

	RANK	STATE	INDEX SCORE
VERY HIGH	1	Ngaraard	0.922
	2	Koror	0.733
HIGH	3	Peleliu	0.711
	4	Ngwal	0.666
	5	Ngarchelong	0.655
MEDIUM	6	Ngardmau	0.633
	7	Airai	0.522
	8	Kayangel	0.511
LOW	9	Aimeliik	0.489
	9	Angaur	0.489
	10	Ngatpang	0.466
	11	Ngchesar	0.455
VERY LOW	12	Ngaremlengui	0.355
	13	Melekeok	0.278
	14	Sonsorol	0.055
	15	Hatohobei	0.033

Multi-Hazard Exposure Index Level and Rank

-  Very Low (Ranks 13-16)
-  Low (Ranks 9-12)
-  Moderate (Ranks 6- 8)
-  High (Ranks 3- 5)
-  Very High (Ranks 1- 2)





THE RVA

VULNERABILITY

VULNERABILITY

Vulnerability measures the physical, environmental, social, and economic conditions and processes that increase susceptibility of communities and systems to the damaging effects of hazards. Vulnerability data is designed to capture the multi-dimensional nature of poverty, the inequality in access to resources, and the ability of a given area to adequately support the population. In coordination with stakeholders, the following indicators were selected to measure vulnerability subcomponents in the country. Breaking down each vulnerability subcomponent to the indicator level allows users to identify the key drivers of vulnerability to support risk reduction efforts and policy decisions.

Global Vulnerability Rank (PDC Global RVA)

114 OUT OF 204 COUNTRIES /
TERRITORIES ASSESSED

Vulnerability Rank within Oceania Region

11 OUT OF 16 COUNTRIES /
TERRITORIES ASSESSED

VULNERABILITY SUBCOMPONENTS AND INDICATORS



Household Composition and Disability

- Percent Disabled
- Percent Under 18 Years of Age
- Households with Single Mother
- Percent Over 65 Years of Age



Housing Type and Transportation

- Median Number of Persons per Housing Unit
- Percent of Households with No Vehicle
- Population Living in Group Quarters
- Institutionalized Population
- Households Living in Temporary Structures
- Housing Structures with 10 or more Units



Socioeconomic Status

- Average Income
- Percent No High School Diploma
- Unemployment Rate
- Population Earning Less than \$5.50 per day



Housing Characteristics

- Households Using Biomass for Fuel
- Households without Electricity
- Households without Access to Public Water

Communication Assets

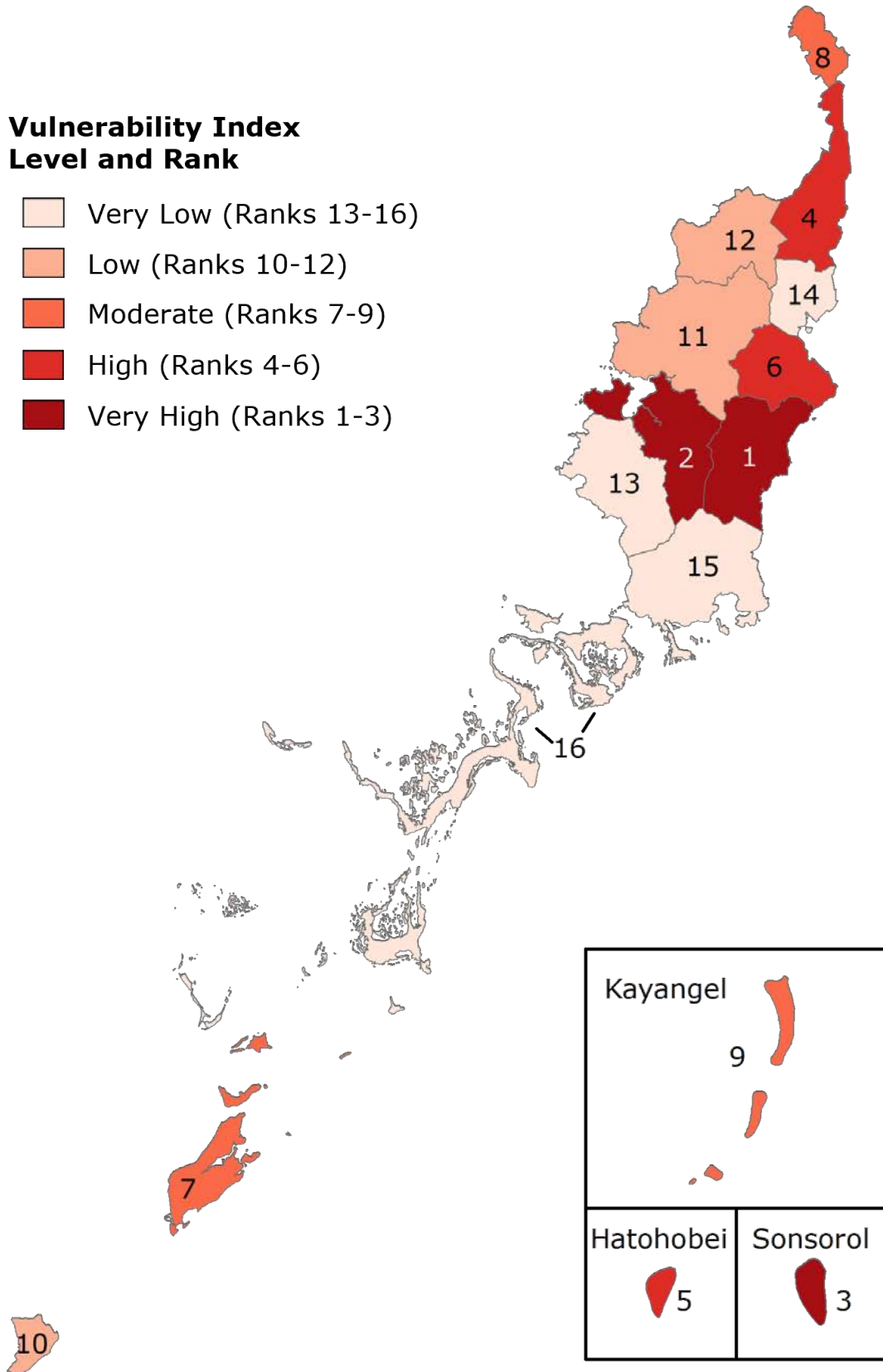
- Households without Cell Phone
- Households without Computer
- Households without Internet
- Households without Phone
- Households without TV

VULNERABILITY BY STATE

	RANK	STATE	INDEX SCORE
VERY HIGH	1	Ngchesar	1.000
	2	Ngatpang	0.933
	3	Sonsorol	0.866
HIGH	4	Ngaraard	0.800
	5	Hatohobei	0.733
	6	Melekeok	0.666
MEDIUM	7	Peleliu	0.600
	8	Ngarchelong	0.533
	9	Kayangel	0.466
LOW	10	Angaur	0.400
	11	Ngaremlengui	0.333
	12	Ngardmau	0.266
VERY LOW	13	Aimeliik	0.200
	14	Ngijwal	0.133
	15	Airai	0.066
	16	Koror	0.000

Vulnerability Index Level and Rank

- Very Low (Ranks 13-16)
- Low (Ranks 10-12)
- Moderate (Ranks 7-9)
- High (Ranks 4-6)
- Very High (Ranks 1-3)





THE RVA

COPING CAPACITY

COPING CAPACITY

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity data is designed to capture the assets and resources that support all phases of disaster management and risk governance. In coordination with stakeholders, the following indicators were selected to measure coping capacity subcomponents in the country. Similar to vulnerability, understanding the drivers of coping capacity at the indicator level allows users to identify efforts that support risk reduction and policy decisions.

Global Coping Capacity Rank (PDC Global RVA)

60 OUT OF 198 COUNTRIES / TERRITORIES ASSESSED

Coping Capacity Rank within Oceania Region

3 OUT OF 14 COUNTRIES / TERRITORIES ASSESSED

COPING CAPACITY SUBCOMPONENTS AND INDICATORS



Emergency Services Capacity

- Average Distance to Shelters
- Average Distance to Fire Station
- Average Distance to Health Facility



Transportation Infrastructure Capacity

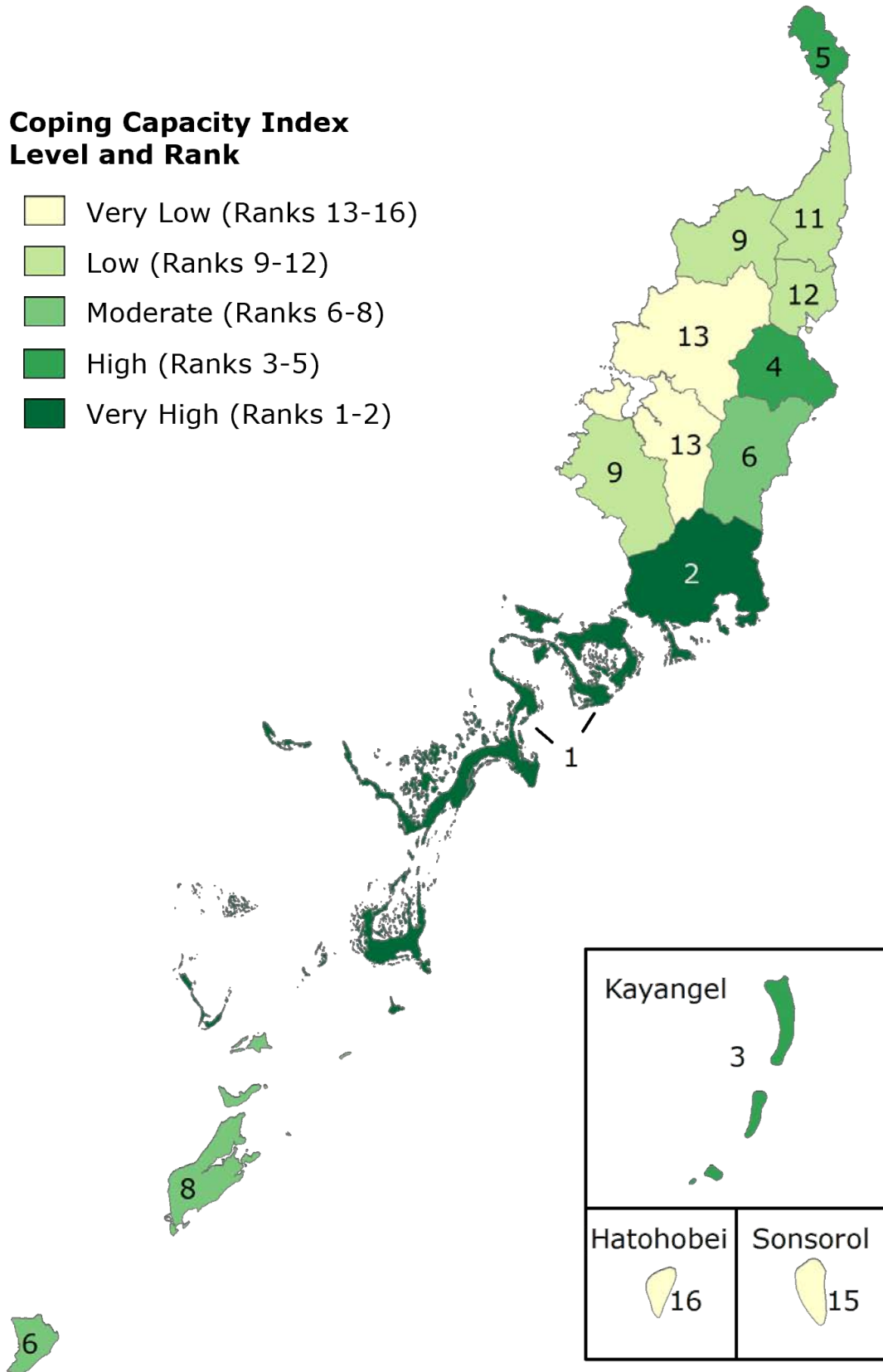
- Road Density
- Average Distance to Port
- Maximum Distance to Koror

COPING CAPACITY BY STATE

	RANK	STATE	INDEX SCORE
VERY HIGH	1	Koror	1.000
	2	Airai	0.934
HIGH	3	Kayangal	0.867
	4	Melekeok	0.800
	5	Ngarchelong	0.734
MEDIUM	6	Ngchesar	0.667
	6	Angaur	0.667
	7	Peleliu	0.534
LOW	8	Ngardmau	0.467
	8	Aimeliik	0.467
	9	Ngaraard	0.334
	10	Ngiwal	0.267
VERY LOW	11	Ngatpang	0.200
	11	Ngaremlengui	0.200
	12	Sonsorol	0.067
	13	Hatohobei	0.000

Coping Capacity Index Level and Rank

- Very Low (Ranks 13-16)
- Low (Ranks 9-12)
- Moderate (Ranks 6-8)
- High (Ranks 3-5)
- Very High (Ranks 1-2)





THE RVA

RESILIENCE

RESILIENCE

Resilience in Palau was calculated by averaging Vulnerability and Coping Capacity. Results are displayed in forthcoming pages, while the main drivers of resilience and recommendations are provided in the detailed subnational profiles.

Global Resilience Rank (PDC Global RVA)

65 OUT OF 194 COUNTRIES / TERRITORIES ASSESSED

Resilience Rank within Oceania Region

3 OUT OF 13 COUNTRIES / TERRITORIES ASSESSED

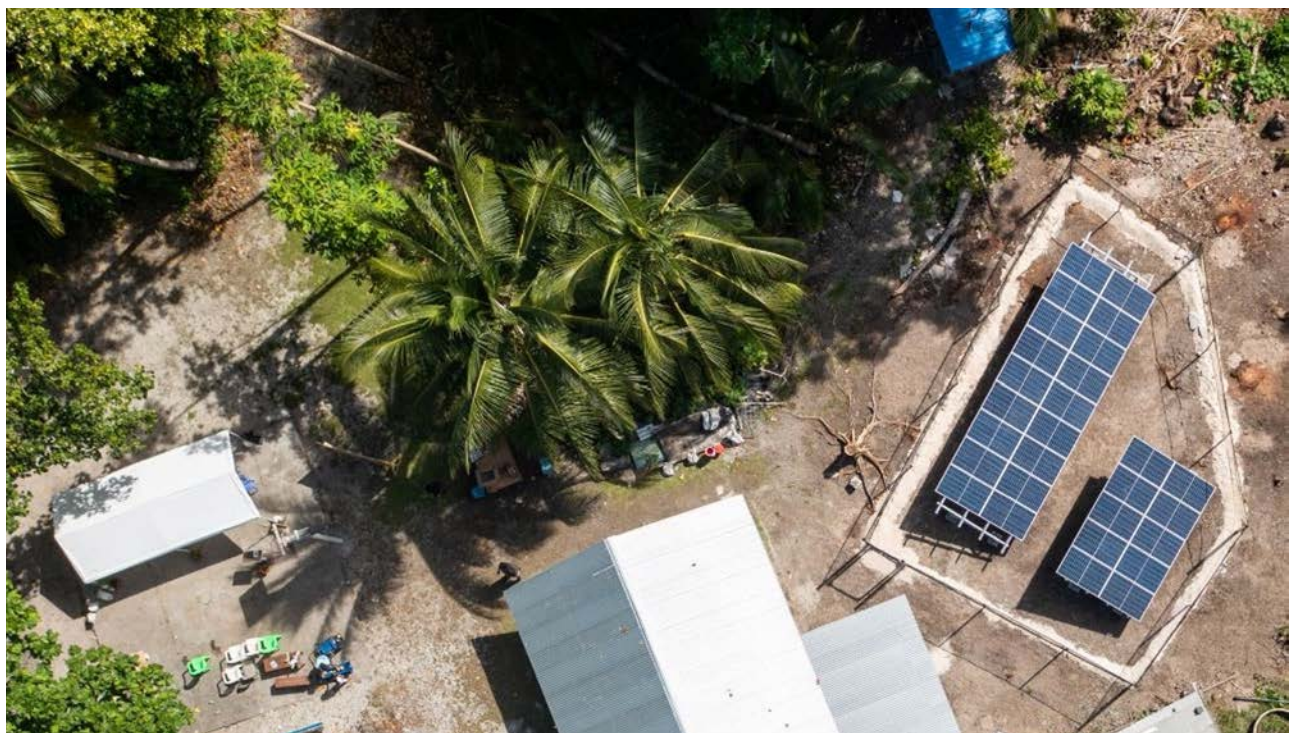
RESILIENCE COMPONENTS



Vulnerability



Coping Capacity

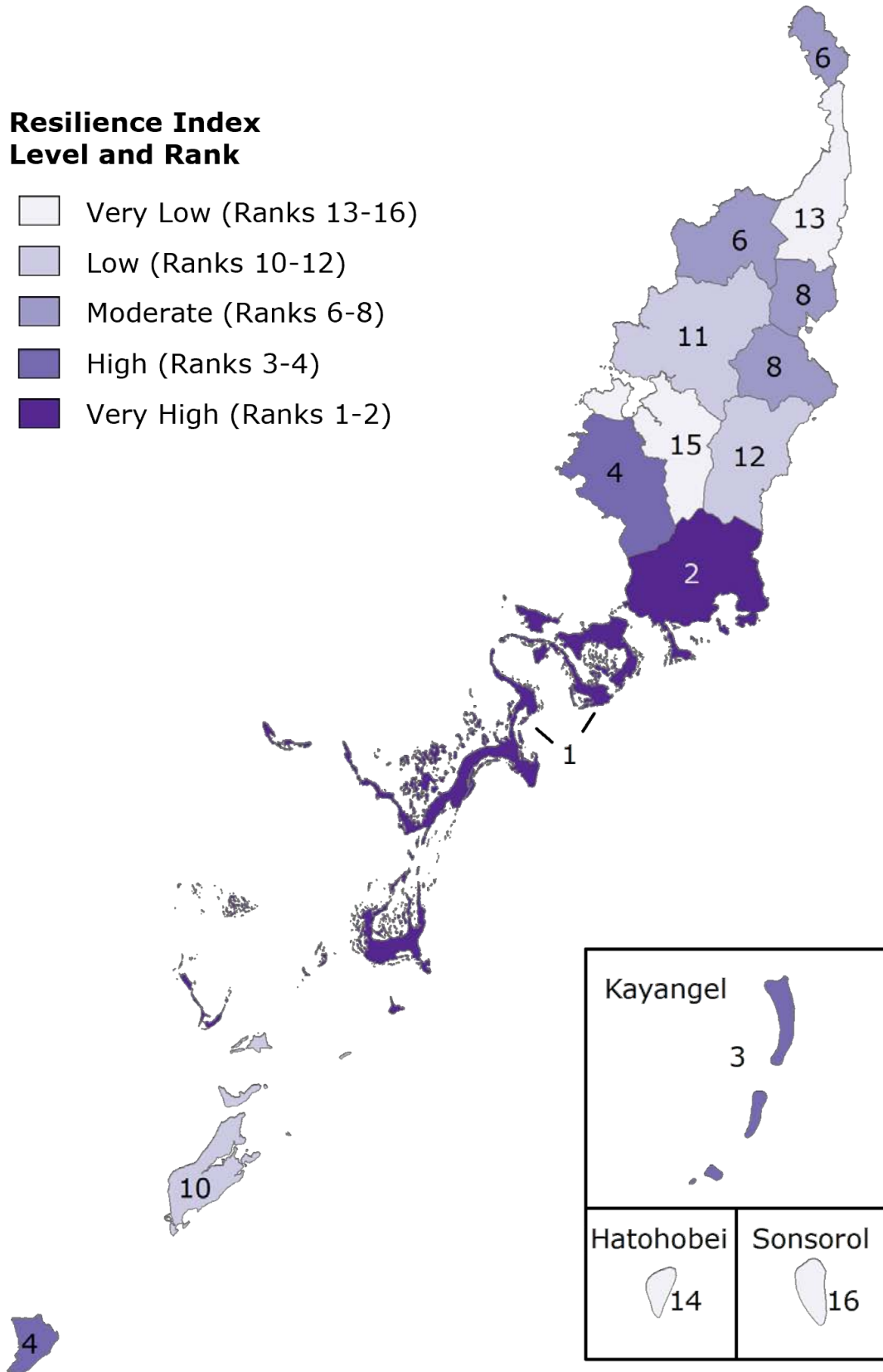


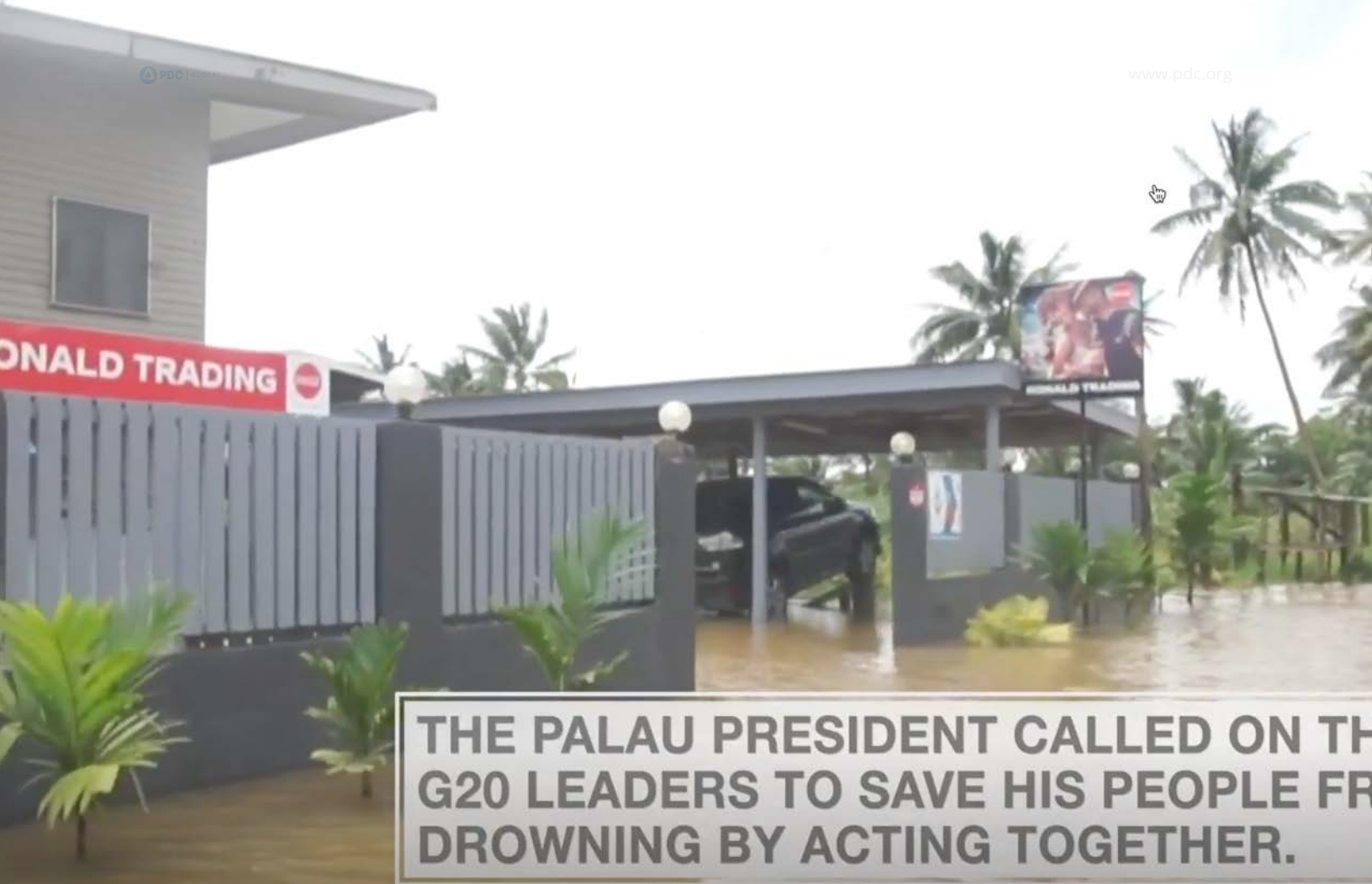
RESILIENCE BY STATE

	RANK	STATE	INDEX SCORE
VERY HIGH	1	Koror	1.000
	2	Airai	0.934
HIGH	3	Kayangal	0.701
	4	Angaur	0.634
	4	Aimeliik	0.634
MEDIUM	5	Ngarchelong	0.601
	5	Ngardmau	0.601
	6	Melekeok	0.567
	6	Ngiwal	0.567
LOW	7	Peleliu	0.467
	8	Ngaremlengui	0.434
	9	Ngchesar	0.334
VERY LOW	10	Ngaraard	0.267
	11	Hatohobei	0.134
	12	Ngatpang	0.134
	13	Sonsorol	0.101

Resilience Index Level and Rank

-  Very Low (Ranks 13-16)
-  Low (Ranks 10-12)
-  Moderate (Ranks 6-8)
-  High (Ranks 3-4)
-  Very High (Ranks 1-2)





THE PALAU PRESIDENT CALLED ON THE G20 LEADERS TO SAVE HIS PEOPLE FROM DROWNING BY ACTING TOGETHER.

THE RVA

MULTI-HAZARD RISK

MULTI-HAZARD RISK

Multi-hazard risk was calculated by averaging multi-hazard exposure, vulnerability, and coping capacity. Results are displayed below while additional detailed analysis of risk is provided in the subnational profiles report

**Global Multi-Hazard Risk Rank
(PDC Global RVA)**

154 OUT OF 193 COUNTRIES /
TERRITORIES ASSESSED

**Multi-Hazard Risk Rank within Oceania
Region**

12 OUT OF 13 COUNTRIES /
TERRITORIES ASSESSED

MULTI-HAZARD RISK COMPONENTS



Multi-Hazard Exposure



Vulnerability



Coping Capacity

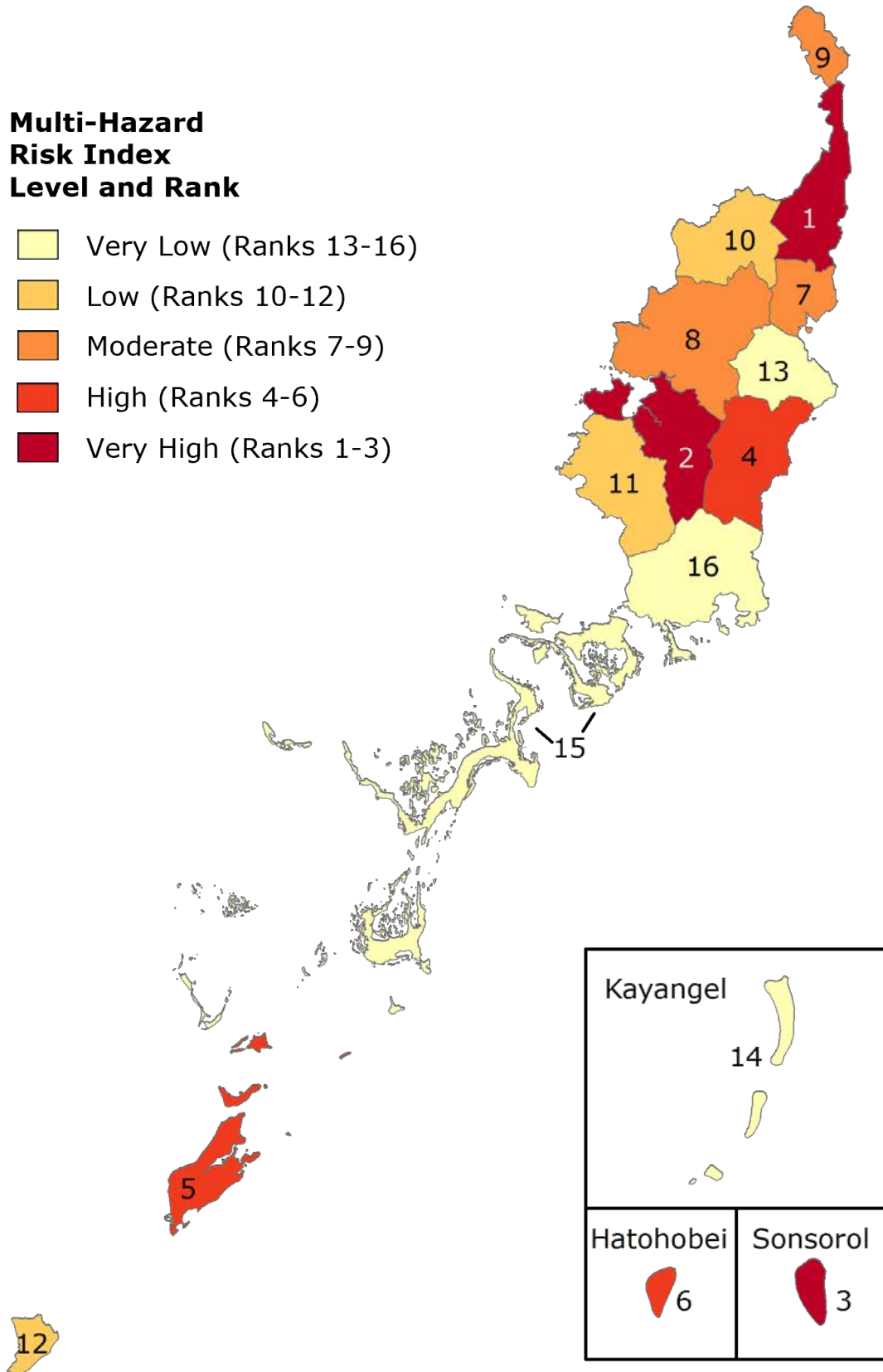


MULTI-HAZARD RISK BY STATE

	RANK	STATE	INDEX SCORE
VERY HIGH	1	Ngaraard	0.796
	2	Ngatpang	0.733
	3	Sonsorol	0.618
HIGH	4	Ngchesar	0.596
	5	Peleliu	0.592
	6	Hatohobei	0.589
MEDIUM	7	Ngiwal	0.511
	8	Ngaremlengui	0.496
	9	Ngarchelong	0.485
LOW	10	Ngardmau	0.477
	11	Aimeliik	0.407
	11	Angaur	0.407
VERY LOW	12	Melekeok	0.381
	13	Kayangal	0.370
	14	Koror	0.244
	15	Airai	0.218

Multi-Hazard Risk Index Level and Rank

- Very Low (Ranks 13-16)
- Low (Ranks 10-12)
- Moderate (Ranks 7-9)
- High (Ranks 4-6)
- Very High (Ranks 1-3)





THE DMA

DISASTER MANAGEMENT ANALYSIS

SUMMARY OF FINDINGS

DISASTER MANAGEMENT ANALYSIS

Provided in this section are the results of the Disaster Management Analysis (DMA) conducted as part of the National Disaster Preparedness Baseline Assessment. The outcome enables more effective prioritization of risk-reduction and resilience-building initiatives and investments.

Considering diverse geographic and demographic needs, operational successes, and barriers, the DMA examined the following six core disaster management themes: Institutional Arrangements; Enabling Environment; Disaster Governance Mechanisms; Capabilities and Resources; Capacity Development; and Communications and Information Management.

Understanding that disaster management is a continuum of Limited to No Capacity to Advanced Capacity, the results of the DMA analysis show Palau is in the Achievement with Significant Limitations stage (yellow).



DISASTER MANAGEMENT ANALYSIS RESULTS

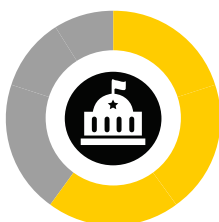
CURRENT STATUS

Limited or No Capacity



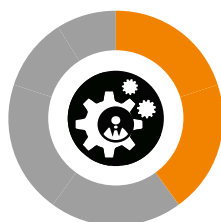
Advanced Capacity

DISASTER MANAGEMENT ANALYSIS THEME AND SUBTHEMES



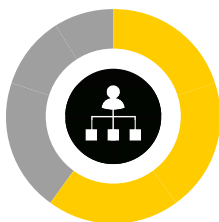
A. Enabling Environment

- Legal Instruments
- Financial Resources
- Strategies
- Public Confidence and Political Support
- Attitudes and Experience



D. Capabilities and Resources

- Dedicated Facilities and Equipment
- Human Resources
- Inventory of Commodities and Supplies
- Targeted Functional Capabilities



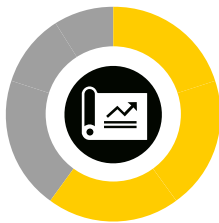
B. Institutional Arrangements

- Organizational Structures
- Leadership Arrangements
- Mechanisms for Stakeholder Engagement



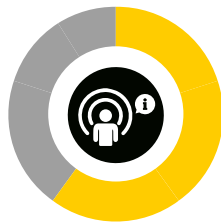
E. Capacity Development

- Capacity Development Plans and Strategies
- Training and Education Programs and Facilities
- After-Action Reporting
- Monitoring and Evaluation Processes and Systems



C. Disaster Governance Mechanisms

- Plans
- Standard Operating Procedures
- Emergency Operations Centers
- Command, Control, and Coordination Systems



F. Communication and Information Management

- Hazard and Risk Analysis Systems
- Monitoring and Notifications
- Disaster Assessment
- Information Collection, Management, and Distribution
- Media and Public Affairs

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

DISASTER MANAGEMENT ANALYSIS RESULTS

Major strengths for Palau include robust Disaster Governance mechanisms, including planning instruments and processes, and a well-equipped National Emergency Operations Center (NEOC).

The National Emergency Management Office (NEMO), the lead national disaster management agency, leverages established protocols incorporating various stakeholders in decision-making and policymaking at the national and regional levels. The United States Government supports NEMO through interagency programs in line with the United States' "Whole of Government Approach." Agencies include but are not limited to the United States Agency of International Development (USAID) and the National Weather Service (NWS).

International organizations providing support include the Asian Development Bank (ADB), the International Organization for Migration (IOM), the United Nations Development Programme (UNDP), and the International Federation of Red Cross and Red Crescent Societies (IFRC). Regional organizations such as the Secretariat of the Pacific Regional Environment Programme (SPREP) and the Pacific Community (SPC) leverage unique partnerships through the technical and policy capabilities they provide to Palau's disaster preparedness response area.

Opportunities to develop and increase national-level preparedness capacities exist and should be tailored to the specific and unique nature of the geography of Palau and its diverse population. While the policies, strategies, and plans address the key areas in ensuring Palau's disaster readiness, more can be accomplished through legislating and assigning the roles of key stakeholders in each of the DM cycles and emphasizing and integrating climate change adaptation into sectoral policies for more robust disaster preparedness and resiliency.

The disaster management capacities and capabilities of the Government of Palau (GoP) are steadily advancing, even in the face of ongoing challenges due to the effects of climate change.

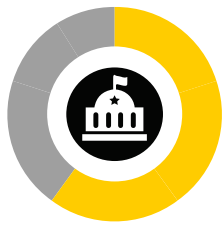
There is an urgent need to adopt a national alert system and evacuation protocols that consider the increasing intensity and frequency of weather-related hazards to increase resilience across communities and critical sectors that ensure the vitality of Palau.

This study establishes Palau's baseline disaster management preparedness levels presented in six interconnected themes. It is a step towards tracking progress while setting clear and coherent objectives aligned with Palau's commitment to the Sendai Framework for Disaster Risk Reduction, the Sustainable Development Goals (SDGs), and the Paris Agreement for Climate Change.



THE DMA

ENABLING ENVIRONMENT



ENABLING ENVIRONMENT

Findings indicate the country’s current Enabling Environment has made achievements with significant limitations.

CURRENT STATUS

Limited or No Capacity



Advanced Capacity

SUBTHEME STATUS



Legal Instruments



Financial Resources



Strategies



Public Confidence and Political Support



Attitudes and Experience

Palau’s legal, institutional, financial, and social instruments enable disaster management structures, authorities, processes, and capabilities. These rules, laws, policies, and other parameters allow the development of capacities that support achievement of a risk reduction vision for the country. Characterization of an enabling environment covers a range of issues, from the existence and applicability of legislation to disaster management stakeholders’ attitudes and experience.

Disaster management legislation in Palau consists of the Palau National Disaster Risk Management Framework (PNDRMF) adopted by Executive Decree No. 397 in 2010 and amended in 2016. The PNDRMF provides the legal and organizational guidance for the Disaster Executive Council (DEC), National Emergency Committee (NEC), and NEMO to establish disaster risk management (DRM) structures and mechanisms to facilitate improved capacity in emergency management and DRM in coordination with disaster management (DM) stakeholders and regional and international efforts. Palau’s DM legislation, however, could be improved by enhancing statutory authority to enforce the implementation of the PNDRMF, and addressing all DM phases (mitigation, preparedness, response, and recovery).

In 2022, it was proposed that the General Fund Reserve (GFR) be replaced with the Cyclical Reserve and the Climate Resilience Fund. However, the implementation of this proposal is still needed. It is recommended that Palau include specific budget allocations in the Fiscal Year Budget Act to provide funding to support DM activities and state and local capacity development efforts. Palau has access to the Pacific Catastrophe Risk Insurance Program (PCRIP) under the Pacific Catastrophe Risk Insurance Company (PCRIC). It is recommended that typhoon insurance be secured through this disaster insurance financing mechanism.

Disaster management efforts in Palau are guided by the PNDRMF and the National Climate Change Policy, with response operations coordinated by NEMO and NEC through the National Emergency Operations Center. Disaster management is supported by multiple government agencies and the Palau Red Cross Society (PRCS). PRCS members come from all 16 states and have successfully built capacity through emergency and disaster preparedness and response training.

There are limited DM and disaster risk reduction (DRR) strategies that address gender issues and vulnerable groups, and more engagement is needed with vulnerable groups. In addition, household preparedness levels should be assessed further to increase disaster preparedness and resilience in Palau.

ENABLING ENVIRONMENT





A1

FINDINGS

Legal Arrangements Address DM Requirements:
Palau has no DM law in place; the PNDRMF 2016 was adopted by Executive Decree No. 397 but with limited statutory authority.

RECOMMENDATIONS

-  Draft and implement legislation that enforces PNDRMF 2016 addressing all phases of DM.
-  Ensure DM institutions update plans to include legislation & requirements

**SENDAI FRAMEWORK,
PARIS AGREEMENT,
AND SUSTAINABLE
DEVELOPMENT GOALS
ADVANCED**

Priorities for Action

1, 2, 3

Global Target(s)


B, C, D, E

Guiding Principle(s)


(a), (b), (e), (f), (h), (j)


Sustainable Development Goals (SDG)


11, 16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

ENABLING ENVIRONMENT






A2

FINDINGS

Implementation Schedules in Legislation: Executive Order No.397 does not include an implementation schedule for the PNDRMF. The PNDRMF includes Section 1.4 Implementation of the Framework, which states that “NEMO will develop a PNDRMF Implementation Plan for implementation immediately following the approval of the framework.” The PNDRMF also states that “NEMO is to coordinate with each respective agency to develop response plans and ensure that the plans are reviewed and implemented two years from the enactment of this Framework.”

RECOMMENDATIONS

-  Enact DM legislation that establishes implementation schedules.
-  Finalize the PNDRMF Implementation Plan.
-  Consistent with the PNDRMF, NEMO to coordinate the development, implementation, and update of response plans.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2, 3

Global Target(s)


B, C, D, E

Guiding Principle(s)


(a), (b), (e), (f), (h), (j)


Sustainable Development Goals (SDG)


11, 16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

ENABLING ENVIRONMENT





A3

FINDINGS

Declarations Process: There is insufficient language in the Constitution of Palau (the Constitution) regarding the declaration process. Article VIII Section 14 of the Constitution provides limited language on the declaration process, stating that the NEC can recommend to the President, through the DEC, to declare a State of Emergency on all, or part thereof, of the affected or potentially affected areas of the Republic of Palau.

RECOMMENDATIONS

-  Expand the language in Article VIII Section 14 to include all phases of an emergency declaration.
-  Update plans, policies, and SOPs to include formalized declaration of an emergency.

**SENDAI FRAMEWORK,
PARIS AGREEMENT,
AND SUSTAINABLE
DEVELOPMENT GOALS
ADVANCED**

Priorities for Action


1, 2, 3

Global Target(s)


D, E


Guiding Principle(s)


(c), (e), (j)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

ENABLING ENVIRONMENT



A4

FINDINGS

Legislation and DM Budgets: Executive Order No.397 and the PNDRMF do not include provisions for DM budgets. The national budget allocates funding for NEMO but not for DM activities, capacity development for the states, or a dedicated emergency disaster fund.

RECOMMENDATIONS

-  Draft and enact DM legislation that includes provisions for a DM budget.
-  Include specific budget allocations in the Fiscal Year Budget Act for DM activities and development efforts at the state and local level.
-  Incorporate climate and disaster risks into the financial provisions by leveraging the findings of the NDPBA RVA.

**SENDAI FRAMEWORK,
PARIS AGREEMENT,
AND SUSTAINABLE
DEVELOPMENT GOALS
ADVANCED**

Priorities for Action

2, 3

Global Target(s)


B, C, D, E

Guiding Principle(s)


(a), (b), (e), (f), (h), (j)


Sustainable Development Goals (SDG)


11, 16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

ENABLING ENVIRONMENT



A5

FINDINGS




Dedicated Emergency or Contingency Funds, Contingency Fund Levels and Limits: While Palau has had no dedicated financing available for immediate disaster response, early recovery, and reconstruction, new legislation will allow such funds.

Palau historically relied on reallocating internal revenues and drawdown from the permanent General Fund Reserve (GFR). The permanent GFR was established in FY2014 following Typhoons Bopha and Haiyan because of a state of national emergency and when local revenues fell by more than 5% of the projected revenues of the previous year. The minimum annual allocation for the GFR is set at 2% of available local revenue collections from the preceding fiscal year. The GFR may be accessed after a disaster without alternative financing but is not exclusive to post-disaster financing needs and may also be accessed for other purposes.

The FY 2022 Budget appropriated \$848,000 for the General Fund Reserve, increasing the government's resources for immediate disaster response.

The Fiscal Responsibility and Debt Management Act will replace the GFR with the Cyclical Reserve and the Climate Resilience Fund. The Climate Resilience Fund will be earmarked to address climate-related events and natural disasters. A lower contribution rate of 1% of domestic revenues will be set aside into the fund until a target specified in the regulation is reached. Withdrawal of funds is permissible only after the President declares a state of national emergency.

RECOMMENDATIONS

-  Increase the Cyclical Reserve and the Climate Resilience Fund to at least 2% of GDP.
-  Establish legal guidelines for DM reserve fund access and outline formal pathways for DM agencies to receive funds.
-  Outline clear primary and secondary chain of command for activation of access to emergency funds.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2, 3

Global Target(s)

B, C, D, E

Guiding Principle(s)


(a), (b), (e), (f), (h), (j)


Sustainable Development Goals (SDG)


11, 16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

ENABLING ENVIRONMENT





A6

FINDINGS

Existence of, and Public Support for Catastrophe Risk Transfer: Palau has access to the Pacific Catastrophe Risk Insurance Program (PCRIP) under the Pacific Catastrophe Risk Insurance Company (PCRIC), a disaster insurance financing mechanism managed by the World Bank and the GFDRR.

RECOMMENDATIONS

-  Secure typhoon insurance through the PCRIC.
-  Ensure pathways to receiving World Bank backed disaster insurance financing are clearly outlined within DM and relevant financial plans.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2, 3

Global Target(s)

C, D

Guiding Principle(s)


(b), (e), (f), (h), (j)


Sustainable Development Goals (SDG)


11, 16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

ENABLING ENVIRONMENT





A7

FINDINGS

Insurance Industry Oversight, Availability of Microfinance Credit Schemes, and Guidelines for Disaster Relief Disbursement: The Palau Financial Institutions Commission provides measures, guidelines, regulations, and oversight of the financial industry, but additional regulations, coordination, and support are needed from the financial sector.

RECOMMENDATIONS

- 

Coordinate with Palau financial institutions and the ADB to establish, support, and increase public access to risk insurance, low-interest loans, disaster microfinancing, and relief funds.
- 

Secure, outline, and plan for expedited avenues to distribute disaster relief funds to the public.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action


2, 3

Global Target(s)


C


Guiding Principle(s)


(b), (e), (f), (k)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

ENABLING ENVIRONMENT





A8


FINDINGS


Availability of Low-interest Loans to Support Recovery: The Government of Palau has established low-interest loan programs for COVID-19, but low-interest loan recovery programs must be expanded to cover all disasters and stakeholders. In 2021, the Government of Palau allocated a subsidy of 11 million USD to provide no-interest loans, loan support, and deferral of loan repayment. The National Development Bank of Palau also provided financial assistance to affected companies, including interest-only payments, loan extensions, loan consolidations, short-term funding, and temporary deferrals of loan repayments.


RECOMMENDATIONS

- 

Maintain a well-established government low-interest loan program that covers all hazards and supports the recovery expenses of various stakeholder groups.
- 

Create a regulatory framework to compensate households, businesses, and the agricultural and fishing sector for disaster loss.
- 

Ensure the PNDRMF & PCCP are updated to support adequate integration of planning, recovery, reconstruction, and coordination with Climate Change Adaptation (CCA) and SDGs.
- 

Integrate DM and DRR policies and socialize throughout the public sector.
- 

Integrate risk and vulnerability assessment (RVA) data into the DM and DRR policies.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2, 3

Global Target(s)


C

Guiding Principle(s)


(b), (e), (f), (k)


Sustainable Development Goals (SDG)

11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

ENABLING ENVIRONMENT





A9


FINDINGS

Policy Support of DRR Integration: The PNDRMF and the Palau Climate Change Policy (PCCP) support the integration of DRR but require an update, further implementation, and additional socialization throughout the public sector.

RECOMMENDATIONS

- 

Ensure the PNDRMF & PCCP are updated to support adequate integration of planning, recovery, reconstruction, and coordination with Climate Change Adaptation (CCA) and SDGs.
- 

Integrate DM and DRR policies and socialize throughout the public sector.
- 

Integrate risk and vulnerability assessment (RVA) data into the DM and DRR policies.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2

Global Target(s)

B, E, F

Guiding Principle(s)


(c), (d), (g), (h)

Sustainable Development Goals (SDG)


11, 13, 16


Paris Agreement Articles


7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

ENABLING ENVIRONMENT




A10


FINDINGS


Mitigation Mandates in DRR Policies: Palau has a Hazard Mitigation Subcommittee responsible for providing technical and scientific advice and support for mitigation measures based on hazard, vulnerability, and risk assessments.

While the PNDRMF and the PCCP include policies for mitigation planning, those policies need updating to include mandates to develop hazard mitigation plans.

RECOMMENDATIONS

- 

Develop and implement explicit DRR policies that include mitigation planning requirements and enforcement mechanisms approved by the Hazard Mitigation Subcommittee consistent with the PNDRMF and in coordination with NEMO and NEC.
- 

Update the PNDRMF and PCCP to include policies that mandate mitigation planning.
- 

Leverage technical expertise of the Subcommittee and ensure continued engagement in annual mitigation planning reviews and updates.

**SENDAI FRAMEWORK,
PARIS AGREEMENT,
AND SUSTAINABLE
DEVELOPMENT GOALS
ADVANCED**

Priorities for Action


1, 2, 3, 4

Global Target(s)


A, B, C, D, E, G


Sustainable Development Goals (SDG)

11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

ENABLING ENVIRONMENT



A11

FINDINGS

Consideration of Gender and Vulnerable Groups in Strategies and Policies: There are limited DM and DRR strategies that address gender issues and vulnerable groups, which reduce preparedness and resilience levels, and increase the vulnerability of these populations during disaster events.

The PNDRMF does recognize that gender and vulnerable populations are key groups in the DRR process. The Bureau of Ageing, Disability, and Gender is included as a stakeholder in the PNDRMF, but more engagement is needed with vulnerable groups.

RECOMMENDATIONS

- ✓ Update the PNDRMF and PCCP to include comprehensive strategies for addressing gender issues and engaging vulnerable and indigenous groups.
- ✓ Increase involvement of vulnerable groups in DM and DRR through collaborative engagement among NEMO, the Bureau of Ageing, the Ministry of Education (MOE), and the Ministry of Cultural and Community Affairs (MCCA).
- ✓ Include women, children, persons with disabilities, the elderly, and minority communities in local government planning and development processes.
- ✓ Assess the needs of women, the elderly, the disabled, and indigenous minorities through the help of NGOs; develop a curriculum for literacy and disaster preparedness training for those groups based on the assessments.
- ✓ Update preparedness plans to incorporate lessons learned from past events.
- ✓ Leverage the work of NGOs and community-based organizations (CBOs) to gain insights into the barriers and biases toward marginalized groups.
- ✓ Continue efforts to provide women and girls equal access to resources and decision-making opportunities.
- ✓ Ensure vulnerable groups are specifically included in DM and DRR strategies and policies
- ✓ Design and implement gender-specific guidelines for disaster response and relief.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2, 3, 4

Global Target(s)

A, B, E

Guiding Principle(s)

(c), (d), (g), (h)

Sustainable Development Goals (SDG)

5, 11

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

ENABLING ENVIRONMENT



A12

FINDINGS

Public Confidence in DM and DRR Entities, Political Approval Ratings and Public Confidence in DM and DRR Entities: In Palau, the general public has high confidence in the government. However, public confidence in DM-DRR entities such as NEMO and PRCS has not been assessed or tracked.

RECOMMENDATIONS

- ✔ Continue to build a culture of hazard awareness to increase public confidence in DM.
- ✔ Implement a tracking mechanism for assessing public approval ratings.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2

Global Target(s)

A, B, C, D, E, G

Guiding Principle(s)

(b), (d), (e), (f), (g), (i), (j)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

ENABLING ENVIRONMENT





A13


FINDINGS

Public Engagement in DM: The public is actively engaged with the DM efforts of the Palau Red Cross Society through volunteer programs. Volunteers from all 16 states form the Red Cross Disaster Action Teams (RDAT) and a Youth Council; both groups receive training. Additional engagement and training opportunities would further strengthen public engagement in DM.

RECOMMENDATIONS

- 

Expand the PRCS (RDAT) membership and training in all 16 states in coordination with NEMO.
- 

Identify other training and engagement opportunities to generate public interest and involvement in DM activities (e.g., preparedness fairs, homeowner education classes, community clean-up days).
- 

Engage stakeholders to develop and implement community wide DM awareness campaigns to bolster public involvement.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2

Global Target(s)


A, B, C, D, E, G

Guiding Principle(s)


(a), (b), (d), (e), (f), (g), (h), (i), (j), (k)


Sustainable Development Goals (SDG)


11, 16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

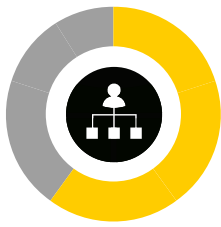
 Advanced Capacity

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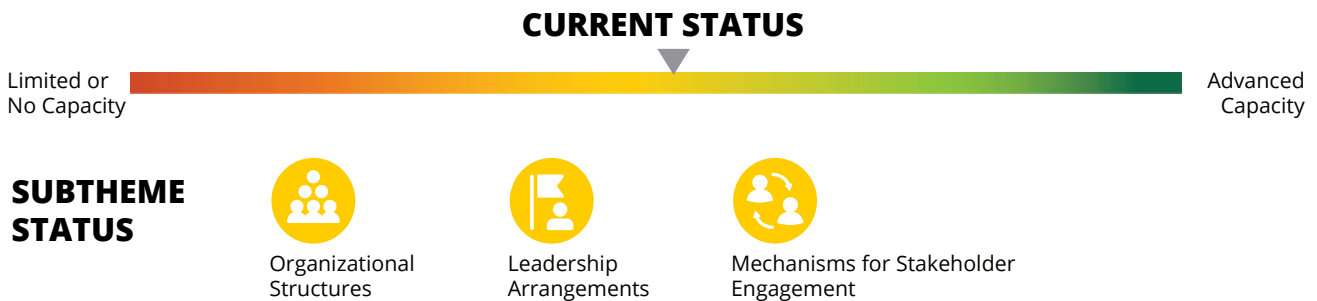
THE DMA

INSTITUTIONAL ARRANGEMENTS



INSTITUTIONAL ARRANGEMENTS

Findings indicate the country’s current Institutional Arrangements have made achievements with significant limitations.



The organizational and institutional structures through which disaster management capacity forms are indicators of Palau’s institutional arrangements. By examining the organization and composition of diverse agencies and individuals that constitute a nation’s disaster management capacity—detailing the relationships and collaboration between them—tangible opportunities for increased effectiveness are often revealed.

The National Disaster Management Office (NEMO) is the dedicated agency within the Office of the Vice President involved in all aspects of disaster management in Palau. NEMO performs day-to-day operations associated with disaster management and submits reports to the Vice President. The Disaster Executive Council (DEC) is convened and chaired by the President and all Government Ministers; they have the authority to declare a state of emergency and to commit national resources. NEMO provides secretariat support to the DEC. The Vice President convenes the National Emergency Committee (NEC) with various government offices as members. Its role is to implement and monitor all aspects of the Palau National Disaster Risk Management Framework (PNDRMF). NEMO acts in counsel and collaboration with the NEC. However, legislation is needed to formally designate NEMO as the focal agency charged with DRM.

NEMO has regional DM offices, but they have limited operational capabilities and require additional resources and training to develop State Disaster Risk Management (DRM) plans that will align with the Palau National Disaster Risk Management Framework (PNDRMF). NEMO has no designated office to manage the implementation and integration of the Sendai Framework, CCA, and SDGs. The establishment of such an office could serve to advance Palau’s overall capabilities. The Office of Climate Change (OCC) manages the implementation of CCA and the Paris Agreement and is currently updating the Climate Change Policy.

NGO and private sector engagement in DM efforts are limited; improved coordination with the Belau Association of Non-governmental Organizations (BANGO) and more public/private partnerships could be simultaneously leveraged to advance capabilities and efforts. Palau does not have research centers or universities with the capability to contribute research and development (R&D) to the DM process; there is generally limited engagement of the academic sector in government DM and response activities, R&D, and training. Strengthened coordination is needed between NEMO, the Palau Community College (PCC), and other academic and research institutions for R&D support in DM.

INSTITUTIONAL ARRANGEMENTS





B1

FINDINGS

Organizational Structures – NEMO’s role: NEMO’s role as the national focal agency charged with DRM is acknowledged in Palau. However, a proper legal mandate is lacking.

RECOMMENDATIONS

-  Consider new DM legislation designating NEMO as the focal agency charged with DRM (See also A1).
-  Develop organizational chart to include NEMO as the focal agency and outline DRM roles and responsibilities.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action


2 _____

Global Target(s)


E _____


Guiding Principle(s)


(a), (b), (e) _____

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

INSTITUTIONAL ARRANGEMENTS







B2

FINDINGS

Regionalized Capacity: NEMO has DM regional offices, State DM Coordinators, and a State Disaster Management Committee, but they have limited operational function due to staffing, training, and resource limitations.

RECOMMENDATIONS

-  Strengthen regional DM capacity to enable DM activities and response operations to be conducted outside regional offices to support all State DM Coordinators and the State DM Committee.
-  Develop and implement State DRM Plans aligned with the PNDRMF in coordination with NEMO.
-  Provide training to State DM Coordinators and at the State DM Committee.
-  Leverage MOA/MOU with stakeholders to fill resource limitations and gaps in DRM planning efforts.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2

Global Target(s)


E

Guiding Principle(s)


(f), (i), (j)


Sustainable Development Goals (SDG)

11, 16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

INSTITUTIONAL ARRANGEMENTS






B3

FINDINGS

Disaster Risk Reduction (DRR) Platform: No designated office within the Government of Palau or NEMO to manage the implementation and integration of the Sendai Framework for Disaster Risk Reduction (SFDRR) and United Nations Sustainable Development Goals (SDGs).

Palau has advanced SFDRR and SDG implementation, but further progress is needed. Palau submitted its National Progress Report on the Implementation of the Hyogo Framework for Action in 2013 and its first Voluntary Review of the SDGs in 2019.

RECOMMENDATIONS

- 
 Establish formal ownership for managing the implementation and integration of SFDRR and the UN SDGs.
- 
 Utilize the Sendai Framework Monitor tool to track the progress and implementation of SFDRR.
- 
 Draft and submit an updated Sendai National Progress report and 2nd Voluntary National Review of UN SDGs.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2

Global Target(s)

E, F

Guiding Principle(s)

(a), (h), (l), (m)

Sustainable Development Goals (SDG)


11, 16


Paris Agreement Articles


7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

INSTITUTIONAL ARRANGEMENTS






B4

FINDINGS

Climate Change Adaptation (CCA) Platform: Palau has an Office of Climate Change (OCC) that manages the implementation of Climate Change Adaptation (CCA) and the Paris Agreement in coordination with the Ministry of Finance-Bureau of Budget and Planning (MOFBBP). OCC released the Palau Climate Change Policy (PCCP) in 2016, but it expired in 2020.

Additional integration and coordination are needed between the OCC, the MOFBBP, and other government offices to effectively manage the implementation and integration of the SFDRR, CCA, the Paris Agreement, and the SDGs.

RECOMMENDATIONS

-  Update the 2015 Palau Climate Change Policy that expired in 2020.
-  Fully integrate all offices that manage the implementation of SFDRR, CCA, Paris Agreement, and the SDGs.
-  Establish a working group that is representative of each office to ensure continued and effective integration and coordination.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2

Global Target(s)

E, F

Guiding Principle(s)


(a), (h), (l), (m)

Sustainable Development Goals (SDG)


11, 13, 16


Paris Agreement Articles

7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

INSTITUTIONAL ARRANGEMENTS






B5

FINDINGS

Leadership Positions Filled: NEMO has just 75% of DM leadership positions filled. According to the NEOC SOP, the Disaster Response Officer position is vacant. NEMO’s official website also does not list any personnel with the position of Disaster Response Officer. According to the official NEMO website, other NEOC positions listed in the SOP are currently filled. Short staffing of DM leadership positions limits NEMO’s ability to effectively coordinate and implement preparedness, response, and relief operations.

RECOMMENDATIONS

- 
 Fill all DM leadership positions within NEMO and relevant DM agencies.
- 
 Identify critical staff requirements where 100 percent staffing is needed. Fill identified critical billets before staffing non-critical billets.
- 
 Provide training opportunities where possible to current staff to fill DM leadership positions and address short staffing issues.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2

Global Target(s)

D, E

Guiding Principle(s)


(a), (c), (e), (j)


Sustainable Development Goals (SDG)


11, 16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

INSTITUTIONAL ARRANGEMENTS



B6

FINDINGS

Job-specific Competencies of Leadership Positions: The Palau National Civil Service System Rules and Regulation Public Service System (1997) defines the requirements for civil service positions in the Government of Palau; however, competencies and requirements for specific DM positions are not explicitly defined.

RECOMMENDATIONS

- ✓ Define and incorporate competencies and requirements for DM specific positions.
- ✓ Ensure training is linked specifically to defined DM competencies.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2

Global Target(s)

D, E

Guiding Principle(s)

(a), (c), (e), (j)

Sustainable Development Goals (SDG)

16

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

INSTITUTIONAL ARRANGEMENTS





B7

FINDINGS

NGO Organizational Arrangements and NGO Lists: The Belau Association of Non-Governmental Organizations (BANGO) is a national entity for non-government organizations, civil society organizations, and community-based organizations in Palau. BANGO was founded in 2018 to coordinate NGOs and local groups in Palau. BANGO has a database that lists organizations, but there is no information on capabilities, resources, or direct operational or planning functions.

RECOMMENDATIONS

- 
 Increase NGO engagement in DM efforts and ensure coordination with BANGO to continue bolstering resource planning efforts.
- 
 Coordinate with BANGO to update database to include pertinent information on capabilities, resources, and direct operational and planning functions.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2

Global Target(s)


A, B, C, D, E, G

Guiding Principle(s)


(a), (b), (d), (e), (f), (g), (i), (j), (l), (m)


Sustainable Development Goals (SDG)


16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

INSTITUTIONAL ARRANGEMENTS





B8

FINDINGS

Nature of Multi-Stakeholder Engagement: The PNDRMF formalizes NGOs and other stakeholder entities in its DM organizational arrangements as response support agencies with clearly defined roles and responsibilities. NGOs are designated to support mass care and food distribution, and sea and air transportation. However, the full extent of NGO engagement in Palau’s DM activities is not apparent.

RECOMMENDATIONS

- 
 Integrate and engage NGOs in the DM planning and response process and DRM efforts through tabletop exercises, and multi-stakeholder review of plans, and after-action reporting.

- 
 Identify and outline NGO involvement in DM plans and include NGO stakeholders in the plan reviews and updates.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2

Global Target(s)


A, B, C, E, G

Guiding Principle(s)


(a), (b), (d), (e), (f), (g), (i), (j), (l), (m)


Sustainable Development Goals (SDG)


16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

INSTITUTIONAL ARRANGEMENTS



B9

FINDINGS

Private Sector Engagement and Public-Private Partnerships (PPPs): Palau’s remoteness, logistics challenges, limited supply of skilled labor, inadequate infrastructure, high energy costs, and a lack of transparency in approval and procurement processes are major impediments to the flourishing of the private sector.

The PNDRMF formalizes the private sector in its DM organizational arrangements as response support agencies with clearly defined roles and responsibilities. Private sector entities are designated to provide the emergency functions of power, water and sewer, communications, engineering, public works, environmental protection, hazardous materials, and land and sea transportation. The NEOC SOP also states the NEMO Coordinator will establish MOUs with the private sector, allowing the NEOC to leverage private sector assets to support emergency response operations.

In 2018, the Government of Palau formed a public-private partnership with EarthX, GridMarket, and the Global Island Partnership (GLISPA) to bring renewable energy and resilient infrastructure to island communities. However, additional policies and plans for private sector engagement and the formation of PPPs are needed to fulfill resource and technical specialization needs for disaster risk reduction, response, and recovery.

Additionally, there is an identified need to develop business continuity plans per the PNDRMF, but it is unknown whether these plans have been developed and implemented.

RECOMMENDATIONS

- ✓ Develop policies and plans for PPPs and form partnerships with the private sector to increase engagement in DM efforts with NEMO and other DM agencies.
- ✓ Engage the private sector, especially those in critical infrastructure sectors such as port operations, construction, banking and commerce, healthcare, and hospitality, in DRR/DM strategy and planning frameworks to develop capacity.
- ✓ Develop PPPs before disasters strike and develop mutual assistance agreements with industry to rely on equipment, supplies, and expertise in the event of an emergency (e.g., debris removal, rehabilitation with the construction and mining sector, shelter/ accommodation/ warehouse planning with the hotels’ sector, transportation of relief materials with transportation/shipping sector, etc.)
- ✓ Instill accountability, transparency, fairness, legal compliance, dispute resolution, regulation, fair and timely payment, and transfer/termination for PPPs, including qualification and the tender process.
- ✓ Incentivize women-owned businesses.
- ✓ Create and maintain a national database of businesses whose services are relevant to DM.
- ✓ Actively engage the private sector, increase participation in DM exercises and training, and coordinate business continuity planning efforts.
- ✓ Actively integrate and engage the private sector in DM efforts and the DM planning and response process.
- ✓ Continue the momentum initiated by the USAID Climate Ready Project that supported the Palau Chamber of Commerce and Palau small and medium enterprises (SMEs) in disaster-proofing their operations and provided them with business continuity planning resources.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2

Global Target(s)

A, B, C, E, G

Guiding Principle(s)

(a), (b), (d), (e), (f), (g), (i), (j), (l), (m)

Sustainable Development Goals (SDG)

9, 11, 16

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity





B10


FINDINGS


Academia Involvement in Government DM: Palau does not have local research centers or universities that actively contribute research and development to the DM process. Palau Community College (PCC) does have a memorandum of understanding (MOU) with the University of Hawai'i at Hilo that it could leverage for research and development support. The PNDRMF includes academia in the DM planning and response process. Still, there is a limited engagement of the academic sector in government DM and response activities, research and development, and training. Additional coordination and engagement are needed between PCC and NEMO. The President of PCC is a member of the NEC.

RECOMMENDATIONS

- 

Strengthen partnerships and coordination between PCC and NEMO in the government DM and response process.
- 

Establish policies, strategies, and structurally integrated arrangements between NEMO, NEC, and PCC supporting official DM efforts through R&D and training.
- 

Link the Palau Science and Technology Policy to the academic sector research and development and develop in-country knowledge centers to advance the DM process.
- 

Leverage the MOU between PCC and the University of Hawai'i at Hilo and pursue MOUs with other academic institutions and research centers.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2

Global Target(s)


A, B, C, E, G

Guiding Principle(s)


(b), (d), (e), (f), (g), (i), (j)


Sustainable Development Goals (SDG)

4, 16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

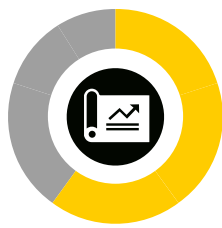
 Substantial Progress with Some Limitation

 Advanced Capacity



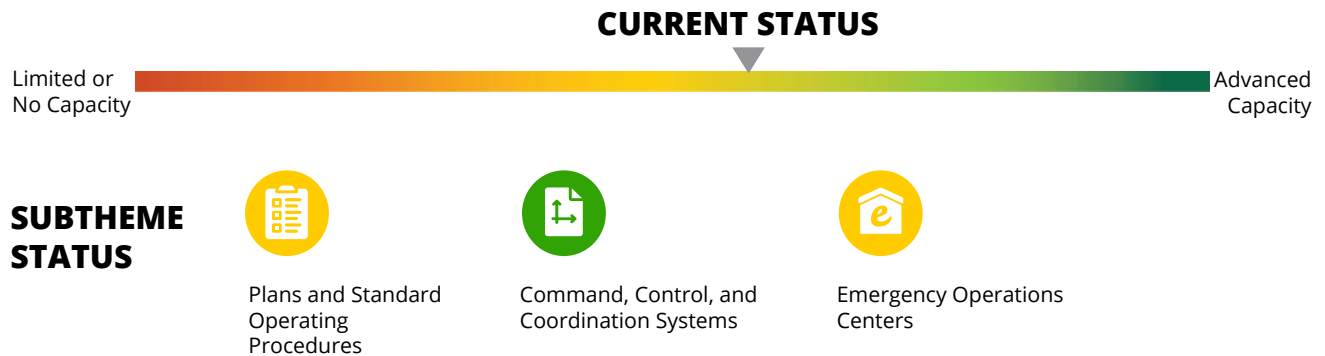
THE DMA

DISASTER GOVERNANCE MECHANISMS



DISASTER GOVERNANCE MECHANISMS

Findings indicate the country’s current Disaster Governance Mechanisms have made achievements with significant limitations.



Disaster management efforts are most effective when guided by standard, formalized systems, and procedures that dictate how and by whom activities are conducted. The effectiveness of all disaster management phases, including disaster preparedness, hazard mitigation, response, and recovery, depends on establishing and documenting such mechanisms. The DMA analyzes the following sub-themes characterizing the disaster governance mechanisms of Palau, including Plans and Standard Operating Procedures; Command, Control, and Coordination Systems; and Emergency Operations Centers.

The PNDRMF guides disaster management efforts in Palau, while the PCCP guides climate change hazard planning efforts. The NEC and NEMO coordinate emergency response operations through the newly retrofitted National Emergency Operations Center (NEOC), which is sole use and equipped with necessary supplies, equipment, and technology. The NEOC uses a National Incident Command System with Standard Operating Procedures. Incident Command Posts (ICP) provide on-site response operations coordination at the state level. A Central Control Group (CCG) within the NEC is established for operational support, with members chosen by the NEMO Coordinator. Strengthened NEMO-NEOC ICS structure and coordination are needed to support command posts at the state level. The backup EOC and ICPs also require additional resources, designated support staff, and training to support national and field-level coordination operations. There is no evidence of national or sub-national-level COOP or COG plan, and no guidance or structure is provided in the PNDRMF or the NEOC SOPs. It is recommended that COOP and COG plans are developed for the Government of Palau, NEMO, and the state governments.

DISASTER GOVERNANCE MECHANISMS



C1

FINDINGS

Coordination of Government DM Plans: The update and implementation of state-level plans are not coordinated across all states; nor are they consistent with national plans. For example, Melekeok State has developed a plan to relocate its coastal community, which is at risk of floods, to higher ground. While the Melekeok Disaster Response Relocation Plan has been developed, the plan implementation has not started yet and is still awaiting action and funding from the central government.

RECOMMENDATIONS

- ✓ Ensure that DM plans are routinely updated and guide the implementation of DM activities in a coordinated manner across all DM agencies.
- ✓ Finalize implementation of the Melekeok Disaster Response Relocation Plan.
- ✓ Ensure stakeholders are provided an avenue to access national and state-level plans to better coordinate local level DM planning.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2

Global Target(s)

E

Guiding Principle(s)

(e)

Sustainable Development Goals (SDG)

16

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

DISASTER GOVERNANCE MECHANISMS



C2

FINDINGS

Roles and Responsibilities Defined by Plans: The PNDRMF and NEOC SOP define DM roles and responsibilities but need more detail and guidance for state and local DM roles.

RECOMMENDATIONS

- ✓ NEMO to support and provide guidance to the states in developing appropriate state level plans.
- ✓ Review and update all 16 State DM plans. Update the PNDRMF and NEOC SOP to include better defined roles for state and local levels.
- ✓ NEMO to provide guidance to state and local DM officials for consistency throughout all plans from the national to the local level.
- ✓ Develop separate national plans for each DM phase.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2

Global Target(s)

E

Guiding Principle(s)

(e)

Sustainable Development Goals (SDG)

16

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

DISASTER GOVERNANCE MECHANISMS







C3

FINDINGS

Continuity of Operations (COOP) and Continuity of Government (COG): There is no national or sub-national-level COOP or COG plan for Palau, and no guidance or structure is provided for government COOP and COG in the PNDRMF or the NEOC SOPs.

RECOMMENDATIONS

-  Consider appointing a lead agency and role to ensure COOP/COG planning from the national to the local level.
-  Develop COOP/COG plans for NEMO, the government of Palua and supporting ministries, and the 16 island states.
-  Consider development of a national-level COOP/COG template to expedite planning and ensure consistency down to the local level.
-  Ensure updates of PNDRMF & NEOC SOPs to include COOP/COG specific appendix.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2

Global Target(s)


E

Guiding Principle(s)


(e)


Sustainable Development Goals (SDG)


6, 9, 13, 16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

DISASTER GOVERNANCE MECHANISMS




C4

FINDINGS

International Mutual Aid Agreements: Palau has formal international mutual aid agreements with the US government, but mutual aid agreements at the state and local levels are informal. USAID’S Office of US Foreign Disaster Assistance (OFDA) is the lead international agency for disaster response in Palau. The U.S. Ambassador to Palau can determine if U.S. Government assistance is needed during a disaster. The United States Agency for International Development Bureau of Humanitarian Affairs (USAID BHA) can provide technical assistance, deploy an assessment team, and provide funding to support immediate relief activities.

RECOMMENDATIONS

- 
 Formalize mutual aid agreements at the state and local level with OFDA, USAID BHA, and any additional agencies.
- 
 Ensure mutual aid agreements include: relevant party signatures; types of resources; how/when resources are shared; and reimbursement mechanisms.
- 
 Ensure incorporation of mutual aid agreements into DM plans at the national, subnational, and local levels.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2

Global Target(s)

A, B, C, D, E, F, G

Guiding Principle(s)


(b)


Sustainable Development Goals (SDG)


8, 16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

DISASTER GOVERNANCE MECHANISMS






C5

FINDINGS

Incident Command Systems: Palau uses a National Incident Command System (ICS) during a response, but implementation challenges exist, such as insufficient staffing, training, and support at the state-level incident command posts. The ICS is defined in the Palau NEOC SOP and includes ICS organizational charts. Emergency response operations are supported with staffing from NEMO and a Central Control Group (CCG) within the NEC.

RECOMMENDATIONS

-  Utilize NEOC SOPs to develop training for NEMO-NEOC ICS staff to become familiar with roles, responsibilities, and activation protocols of the NEOC.
-  Identify additional staffing and ensure NEOC SOPs include primary, secondary, and tertiary staffing needs of the NEOC.
-  Exercise activation of NEOC to evaluate response times and identify deficiencies. Update SOPs to reflect lessons learned and findings from after-action reports.

SEDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2

Global Target(s)


E, G

Guiding Principle(s)


(a), (b), (c), (e), (g)


Sustainable Development Goals (SDG)


16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

DISASTER GOVERNANCE MECHANISMS



C6





FINDINGS

Dedicated Primary and Backup EOC Facility and Resources: There is a purpose-built NEOC in a dedicated facility that is adequately equipped and located at NEMO Headquarters in Airai State near the Palau International Airport. In 2021, the UNDP and the Government of Japan handed over the newly retrofitted NEOC to NEMO.

There is a backup EOC at the fire operations center (FOC) at the Aircraft Rescue and Fire Fighting (ARFF) base in Airai. It is nearby to the primary NEOC at NEMO Headquarters.

Staffing and resource issues are a concern to adequately support the ESFs at a national, state, and local level.

RECOMMENDATIONS

-  Continue to identify primary, secondary, and tertiary staffing roles in the NEOC. Develop roster of ICS personnel and update annually.
-  Develop training of staff ICS roles and exercise short-notice activation of both the NEOC and the ARFF FOC. Include activation protocols and exercise lessons-learned in updated NEMO Plans.
-  Ensure there is a plan to identify and maintain resources, equipment, and support staff for a fully functional primary and backup EOC.
-  Officially designate the ARFF FOC as the alternate NEOC. Update plans to reflect designation.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2

Global Target(s)


G

Guiding Principle(s)


(e), (l), (m)


Sustainable Development Goals (SDG)


9

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

DISASTER GOVERNANCE MECHANISMS





C7

FINDINGS

Field-Level Coordination Centers: Incident Command Posts (ICP) located at the state level serve as field-level coordination centers but are limited in staffing, resources, and capacity, as reported by the GoP.

RECOMMENDATIONS

-  Provide the ICPs with sufficient staffing, resources, and training to support field-level coordination.
-  Ensure 16 state COOP/COG plans include scenarios for a compromised NEOC.

**SENDAI FRAMEWORK,
PARIS AGREEMENT,
AND SUSTAINABLE
DEVELOPMENT GOALS
ADVANCED**

Priorities for Action

2

Global Target(s)


G

Guiding Principle(s)


(e)


Sustainable Development Goals (SDG)


9

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

DISASTER GOVERNANCE MECHANISMS






C8

FINDINGS

Long-Term Community Recovery Facilitation Capacity: The PNDRMF details the long-term community recovery process, but there are implementation challenges with long-term recovery capacity and facilitation. The NEC, in coordination with the Palau Hazard Mitigation Subcommittee (HMSC) is responsible for the disaster recovery process and sends the approved recovery priorities identified by the damage and needs assessment to the Bureau of Budget & Planning for review of the national budget proposals and donor support proposals for recovery. The NEC is responsible for providing a full report on the socioeconomic impacts of a disaster and the critical and urgent priority needs of the NEC within three months of a disaster. Distribution of assistance and restoration progress must be monitored for reporting on the status of long-term community recovery to the NEC and the state governors.

RECOMMENDATIONS

-  Create a community recovery plan, developed by NEC, HMSC, and the Bureau of Budget & Planning, that outlines protocols and procedures to implement the disaster recovery process and approve recovery priorities.
-  Ensure plans and procedures are available to national, state, and local level partners and that agencies are included in training and exercising of the plan.
-  Develop a tracking protocol that provides partners with the ability to easily monitor and report distribution of assistance and restoration progress of long-term recovery efforts to the NEC and state governors.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2

Global Target(s)


B, C, D, E, F

Guiding Principle(s)


(a), (b), (d), (e), (f), (h), (l), (m)


Sustainable Development Goals (SDG)


9, 11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

DISASTER GOVERNANCE MECHANISMS





C9


FINDINGS

Communications Interoperability: According to the UNDP, the only AM radio tower collapsed during Typhoon Bopha in 2012. Since then, the government radio broadcast has operated only on FM, covering the area around Koror, which is approximately 50% of the country’s population. In 2022, the new AM radio tower was installed under the UNDP project and will enhance disaster communications by expanding coverage to the entire population, including the Southwestern islands.

RECOMMENDATIONS

- 

Establish a Communications Interoperability Workgroup with representation from NEMO, NWS, PPUC, Bureau of Public Works, Bureau of Archives and Media, and other relevant national, state, and local level partners to outline and coordinate goals, priorities, and objectives in operable communication throughout Palau.
- 

Develop national and subnational Communication Interoperability Plans that include: roles, systems, and detailed operations specific to each of the 16 states. This will be a tool for shared decision-making, resources, and coordinated protocols between national, state, and local agencies in Palau.
- 

Focus resources on monitoring and communication capabilities for remote outlying island states and vulnerable/hard to reach populations.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

3, 4

Global Target(s)


A, B, D, G

Guiding Principle(s)


(a), (b), (c), (g), (h)


Sustainable Development Goals (SDG)


9

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

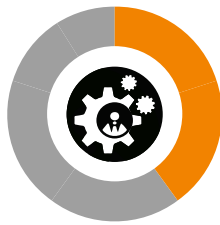
 Advanced Capacity

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THE DMA

CAPABILITIES AND RESOURCES



CAPABILITIES AND RESOURCES

Findings indicate the country’s current Capabilities and Resources are in the early capacity development stage.

CURRENT STATUS



SUBTHEME STATUS



Dedicated Facilities and Equipment



Human Resources



Inventory of Commodities and Supplies



Targeted Functional Capabilities

The nature and extent of skills, knowledge, supplies, resources, equipment, facilities, and other capacity components dedicated to meeting disaster management needs indicate Palau’s overall capabilities and resources. The DMA examines these sub-themes, including the source and size of surge capacities available in times of disaster and a broad array of disaster-focused functional capabilities like search and rescue, sanitation, and security. For this analysis, the following core thematic areas were reviewed: Dedicated Facilities and Equipment; Human Resources; Inventory of Commodities and Supplies; and Targeted Functional Capabilities.

Palau disaster management and response are supported by the Bureau of Public Safety (BPS), the Palau Fire and Rescue Division (PDFR), and the Palau Red Cross Society (PRCS) in coordination with NEMO and NEC. During response events, NEMO and the NEC draw support from other government agencies and PRCS. USAID BHA provides technical assistance, assessment teams, and funding during disasters, but additional formal arrangements with other organizations are needed to support surge and technical staffing for DM.

Palau has 44 shelters, and NEMO has designated and assessed evacuation shelters in all 16 states. NEMO and PRCS conducted evacuation shelter training for three state governments in 2021 but need to complete training for the remaining 13 states. Sheltering plans must be developed for all states to ensure that shelters are adequately equipped and regularly assessed. Efforts to identify (and/or build) shelters other than schools would ensure continuity of education during times of disaster.

In 2019, the UNDP provided NEMO with five mobile warehouses; PRCS has four warehouses and an additional facility under construction (2021). NEMO needs to maintain accurate and up-to-date DM equipment and stockpile inventories for all EOCs, warehouses, and shelters and ensure commodity stockpiles are kept in distributed locations that enable access to all locations throughout the country.

While the BPS and the PRCS provide some disaster logistics, search and rescue, and WASH capabilities, as outlined in the PNDRMF, there is a need to formalize protocols for implementation and incorporate these into national-level plans. For example, the BPS coordinates the evacuation process. Still, capacity in this area could be strengthened by establishing a national evacuation plan detailing requirements and needs such as resources, staffing, and training.

NEMO, BPS, PDFR, and other agency activities could be further strengthened by establishing or expanding plans and functional capabilities that address psychosocial recovery, safety and security, HAZMAT, search and rescue, and agricultural recovery.

The PNDRMF and PCCP should be updated to include strategies for vulnerable groups. A Communication Interoperability Plan for the country and 16 states of Palau should be developed.

CAPABILITIES AND RESOURCES






D1

FINDINGS

Emergency Services Facilities Capacity, Responder Credentialing, and Rosters of Trained Professionals: Palau Division of Fire & Rescue (PDFR) has four fire stations. In 2021, nine Palau firefighters received training from the United States and Japan, and the UNDP provided funding for two new rescue fire trucks for PDFR. However, PDFR could benefit from having additional firefighters, training, and resources. It is not known whether a system for responder credentialing is in place or if rosters of trained professionals are maintained for all post-disaster needs.

RECOMMENDATIONS

-  Recruit and train additional firefighters for PDFR and procure additional emergency and rescue resources.
-  Establish a system to manage responder credentialing and utilize the Federal Emergency Management Agency (FEMA) National Qualification System (NQS) and OneResponder system for responder credentialing certification for staff.
-  Maintain rosters of trained professionals for all post-disaster needs in coordination with NEMO and PDFR.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2, 3, 4

Global Target(s)


A, B, C, D

Guiding Principle(s)


(a), (b), (c), (d), (e), (f), (k), (m)


Sustainable Development Goals (SDG)


11, 16, 17

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

CAPABILITIES AND RESOURCES



D2

FINDINGS

Disaster-Related Technical Staffing and Surge Staffing Needs: During response events, NEMO and the NEC draw support from other government agencies and NGOs, such as: Planning & Statistics Division; Safety Office with the Bureau of Public Works; Division of Transportation; Bureau of Education; Division of Property & Supply; Palau Chamber of Commerce; PRCS; Bureau of Public Safety; Palau NWS; and other volunteer/technical support agencies. During major response events, PRCS can deploy their Rapid Damage Assessment Teams (RDAT) through their EOC and provide support/training to NEMO and NEC.

RECOMMENDATIONS

- ✓ Leverage existing partnerships to identify available resources/ staffing and utilize in surge capacity planning. Create formal MOUs to secure assets.
- ✓ Establish formal MOUs with PRCS, USAID, and the U.S. Military to address gaps in surge staffing .
- ✓ Establish formal MOUs with USAID, U.S. INDOPACOM, UN, IFRC, and the Government of Japan, to support technical staffing requirements.
- ✓ Ensure surge capacity planning considers primary, secondary, and tertiary staffing roles. Include MOUs in plan updates and incorporate partners into training and exercises.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

3, 4

Global Target(s)

A, B

Guiding Principle(s)

(a), (b), (c), (d), (f), (l), (m)

Sustainable Development Goals (SDG)

11, 16, 17

CAPABILITIES AND RESOURCES






D3

FINDINGS

DM Equipment Inventories: It is unknown whether NEMO and the NEOC maintain DM equipment inventories. The NEOC SOP states that an inventory will be conducted of all disaster management equipment. The PNDRMF states that all agency response plans should maintain inventory lists of resources and facilities allocated for DM.

RECOMMENDATIONS

-  Identify to what extent NEMO has maintained NEOC DM equipment inventories and update lists accordingly.
-  Ensure DM agencies conduct annual updates to their resource and facilities inventory lists. Incorporate updates into DM response plans.
-  Implement a digital centralized information system to maintain/update DM resource and supply inventories. Extend access to state and local levels to enhance resource sharing.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2, 3

Global Target(s)

A, B, C, D, E

Guiding Principle(s)

(a), (b), (c), (d), (e), (f), (g), (i), (j),
(k), (l), (m)

Sustainable Development Goals (SDG)

11, 16, 17

CAPABILITIES AND RESOURCES







D4

FINDINGS

Shelter Capacity and Suitability Assessments: Palau has 44 shelters co-located in populated areas, with 20 being school buildings. NEMO has identified, equipped, and disaster-proofed suitable school buildings to serve as evacuation shelters for community members with a focus on vulnerable populations. Shelters have received improvements to enhance their functionality such as: typhoon shutters, improved hygiene facilities, and dedicated food preparation areas. To-date, Ngchesar shelter has increased their estimated capacity to 75 persons and Aimeliik shelter to 100 persons.

In 2019, IOM partnered with NEMO (using USAID funding) to develop the PEPER Initiative. This project assisted Palau’s communities in developing DM plans, ensuring resilient shelters, and training community leaders in shelter management. The VP and Director of NEMO requested that IOM build all shelters with typhoon shutters to provide safe spaces for the community.

RECOMMENDATIONS

- 
 Develop sheltering plans for all 16 states. Include avenues to equip shelters, ensure typhoon shutters, and annually assess for operational ability.
- 
 Allocate state funding to conduct suitability assessments of existing and additional shelters (as needed) to reduce dependency on schools and ensure continuity of education after disasters.
- 
 Ensure the needs of vulnerable populations are adequately incorporated into shelter plans.
- 
 Compile and maintain a comprehensive shelter inventory and periodically conduct updated assessments.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2, 3

Global Target(s)


A, B, C, D, E

Guiding Principle(s)


(a), (b), (c), (d), (e), (f), (g), (i), (j), (k), (m)


Sustainable Development Goals (SDG)


9, 11, 16, 17

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

CAPABILITIES AND RESOURCES



D5

FINDINGS

Warehousing Capacity: NEMO has five mobile warehouses (shipping containers), but no usable government warehouse facility exists (WFP, 2018). PRCS has four warehouses, with one new facility under construction funded by Japan. The four PRCS warehouses are used for Non-Food Relief Items. Three containers are located at the PCC Campus and the fourth is on the Catholic Mission grounds.

The main port of Palau, Port of Malakal, located on Malakal Island and next to Koror Island, has only one main storage warehouse currently used for bulk goods.

RECOMMENDATIONS

-  Identify government and regional warehouse storage facilities, create formal MOAs, and appoint warehouse manager roles (where appropriate) to coordinate response efforts.
-  Develop a commodity distribution plan for a coordinated approach to disperse resources. Include logistics operations and chains of command from government to regional warehouses, and distribution at the state and local levels.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2, 3

Global Target(s)


A, B, C, D, E

Guiding Principle(s)


(a), (b), (c), (d), (e), (f), (g), (i), (j), (k), (l), (m)


Sustainable Development Goals (SDG)


9, 11, 16, 17

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

CAPABILITIES AND RESOURCES



D6

FINDINGS

Post- Disaster Commodity Needs, Stockpiles, and Contracts: While NEMO, NEC, and NWS coordinate with PRCS to develop assessments for post-disaster commodities, such as with Typhoon Surigae, additional coordination is needed to ensure that commodity stockpiles are adequately prepositioned and inventories are maintained at sufficient levels.

It is not evident that Palau maintains stockpiles of relief supplies or that contracts exist with providers of DM-relevant commodities. Palau currently has formal mutual aid agreements in place with USAID BHA.

In 2020, IOM and USAID launched the PEPER project, to train community leaders in prepositioning emergency relief supplies.

RECOMMENDATIONS

- ✓ Pre-position NEMO and PRCS commodity stockpiles at required levels to ensure country-wide distribution within 24-48 hrs following a disaster.
- ✓ Ensure outlying island states are factored into pre-positioned commodity stockpiles in Koror/airport and regional distribution locations.
- ✓ Implement a digital centralized information system for use by NEMO and the NEOC facilities to maintain/update DM resource and supply inventories.
- ✓ Establish MOAs with DM commodity providers in coordination with USAID BHA, US INDOPACOM, U.S. Embassy in Palau, IFRC, and other international agencies/private companies/NGOs.
- ✓ Continue to provide training for community leaders under the PEPER project to expand emergency relief commodity staffing.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2, 3

Global Target(s)

A, B, C, D, E, G

Guiding Principle(s)

(a), (b), (c), (d), (e), (f), (g), (i), (j), (k), (l), (m)

Sustainable Development Goals (SDG)

11, 16, 17

CAPABILITIES AND RESOURCES



D7





FINDINGS

Evacuation Functional Capability: The Bureau of Public Safety (BPS) manages the evacuation process, supported by appropriate government departments, agencies, NGOs, and churches. There is no evidence that BPS or NEMO has a national evacuation plan.

Kayangel State has an evacuation protocol that allows immediate evacuation of people based on the Kayangel Early Warning System Project supported by NEMO and the Palau NWS. However, all states of Palau should establish evacuation protocols.

BPS has limited SAR capabilities, and implementation challenges include insufficient training and resources. It is not evident that BPS or NEMO has a SAR plan or SOPs.

RECOMMENDATIONS

- 
 Develop a national evacuation plan in coordination with BPS, NEMO, NEOC, PDFR, and PRCS.
- 
 Establish evacuation protocols for all states of Palau utilizing the Kayangel State as a template to assist in planning efforts.
- 
 Develop a SAR plan and SOPs that identify sufficient financial, human, and material resources to support national evacuation operations. Include as an appendix to the national evacuation plan.
- 
 Conduct SAR plan training and exercises and include lessons learned and AARs in plans.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2, 3, 4

Global Target(s)

A, B, C, D, E, F, G

Guiding Principle(s)

(a), (b), (c), (d), (f), (i)

Sustainable Development Goals (SDG)

9, 11, 16, 17

CAPABILITIES AND RESOURCES





D8

FINDINGS

Shelter Evacuation Functional Capability: In 2021, NEMO and PRCS conducted evacuation shelter training with the state governments of Ngchesar, Aimeliik, and Ngaremlengui. The training was supported by the joint USAID and IOM PEPER projects and provided instruction on set-up, operations, basic international humanitarian standards, facility care/maintenance, and closure of an evacuation center.

To further strengthen evacuation functional capabilities, evacuation shelter training needs to be conducted with the remaining 13 state governments.

RECOMMENDATIONS

- 
 Conduct evacuation shelter training with BPS and the remaining 13 state governments in coordination with NEMO, PRCS, and IOM.
- 
 Update DM plans to reflect lessons learned and AARs from shelter training and activation exercises.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2, 3

Global Target(s)


A, B, E, F, G

Guiding Principle(s)


(a), (b), (c), (d), (i)


Sustainable Development Goals (SDG)


11, 16, 17

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

CAPABILITIES AND RESOURCES






D9

FINDINGS

National Hazardous Materials (HAZMAT) Response Capability: The Republic of Palau National Spill Contingency Plan (NATPLAN) was drafted in 2010 to support the PNDRMF and outlines the steps to initiate, conduct and terminate an emergency spill response in Palau under the Environmental Quality Protection Act. The NATPLAN designates a HAZMAT Team, which includes the Division of Environmental Health (DEH), the Environmental Quality Protection Board (EQPB), and the Division of Fire and Rescue. NEMO, BPS, and MOH also support the implementation of the NATPLAN.

RECOMMENDATIONS

-  Update and finalize the NATPLAN in alignment with the PNDRMF.
-  Increase the resources, training, and capabilities of the HAZMAT Team to implement the NATPLAN in coordination with NEMO, BPS, EQPB, Division of Fire and Rescue, DEH, and MOH.
-  Align the NATPLAN with the International Maritime Organization: International Convention on Oil Pollution Preparedness, Response and Cooperation.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2, 3, 4

Global Target(s)


C, D

Guiding Principle(s)


(a), (b), (c), (i)


Sustainable Development Goals (SDG)


16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

CAPABILITIES AND RESOURCES







D10

FINDINGS

Integration of Public Health and Medical Facilities within the Nation’s Disaster Management System: Palau has a relatively poor health system that is inadequate for the population’s needs during non-disaster times. The country must strengthen its health capacity to remain economically stable. Belau National Hospital is the country’s main health facility with an 80-bed capacity. It has been upgrading its facilities to mitigate its vulnerability to disasters. Palau has four community health centers (CHC) overseen by the Division of Primary and Preventive Health Services. Due to the limited number of healthcare workers, building capacity for inpatient management on other islands is needed.

RECOMMENDATIONS

-  Upgrade public health and medical facilities and integrate them into the national disaster management system.
-  Develop mutual aid agreements among healthcare facilities and CHC to enhance collaboration and capacity to provide resources.
-  Integrate CHC and Belua National Hospital into national and subnational plans, trainings, and exercises.
-  Consider implementing a digital inventory system and integrating with national DM systems to better allocate public health and medical resources.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2, 3, 4

Global Target(s)


A, B, C, D, G

Guiding Principle(s)


(b), (c), (d), (e), (f)


Sustainable Development Goals (SDG)


3, 16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity



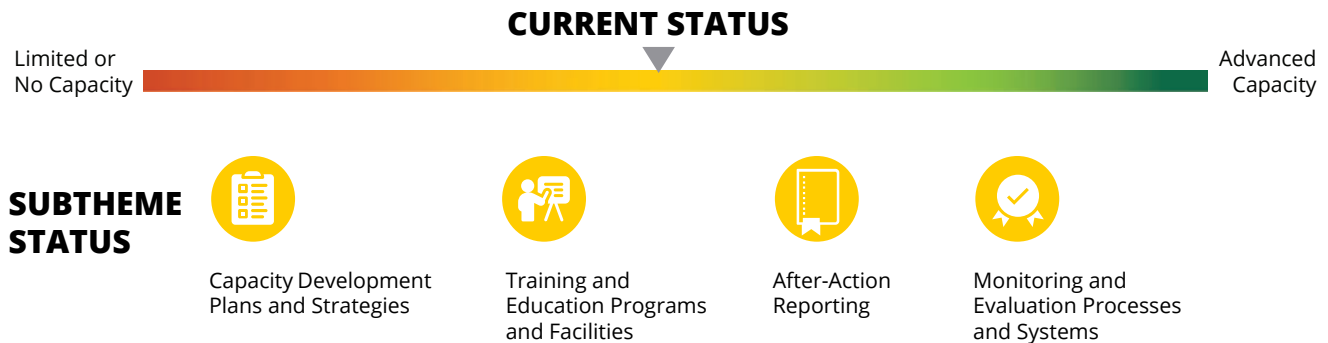
THE DMA

CAPACITY DEVELOPMENT



CAPACITY DEVELOPMENT

Findings indicate the country's current Capacity Development has made achievements with significant limitations.



Capacity development requires the continuous advancement of assessments, systems, strategic plans & programs, and evaluations of these processes. Robust training and education programs provide skills sets and educational opportunities to enhance a population’s resiliency during disasters. The DMA analyzes these sub-themes, assessing resources and opportunities across all stakeholders, from individuals and vulnerable populations, to government responders.

The recommendations throughout this section will help Palau advance its disaster management and risk reduction goals, which will build resilience among communities. Sub-themes examined include: Capacity Development Plans and Strategies; Training and Education Programs and Facilities; and Monitoring and Evaluation Processes and Systems.

NEMO coordinates all capacity development efforts, including training and exercises and DM public education and awareness programs for community preparedness. The IOM, UNDP, USAID, SPREP, and SPC provide DM capacity development support programs such as the Palau Community-Based Disaster Risk Reduction Training Program. Palau should ensure that sufficient funds are allocated in the national budget annually for national, state, and local capacity development efforts.

It would be beneficial for NEMO to update the National DM Training Plan and include a comprehensive training and exercise program. The Training Plan should: develop ICS position-specific competency requirements; implement T&E schedules; conduct a national full-scale exercise; and allocate funds to support an ongoing program. Coordination is needed with Palau Community College and regional academic institutions to increase access to higher level DM education. The IOM Alii Climate Adaptation and Disaster Risk Education (Alii CADRE) program has provided school-based preparedness for disasters in Palau. The Palau Emergency Preparedness and Enhanced Resilience (PEPER) project has strengthened capacity in community-based disaster preparedness and response. While notable progress has been made, additional DM public awareness, preparedness education, and community capacity-building programs are needed.

CAPACITY DEVELOPMENT



E1

FINDINGS

National Science and Technology (S&T) Agenda: Palau does not have a formal National Science and Technology Agenda that addresses DRR.

RECOMMENDATIONS



Develop a National Science and Technology Agenda and include a plan that outlines how the science and technology sector can support national DRR operations and activities.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2, 3

Global Target(s)


E, G

Guiding Principle(s)


(a), (b), (c), (e), (f), (i), (j), (l), (m)


Sustainable Development Goals (SDG)

9, 16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

CAPACITY DEVELOPMENT






E2

FINDINGS

Conduct of DM and DRR Training and National Level Exercise: NEMO conducts training and exercises, but there is a limited budget. Palau regularly participates in Exercise Pacific Wave (PacWave). PacWave is a tsunami exercise drill involving dozens of countries throughout the Pacific Ocean and Pacific Rim, supported by the Pacific Tsunami Warning Center (PTWC) and UNESCO’s Intergovernmental Oceanographic Commission (IOC).

RECOMMENDATIONS

- 
 Allocate a sufficient national budget to support DM training and exercises.
- 
 Schedule and conduct a national full-scale exercise with NEMO as the lead agency. Coordinate DM stakeholder involvement to include: U.S. INDOPACOM, national, state, and regional DM agencies.
- 
 Ensure training and exercise lessons learned and AARs are incorporated into DM plan updates.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2, 3, 4

Global Target(s)


A, B, C, D, E, F

Guiding Principle(s)


(b), (e), (f), (i), (j), (l), (m)


Sustainable Development Goals (SDG)


16, 17

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

CAPACITY DEVELOPMENT




E3


FINDINGS


Formal National Training and Exercise Program to Support Capacity Development: NEMO and the NEOC do not have a formal training and exercise program, and it is not known whether training-exercise schedules are maintained.


NEMO is responsible for training, but updated capacity development training plans are needed. The PNDRMF included training guidance, but it is unknown whether DM capacity training plans are available. NEMO coordinates with partners on capacity development, but additional coordination is needed.

RECOMMENDATIONS

- 

Allocate a sufficient national budget to support training and exercises and establish a staffed NEMO training and exercise program.
- 

Create an annual national training and exercise schedule and establish requirements to increase participation of DM government agencies, NGOs, and private sector organizations. Ensure schedule accessible to all DM stakeholders.
- 

Provide technical assistance to agencies and partners in training and exercise design, development, implementation, and evaluation.
- 

Update the National DM Training Plan to include: position-specific competency requirements; a formal training program; and maintenance of training/exercise schedules.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2, 3, 4

Global Target(s)

A, B, C, D, E, F

Guiding Principle(s)


(b), (e), (f), (i), (j), (l), (m)


Sustainable Development Goals (SDG)


16, 17

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

CAPACITY DEVELOPMENT






E4

FINDINGS

Stakeholder Involvement in Training and Exercises: In coordination with NEMO, PRCS provides annual national-level and community-level exercises and training in the following areas: Disaster Preparedness & Response; Community First Aid & Safety; Single Incident Assistance; Blood Donor Recruitment; Health and Social Cares Services; Humanitarian Values Awareness & Education; and Services to the U.S. Armed Forces. PRCS volunteers come from all 16 states of Palau and comprise community members and state government employees. The Red Cross Disaster Action Team (RDAT) has been trained in Disaster Preparedness and Response, First Aid, and CPR. In 2019, the PRCS volunteers carried out the Youth First Aid Competition and the Mass Rescue Operation Drill Exercise and Supported National Preparedness Month. There is a further need to engage the whole community and stakeholders in these exercises.

RECOMMENDATIONS

-  Invite and engage all DM stakeholders, NGOs, private sector organizations, and PRCS RDAT to participate in training and disaster exercises.
-  Ensure NEMO and PRCS updates SOPs and plans with lessons learned and AARs from training and exercises.
-  Create and maintain a working contact list of community partners and stakeholders to ensure future engagement and coordination in trainings and exercises.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2, 3, 4

Global Target(s)

A, B, C, D, E, F

Guiding Principle(s)


(b), (e), (f), (i), (j), (l), (m)


Sustainable Development Goals (SDG)


16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

CAPACITY DEVELOPMENT






E5

FINDINGS

DM and DRR Programs in the Education Community and National DM Curriculum: Palau Community College (PCC) provides limited higher education support; DM public education and awareness are still under development.

PCC is the only public college in the nation. It is an independent institution accredited by the Western Association of Schools and Colleges and offers degrees and certificates. There is a need for additional higher education offerings in DM and DRR focused studies. The President of PCC is a member of the National Emergency Committee. Additional DM engagement and coordination is needed with NEMO.

RECOMMENDATIONS

- 
 Coordinate with PCC and regional institutions, such as the University of the South Pacific and the University of Hawai'i, to provide NEMO with DM training and design studies.
- 
 Leverage academic partnerships to support national DM education and public awareness programs.
- 
 Formalize partnerships between PCC and regional academic institutions, such as the University of Hawai'i, to develop bachelor-level or higher degree programs in DRR and DM studies.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2, 3, 4

Global Target(s)


A, B, C, D, E, F, G

Guiding Principle(s)


(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k), (l), (m)


Sustainable Development Goals (SDG)


4, 16, 17

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

CAPACITY DEVELOPMENT





E6


FINDINGS

Community Centers and Public Awareness/Education: IOM Alii Climate Adaptation and Disaster Risk Education (Alii CADRE) program provided school-based preparedness for disasters in Palau. The program worked in partnership with the MOE, MOH, DPS, NWS, NEMO, and PRCS to improve the coordination of DM response agencies. Alii CADRE successfully supported the development and testing of the School Emergency Management Planning (SEMP) and evacuation shelter management by assisting supply of emergency medical training. Additional public awareness, community preparedness, and resilience-building programs in DM are needed.

RECOMMENDATIONS

- 

Ensure academic institutions are invited to participate in national, state, and local exercise and training programs to improve DM coordination and planning efforts.
- 

Continue coordination with the Alii CADRE program to support school and community DM planning and preparedness.
- 

Determine how MOE, MOH, DPS, NWS, and PRCS can collaborate with NEMO to offer additional programs to enhance community resilience.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2, 3, 4

Global Target(s)

A, B, C, D, E, G

Guiding Principle(s)


(b), (e), (f), (i), (j)

Sustainable Development Goals (SDG)


4, 13, 16, 17


Paris Agreement Articles


7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

CAPACITY DEVELOPMENT




E7


FINDINGS


Community Centers and Public Awareness/Education: NEMO developed the Community-Based Disaster Risk Reduction Toolkit in 2016 to provide training and awareness to communities in all 16 states in DRR preparedness and response. NEMO has also completed training workshops on developing community disaster plans based on the disaster risk reduction toolkit in 12 of 16 states.

Community members and volunteers from all 16 states participate with the PRCS in DRR training, community awareness, and education.

RECOMMENDATIONS

- 

Develop a national-level plan and program for community centers to be engaged in DM awareness, preparedness, and training in all 16 states in coordination with PRCS and NEMO.
- 

Incorporate the risk and vulnerability assessment findings and maps into the Community-Based Disaster Risk Reduction Toolkit.
- 

Complete Community-Based Disaster Risk Reduction Toolkit training in the remaining four states (if not already conducted).

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2, 3, 4

Global Target(s)


A, B, C, D, E

Guiding Principle(s)


(b), (e), (f), (i), (j)


Sustainable Development Goals (SDG)


11, 16, 17

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

CAPACITY DEVELOPMENT






E8

FINDINGS

Standard Evaluation Procedures and Review of Plans, Strategies, and SOPs: The PNDRMF requires NEMO to update plans and SOPs as necessary. While standard evaluation and review procedures are in place, the PNDRMF, NEOC SOP, and PCCP have not been updated since 2015-2016. NEC conducts an annual plan review and is responsible for implementation, monitoring, and evaluation.

RECOMMENDATIONS

- 
 Incorporate plan revisions, trainings, and exercise schedules into legislation. Coordinate with NEMO and the national Training and Exercise Program to assist with trainings, exercises, and evaluations.
- 
 Conduct an annual review of PNDRMF, NEOC SOP, and PCCP and update plans.
- 
 Incorporate all plans and SOPs into a scheduled training and exercise program to ensure appropriate evaluation, review, and updates on an annual basis.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2, 3, 4

Global Target(s)


A, B, C, D, E

Guiding Principle(s)


(b), (e), (f), (i), (j), (l), (m)


Sustainable Development Goals (SDG)


16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

CAPACITY DEVELOPMENT





E9


FINDINGS

Requirements for Post-Disaster Reviews: Post-disaster reviews have been conducted for some disaster events, including the Super Typhoon Haiyan Immediate and Near-Term Response Plan, the Bopha Catastrophe Relief Committee Final Report, and the Drought Report Republic of Palau; however, no requirements exist for post-disaster reviews and evaluations.

RECOMMENDATIONS

- 

Include a requirement in legislation and PNDRMF for post-disaster reviews and evaluations, to facilitate learning and continued improvement in DM planning efforts.
- 

Incorporate reviews into formal training and exercise programs and include : evaluations, hot-washes, lessons learned and AARs from the disaster event.
- 

Ensure post-disaster reviews are accessible to relevant DM stakeholders for use in driving plan, policy, and SOP updates.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2, 3, 4

Global Target(s)


A, B, C, D, E

Guiding Principle(s)


(b), (e), (f), (i)


Sustainable Development Goals (SDG)


16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

CAPACITY DEVELOPMENT





E10

FINDINGS

Incorporation of Evaluations into Plans, Policies, and SOPs: As mentioned above, Palau has conducted evaluations of disaster events, and the PNDRMF 2016 states that “the review incorporates Palau’s experiences from both Super Typhoons Bopha and Haiyan”. It is unknown, however, whether evaluations of drills and exercises occur or if they are incorporated into plans, policies, and SOPs.

RECOMMENDATIONS

- 

Create standardized evaluation tools for trainings, exercises, and real events to incorporate outcomes and improve plans, policies, and SOPs.
- 

Ensure training and exercise program is closely engaged with planning efforts to utilize lessons-learned from evaluations & AARs to drive planning, policy, and SOP updates.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

2, 3, 4

Global Target(s)


A, B, C, D, E

Guiding Principle(s)


(b), (e), (f), (i)


Sustainable Development Goals (SDG)


16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

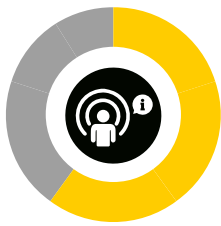
 Substantial Progress with Some Limitation

 Advanced Capacity



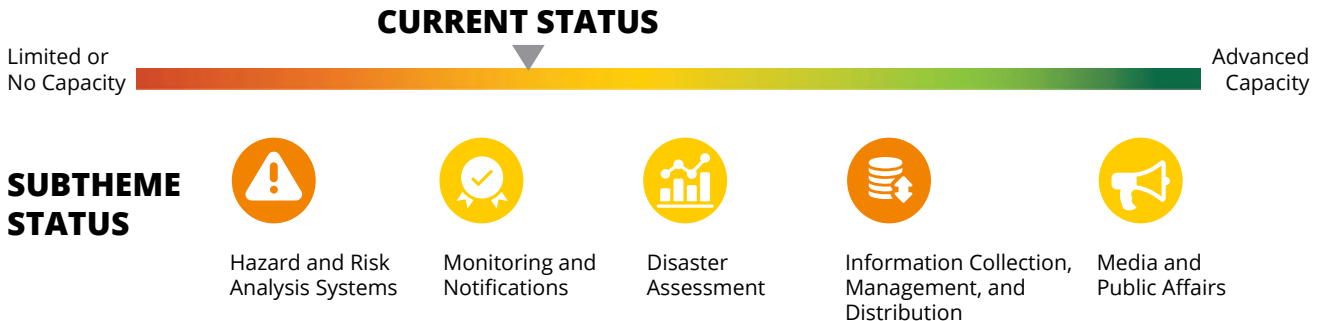
THE DMA

COMMUNICATION AND INFORMATION



COMMUNICATION AND INFORMATION MANAGEMENT

Findings indicate the country’s Communication and Information Management capacity has made achievements with significant limitations.



Disaster management is a risk-based endeavor, and as such, the capacity of stakeholders to generate, manage, and share risk and incident-related information is critical. This area of analysis looks at the systems, processes, and procedures established in Palau to inform pre-and post-disaster activities.

NEMO and the National Weather Service (NWS) are responsible for coordinating and conducting hazard monitoring and disseminating early warnings. Palau does not have Doppler radar; support is needed for the NWS to fund, acquire, install, and maintain Doppler radar for the country.

UNDP, WMO, and USAID provide EWS capacity-building projects focused on tsunami and climate services. In 2021, NEMO (with support from the UNDP) was working on installing a multi-hazard siren system for early warning throughout the country. In 2022, a new AM radio broadcasting system was installed with support from the UNDP.

Hazard monitoring and EWS coverage need to be expanded to cover all hazards and the entire population. Improved technology and processes for disseminating early warning notifications to outlying islands and vulnerable populations are needed. There is a need for EWS SOPs to be developed, implemented, and periodically reviewed and updated for all hazards.

NEMO coordinates and conducts disaster assessments for NEC and DEC with Comprehensive Disaster Assessment methods. However, due to staff limitations, they require support from PRCS.

The Office of the Palau Automated Land and Resources Information System (PALARIS) supports hazard and risk analysis for DM, climate change, and environment and development planning. PALARIS risk assessment staffing capacity and resources are insufficient, with limited formal standards and processes. Therefore, there is a need to increase training and resources for PALARIS staff to conduct internal risk and vulnerability assessments at the national and state level. PALARIS should establish requirements and standards and include risk assessments in the updated PCCP and inform the development process.

The OPS is developing the Statistics Dissemination System (SDS), and PALARIS is developing a centralized GIS-data platform, but implementation challenges exist, and external technical assistance is needed. Standards and processes for data systems are required for proper collection, storage, dissemination, and access.

COMMUNICATION AND INFORMATION MANAGEMENT



F1




FINDINGS

Risk Assessment Requirements and Staffing Capacity:

PALARIS risk assessment staffing capacity and resources are insufficient; there is no evidence of enforcement mechanisms and limited formal standards and processes are in place. PALARIS and the Office of Change conduct risk assessments with support from regional (SPREP and SPC) and international organizations (USGS, NOAA, University of Hawai'i, USAID, UNDP, World Bank, WMO, etc.).

The PALARIS office and its staff are responsible for conducting risk assessments for all government agencies at the national and state levels for Palau. The PALARIS office requires additional staffing, financing, technical equipment, and training for sufficient risk assessment capacity at the national and subnational levels.

RECOMMENDATIONS

- 
 Establish requirements and standards to ensure risk assessments are being conducted and are following procedural norms.
- 
 Include risk assessments in the updated PCCP to inform the development process.
- 
 Increase training and resources for PALARIS staff to conduct risk and vulnerability assessments at the national and state level.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2, 3, 4

Global Target(s)

A, B, C, D, E, F

Guiding Principle(s)


(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k)


Sustainable Development Goals (SDG)


16, 17

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

COMMUNICATION AND INFORMATION MANAGEMENT



F2

FINDINGS

Hosting of Risk Assessment Information:

Risk assessments are conducted by PALARIS utilizing GIS technology, but no centralized system exists to support risk assessment reporting.

To improve community-level planning and response, the government is developing a comprehensive GIS database to help identify structures impacted by wave inundation and sea-level rise and vulnerable to typhoons and tsunamis.

RECOMMENDATIONS

- 
 Develop a centralized GIS system such as DisasterAWARE® to support risk assessments managed by PALARIS with government and DM stakeholder access.
- 
 Conduct climate change and hazard risk and vulnerability assessments for all 16 states of Palau.
- 
 Leverage the risk assessment findings to inform the impact-based forecasting and EWS in Palau.
- 
 Incorporate the risk assessment findings into the Community-Based Disaster Risk Management Toolkit.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2, 3, 4

Global Target(s)


A, B, C, D, E, F, G

Guiding Principle(s)


(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k)


Sustainable Development Goals (SDG)


11, 16, 17

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

COMMUNICATION AND INFORMATION MANAGEMENT






F3

FINDINGS

Vulnerability Measurements in Risk Assessments: NEMO has conducted climate change vulnerability assessments in eight states but needs to conduct assessments for the remaining eight states. Palau is working to identify vulnerable areas so communities may be relocated to safer locations. For example, Melekeok State has developed a plan to relocate its coastal community to higher ground since it is at risk from floods.

RECOMMENDATIONS

- 
 Conduct climate change and hazard risk and vulnerability assessments for all 16 states of Palau.
- 
 Leverage the vulnerability assessment findings to inform the impact-based forecasting and EWS in Palau.
- 
 Incorporate the vulnerability assessment findings into the Community-Based Disaster Risk Management Toolkit.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2, 3, 4

Global Target(s)

A, B, C, D, E, F

Guiding Principle(s)

(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k)

Sustainable Development Goals (SDG)


11, 13


Paris Agreement Articles


7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

COMMUNICATION AND INFORMATION MANAGEMENT






F4

FINDINGS

Climate Change Included in Risk Assessments: The main objective of the PNDRMF is to integrate climate change adaptation and disaster management planning and strategies into the Framework. The National Climate Change Coordinator of the Office of Climate Change stated that the Pacific Islands Regional Climate Assessment team completed the Palau Climate Change Assessment in 2020; the PCCP expires in 2020 and will be updated.

The Office of Climate Change is integrating GIS and risk and vulnerability assessment information into the Climate Change Policy. The updated climate change policy will include an impact assessment section and will complete state-level risk assessments and state-national adaptation plans.

RECOMMENDATIONS

-  Complete state-level risk assessment and state climate adaptation plans and include them in the updated PCCP.
-  Include the PDC-Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) Climate Change Impact project's current and projected exposure analysis and climate change impact assessment data in the updated PCCP.
-  Update the PNDRMF to reflect the latest findings on climate change adaptation and strategies based on risk assessment data to drive future legislation and policy.

**SENDAI FRAMEWORK,
PARIS AGREEMENT,
AND SUSTAINABLE
DEVELOPMENT GOALS
ADVANCED**

Priorities for Action

1, 2, 3, 4

Global Target(s)

A, B, C, D, E, F

Guiding Principle(s)


(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k), (l), (m)

Sustainable Development Goals (SDG)


11, 13, 16


Paris Agreement Articles

7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

COMMUNICATION AND INFORMATION MANAGEMENT



F5

FINDINGS

Local and Indigenous Knowledge in Risk Assessments: Neither the PNDRMF nor the PCCP indicates whether indigenous knowledge is included in risk assessments; they do direct risk assessments at the local level. However, the local governments lack the capability, resources, and training to conduct effective risk assessments.

In Palau’s government system, the President and the Vice President serve with the Council of Chiefs representing each state. The traditional chiefs advise the President on traditional customs and laws. The President, Vice President, and Council of Chiefs make up the Executive Council in Palau.

RECOMMENDATIONS

- ✓ Include local and indigenous knowledge in risk assessments and climate resilience planning.
- ✓ Include local and indigenous knowledge in the updated PCCP.
- ✓ Engage with indigenous communities and local governments on understanding, collecting, and cataloging information on indigenous knowledge relevant to risk assessments.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2, 3, 4

Global Target(s)

A, B, C, D, E, F

Guiding Principle(s)

(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k), (l), (m)

Sustainable Development Goals (SDG)

11

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

COMMUNICATION AND INFORMATION MANAGEMENT






F6

FINDINGS

Risk Assessment Capability: The Government of Japan funded the UNDP Enhancing Disaster and Climate Resilience (EDCR) project using Light Detection and Ranging (LiDAR) technology for a digital coastal survey led by PALARIS in 2021. The data collected through LiDAR is intended to strengthen the country’s disaster risk and climate resilience.

RECOMMENDATIONS

- 
 Process and release new Lidar with the increased resolution of DEM and imagery for coastal areas.
- 
 Conduct coastal inundation hazard exposure analysis using the new LiDAR data from PALARIS in collaboration with PDC and Pacific Islands Ocean Observing System (PACIOOS).
- 
 Ensure findings of LiDAR data and the results of the hazard exposure analysis are incorporated into PCCP updates.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

3, 4

Global Target(s)

A, B, D, F, G

Guiding Principle(s)


(a), (b), (c), (g), (h), (i), (j), (k), (l), (m)

Sustainable Development Goals (SDG)


11, 13, 16, 17


Paris Agreement Articles

7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

COMMUNICATION AND INFORMATION MANAGEMENT




F7


FINDINGS


Responsibility and Coordination of Hazard Communication: The impact of disasters can be minimized if a community has access to robust disaster communication systems and emergency warning messages. When Typhoons Bopha (2012) and Haiyan (2013) hit Palau, the country lost vital communication tools and as a result could not communicate with the community, especially those on the remote outlying islands. Since 2012, Palau has greatly improved communication infrastructure and preparedness within their communities to share vital information and protect families, homes, and businesses from disasters.

Palau would benefit from developing a national and statewide Communications Interoperability Plan to ensure all partners continue coordinating and bolstering communication systems throughout the country.

RECOMMENDATIONS

- 

Establish a Communications Interoperability Workgroup with representation from NEMO, NWS, PPUC, Bureau of Public Works, Bureau of Archives and Media, and other relevant national, state, and local level partners to outline and coordinate goals, priorities, and objectives in operable communication throughout Palau.
- 

Develop national and subnational Communication Interoperability Plans that include: roles, systems, and detailed operations specific to each of the 16 states. This will be a tool for shared decision-making, resources, and coordinated protocols between national, state, and local agencies in Palau.
- 

Focus resources on monitoring and communication capabilities for remote outlying island states and vulnerable/hard to reach populations.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2

Global Target(s)

A, B, C, G

Guiding Principle(s)


(b), (c), (d), (e), (f), (g), (i), (j)


Sustainable Development Goals (SDG)


9, 11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

COMMUNICATION AND INFORMATION MANAGEMENT






F8

FINDINGS

Doppler Radar Coverage: Meteorological and hydrological forecasting and hazard monitoring is provided by the U.S. National Weather Service (NWS)-Palau Weather Service Office at the Palau International Airport in Airai. While Palau has six automated weather stations, one wave-rider buoy, and a new upper-air observing system, it has no Doppler radar capability. Doppler radar would greatly improve flash flood monitoring and forecasting for the country.

RECOMMENDATIONS

-  It is recommended that the government of Palau and NWS collectively draft and submit a project proposal for funding to acquire a Doppler radar.
-  Upgrade hazard monitoring and EWS technologies for typhoons, drought, and climate in coordination with NWS, regional (SPREP and SPC), and international partners (WMO, UNDP, and Japan).
-  Develop a plan, in conjunction with NWS, to install and maintain doppler radar for the country of Palau.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2

Global Target(s)

A, B, C, G

Guiding Principle(s)


(b), (c), (d), (e), (f), (g), (i), (j)


Sustainable Development Goals (SDG)

9, 11, 13, 17

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

COMMUNICATION AND INFORMATION MANAGEMENT



F9





FINDINGS

Early Warning/Notification Responsibilities: NEMO is responsible for coordinating with relevant agencies (i.e., NWS and BPS) to evaluate hazard information, issue alerts and warnings, and advise the public before, during, and after a hazard event. Strengthened coordination is needed at the national, state, and local levels to disseminate alert and warning information in a timely manner.

The National Disaster Coordinator is responsible for ensuring that all messages are screened, and that only urgent or essential service messages are broadcast throughout the stages of the activation process.

Since BPS has 24/7 capabilities, it is responsible for disseminating warnings and alerts for hazards such as tsunamis. BPS could expand its capacity to disseminate alert and warning information that is issued by the NWS through NEMO.

RECOMMENDATIONS

-  Strengthen coordination and communication between NEMO-NWS-BPS to improve timely dissemination of alerts and warnings at national, state, and local levels.
-  Regularly review and update EWS and Hazard Communication SOPs to reflect changes in early warning and notification roles, responsibilities, and protocols.
-  To increase redundancy, expand the capacity of BPS to disseminate alert and warning information as issued by NWS and NEMO.
-  Ensure the National Disaster Coordinator role has identified secondary and tertiary staffing for adequate coverage of responsibilities through all stages of the activation process.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2

Global Target(s)

A, B, C, G

Guiding Principle(s)


(b), (c), (d), (e), (f), (g), (i), (j), (l), (m)


Sustainable Development Goals (SDG)


9, 11, 17

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

COMMUNICATION AND INFORMATION MANAGEMENT



F10






FINDINGS

Standard Procedures for Early Warning: There is a need for EWS SOPs to be developed, implemented, and periodically reviewed and updated for all hazards.

For example, while the Palau National Tsunami Support Plan includes agency roles and responsibilities regarding tsunami preparedness, response and recovery, and warning dissemination procedures, it has not been updated since 2015.

NEMO is responsible for annual review and updates to the Palau National Tsunami Support Plan.

RECOMMENDATIONS

- 
 Develop SOPs and support plans for all hazard monitoring and early warning dissemination.
- 
 Establish a schedule for an annual review of the EWS SOPs . Coordinate training and exercising of the SOPs and incorporate lessons learned and AARs into updates.
- 
 Ensure that relevant EWS protocols for all hazards are included in evacuation plans and maps for communities at the state and hamlet levels and including the outlying islands.
- 
 Utilize automated early warning and alerting applications such as PDC's mobile Disaster Alert™. Provide NEMO, BPS, NWS, Palau radio stations, and other relevant stakeholders with training on these apps to monitor hazards and provide timely notifications.
- 
 Fully integrate the hotel and tourism industry into the EWS, including training on disseminating alerts and warnings to the tourist population.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2

Global Target(s)


A, B, C, G

Guiding Principle(s)


(b), (c), (d), (e), (f), (g), (i), (j), (l), (m)


Sustainable Development Goals (SDG)


9, 11, 17

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

COMMUNICATION AND INFORMATION MANAGEMENT



F11

FINDINGS

Early Warning Systems Coverage Area:

Early warning systems cover Palau's population around Koror and Babeldaob, but challenges exist in the dissemination of early warning information to outlying island states. The national radio station and private media services provide hazard and EWS information to the public. The Government of Palau's website posts particular weather statements from NEMO, in collaboration with the NWS, informing the public of weather-related activities and early warnings.

The remote outlying states of Palau are warned or alerted through designated high-frequency (HF) radios; however, atmospheric conditions can adversely affect HF transmission. Palau also uses the Chatty Beetle, a portable satellite terminal for transmitting text-based alerts and messages of potential weather hazards in remote locations where communication options are limited.

Recent projects aimed at strengthening Palau's early warning capabilities include:

- PRCS has been working with NEMO, NWS, and MoH Emergency Health Program (EH) for EWSs for Ngesang, Ulimang, Ngaraard since September 2017.
- The UNDP EDCR project is upgrading the climate and tsunami early warning system infrastructure for all 16 states to increase access to the entire population of Palau. The UNDP EDCR project provided EWS infrastructure such as VHF/HF marine grade radio and antennas, AM Broadcasting System and Tower, as well as a siren network. According to the UNDP, in 2019, the EWS equipment was incomplete and deteriorated.
- As of 2021, NEMO was working on replacing the early warning siren with a multi-hazard system that will be strategically located at 23 sites throughout the country except for the Southwest Islands.

■ Limited or No Capacity


■ Early Capacity Development


■ Achievement with Significant Limitation


■ Substantial Progress with Some Limitation


■ Advanced Capacity

RECOMMENDATIONS

-  Strengthen EWSs with support from NWS, USAID, WMO, IFRC, World Bank Global Facility for Disaster Reduction and Recovery (GFDRR), and UNDRR to cover 100% of the population and reach communities in the outlying states of Angaur, Hatohobei, Sonsorol, Kayangel, and Peleliu.

-  Utilize all communications methods such as mobile and landline phones, sirens, radio, television, social media, and the Chatty Beetle to disseminate early warning and hazard information to the public.

-  Continue to upgrade and maintain EWS infrastructure and equipment to provide 24/7 coverage.

-  Ensure remote islands, migrating populations, and vulnerable populations are considered and incorporated in communication dissemination methods to the public.

SENGAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2

Global Target(s)

A, B, C, G

Guiding Principle(s)

(b), (c), (d), (e), (f), (g), (i), (j)

Sustainable Development Goals (SDG)

9, 11, 13, 17

COMMUNICATION AND INFORMATION MANAGEMENT




F12


FINDINGS


Testing and Population Targeting of Early Warning Messages and Systems: Testing is conducted for some, but not all, hazard early warning systems. Palau is implementing the WMO Climate Risk Early Warning System (CREWS) project, and IOM-USAID is supporting the EWS testing and review process.


Kayangel State Government has an early warning system project underway in coordination with NEMO and Palau NWS to develop and test a community-based EWS. There is a limited capacity of population targeting for early warning messages, and implementation challenges exist, such as addressing the needs of vulnerable populations. Vulnerable groups that need early warning message targeting include women, children, the elderly, persons with special needs, tourists, and communities in outlying island states. As of January 2020, the UNDP EDCR project reported that progress has been made toward strengthening gender-sensitive disaster communication and climate monitoring systems.

RECOMMENDATIONS

- 

Develop protocols for regular EWS testing. Conduct testing of systems in coordination with NEMO, NWS Palau, relevant emergency agencies, and regional/international partners. Update, maintain, and share schedule with all stakeholders.
- 

Conduct community-based EWS, with primary and redundant systems, in all states. Develop state-specific testing schedules. Ensure systems reach the majority of the population, with an emphasis on vulnerable populations and outlying island states.
- 

Ensure continued national and state readiness integrate gender and social inclusion awareness.
- 

Ensure lessons-learned from EWS testings are incorporated into formal national and state DM Communication Interoperability Plans.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2

Global Target(s)

A, B, C, G

Guiding Principle(s)


(b), (c), (d), (e), (f), (g), (i), (j), (l), (m)

Sustainable Development Goals (SDG)


5, 9, 11, 13, 17


Paris Agreement Articles


7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

COMMUNICATION AND INFORMATION MANAGEMENT






F13

FINDINGS

Training and Education for Warning Recipients:
 The WMO CREWS project established a community-based early warning and response mechanism for extreme weather, climate, and disaster risk reduction in Palau and trained 47 men and 38 women in 2020. Almost 800 people from three communities were consulted on the mechanism. Limited community EWS training is conducted in Palau and needs to be expanded to cover all hazards and vulnerable communities. Additional training and education for warning recipients are needed for more communities in Palau. NEMO, PRCS, and the MOE coordinated with the IOM on the PEPER project in 2022 to conduct tsunami tabletop exercises with communities in Melekeok State where tsunami preparedness systems require strengthening. The project also tested emergency response plans, procedures, and communication channels, addressed operational gaps, and reviewed Early Warning Processes to improve EWS.

RECOMMENDATIONS

- 
 Conduct regular community-based EWS training in coordination with NEMO, NWS, PRCS, and state governments to include drills, tabletops, and full-scale exercises that test early warning capabilities and extent of community reach.
- 
 Ensure incorporation of all hazards and special considerations of vulnerable populations into training and education.
- 
 Update communication plans, policies, and SOPs annually to reflect lessons-learned and AARs from training and exercises.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

-

Global Target(s)


A, B, C, G

Guiding Principle(s)


(b), (c), (d), (e), (f), (g), (i), (j)


Sustainable Development Goals (SDG)

5, 9, 11, 13, 17

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

COMMUNICATION AND INFORMATION MANAGEMENT







F14

FINDINGS

Disaster Assessment Capabilities and Resource Capacity and Nationally Authorized Assessment Methodology: NEMO coordinates and conducts disaster assessments for NEC and DEC and uses initial damage assessment (IDA) and comprehensive disaster assessment (CDA) methods. Staff and resource disaster assessment capacity is limited; NEMO receives support from PRCS.

RECOMMENDATIONS

-  Increase training, resources, and funding to sufficiently support NEMO and other DM agencies in conducting assessments.
-  Develop assessment standards for NEMO and NEOC in coordination with PRCS.
-  Develop a NEMO database to incorporate disaster assessments with the Ministry of Public Works and Infrastructure.
-  Update Communication Interoperability Plans, Policies, and SOPs based on assessment findings and lessons-learned.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action


2, 3, 4

Global Target(s)


A, B, C, D, E


Guiding Principle(s)


(b), (e), (f), (i), (j)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

COMMUNICATION AND INFORMATION MANAGEMENT



F15






FINDINGS

Data Collection and Storage, Format, Sharing, and Disaster Database Linked to the National Statistics Agency:

Data is primarily in mixed format throughout the government and country. Data collection methods differ between sectors. PALARIS is responsible for data storage. Data sharing is a challenge within government, public access is limited, and there is a challenge in disseminating data to decision-makers to support DRM, hazard analysis, and preparedness.

The availability of data at the second administrative level is also minimal. Palau ranks 169th out of 187 globally in the Open Data Inventory 2020. PALARIS is responsible for the disaster loss database. Still, it is unknown whether the database exists or is maintained and needs to be linked to the Office of Planning and Statistics.

RECOMMENDATIONS

-  Collect, store, and disseminate all data in digital format and ensure primary and secondary backup methods to secure information.
-  Develop standard protocols and SOPs to improve data collection, storage, and dissemination sharing methods/processes throughout all government levels. Include in Communication Interoperability Plans.
-  Finalize development and implementation of the SDS, a centralized GIS system with the support of PDC and DisasterAWARE.
-  Maintain a disaster loss database managed by PALARIS and link to the Office of Planning and Statistics.
-  Improve public data access and sharing for DM stakeholders and ensure avenues are readily available during disasters and emergencies to improve response coordination among partners.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action

1, 2

Global Target(s)


A, B, C, G


Guiding Principle(s)


(b), (c), (d), (e), (f), (g), (i), (j), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

COMMUNICATION AND INFORMATION MANAGEMENT








F16

FINDINGS

GIS-Based Data Management System to Leverage a Common Operating Picture: Office of Planning and Statistics is responsible for developing the SDS. It is unknown whether the development of the SDS has been finalized and is fully operational. Palau has the Statistics Act but no national data strategy.

RECOMMENDATIONS

- 
 Develop and update standards for data collection and storage.
- 
 Complete the development of the SDS and establish a maintenance plan.
- 
 Conduct training and exercises on the SDS to identify deficiencies and improve performance.
- 
 Develop DM National Data Strategy in coordination with NEMO, PALARIS, and the Office of Planning and Statistics.
- 
 Incorporate findings into Communication Interoperability Plans.

SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

Priorities for Action


1, 2

Global Target(s)


A, B, C, G


Guiding Principle(s)


(b), (c), (d), (e), (f), (g), (i), (j)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

COMMUNICATION AND INFORMATION MANAGEMENT








F17

FINDINGS


Documented Communications Strategy, Media Training, and Pre-scripted Information Bulletins: It is unknown whether a national communications strategy exists, but a formal plan needs to be updated and/or developed. Media training is provided for some DM staff but needs to be offered to all relevant DM staff and leadership. There are pre-scripted information bulletins for some hazards, but they must be developed for all hazards.


RECOMMENDATIONS

- 
 Develop a formal Risk Communication Plan, with NEMO-NWS as the lead agencies. Include communication strategies, protocols, and procedures to disseminate information to the public, government agencies, media, and stakeholders during emergencies.
- 
 Organize and conduct media training for all relevant DM staff and leadership.
- 
 Develop policies to guide and facilitate the tracking and use of publicly generated information through the NEMO-NWS social media accounts.
- 
 Develop pre-scripted messaging that follows a comprehensive all-hazards approach to planning and mitigating disasters with a focus on minimizing risk to the public.
- 
 Include pre-scripted all-hazards messaging as an appendix to the formal Risk Communication Plan.

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity



THE NDPBA

NATIONAL RECOMMENDATIONS

THE NDPBA NATIONAL RECOMMENDATIONS

1

UPDATE THE LEGAL FRAMEWORK TO SUPPORT NATIONAL AND COMMUNITY DISASTER PREPAREDNESS IN PALAU.

- Enact DM legislation that addresses implementation schedules, formalizes declaration processes, and supports DRR activities and requirements.
- Draft and enact DM legislation that addresses all DM phases, guides DM institutions, and acts as the enforcement mechanism for the PNDRMF.
- Prioritize the SDGs in the PNDRMF and PCCP and translate them into policies, plans, and laws.
- Legally set aside funding for DRR preparedness, response, prevention, and mitigation.
- Prioritize legislative action to address capacity shortages and funding.

2

STRENGTHEN THE INSTITUTIONAL CAPACITY OF THE NATIONAL EMERGENCY MANAGEMENT OFFICE (NEMO) AND THE OFFICE OF CLIMATE CHANGE (OCC).

- Consider restructuring NEMO to include separate but coordinating departments for DRR, preparedness, response, and recovery.
- Allocate more human, financial, and technical resources to the various NEMO and OCC services.
- Formalize disaster management competencies within NEMO, including training and education requirements.
- Strengthen regional DM capacity to enable DM activities and response operations to be conducted outside regional offices to support all State DM Coordinators and the State DM Committee.
- Develop and implement State DRM Plans aligned with the PNDRMF in coordination with NEMO.
- Provide training to State DM Coordinators and at the State DM Committee.

NATIONAL RECOMMENDATIONS

3

INCREASE RESILIENCE AT THE SUBNATIONAL, LOCAL, AND COMMUNITY LEVELS.

- Establish legal obligations for state governments in conducting DRR activities.
- Conduct community and state-level hazard risk assessments to improve socio-economic capacity to adapt to climate change impacts.
- Provide funding and encourage cross-training across all states and local hamlets.
- Promote and implement the use of the Community-Based Disaster Risk Reduction Toolkit.

4

LEVERAGE EXISTING PARTNERSHIPS WITH INTERNATIONAL AID ORGANIZATIONS, INTERNATIONAL/FOREIGN FUNDING AGENCIES, DONORS, AND THE US MILITARY TO ENHANCE REGIONAL CAPACITY.

- Develop regional-level readiness, response, and recovery plans and test them through IFRC Asia Pacific Regional Office and PRCS, USAID BHA, IOM, UNDP, ADB, and World Bank.

5

DEVELOP A FORMAL MECHANISM TO ASSESS PROGRESS MADE TOWARD ACHIEVEMENT OF THE DRR (SENDAI FRAMEWORK), CLIMATE ADAPTATION (PARIS AGREEMENT), AND UN SDGs.

- Establish formal ownership for managing the implementation of DRR per the Sendai Framework and SDGs.
- Fully integrate all offices that manage the implementation of DRR/Sendai, CCA, and SDGs.
- Draft and submit an updated Sendai National Progress report and 2nd Voluntary National Review of UN SDGs and update the Palau Climate Change Policy.
- Require participation from all affected ministries.
- Reassess progress made toward DRR and resilience goals annually.

6

UPDATE THE PALAU NATIONAL DISASTER RISK MANAGEMENT FRAMEWORK (PNDRM) AND THE PALAU CLIMATE CHANGE POLICY (PCCP).

- Establish requirements for risk and vulnerability assessments in DM and DRR planning efforts at state and national levels.
- Use hazard-specific and multi-hazard scenarios, including storm surge, sea-level rise, tropical cyclones, tsunamis, floods, and landslides.
- Leverage the findings of this study on hazards, vulnerabilities, and risks affecting the population, infrastructure, environment, ecosystems, and economy of Palau.
- Leverage a GIS-based mapping system such as PDC's DisasterAWARE® platform for data-driven and scenario-based planning.
- Develop exercise and training programs to test the plan.
- Complete state-level risk assessments and state climate adaptation plans and include them in the updated PCCP.
- Include the PDC-CFE-DM Climate Change Impact Analysis project exposure analysis in the updated PCCP.
- Conduct coastal inundation hazard exposure analysis using new LiDAR data from the UNDP project in collaboration with PALARIS, PDC, and Pacific Islands Ocean Observing System (PACIOOS).

7

DEVELOP RESILIENCE/COOP/COG PLANS FOR THE COUNTRY'S CRITICAL INFRASTRUCTURE SECTORS AND INTEGRATE PLANS ACROSS SECTORS.

- Prioritize sectoral plans for: water, energy, food, agriculture and fisheries, the environment, transportation (ports and roads), healthcare, and telecommunications.
- Consider the impacts of climate change (e.g., increased severity of droughts and floods) in sectoral plans.
- Include in the sectoral plans the main hazards affecting Palau and strategies to mitigate those hazards.
- Require the testing and training of sectoral plans.
- Coordinate the collection, analysis, and reporting of climate, environmental, and economic information across sectors to formulate integrated solutions for climate change adaptation.
- Integrate the Palau Climate Change Policy (PCCP) goals into the sectoral plans in line with financial opportunities and donors.
- Plan resiliency for the tourism sector, tying it to water, energy, transportation, and telecommunications sectors.
- Include factors such as economic growth, infrastructure development and expansion, and dependencies on international aid.

NATIONAL RECOMMENDATIONS

8

BUILD HUMAN RESOURCE CAPACITY ACROSS THE NATION TO SUPPORT DM EFFORTS.

- Develop a national training and exercise program within NEMO for disaster readiness, response, and recovery for all the key hazards described in this analysis.
- Create long-term training and exercise plans and develop and support training and exercises.
- Develop a volunteer fire and rescue service with funding and technical assistance from international and military partners and NGOs.
- Hire and train staff dedicated to civil protection planning with minimum training requirements for all DM staff.
- Create, upgrade, and maintain rosters of trained professionals for critical post-disaster needs.
- Conduct training to build capacity in conducting damage and needs assessments.
- Leverage existing NGO, private sector, and volunteer stakeholder agreements to address primary, secondary, and tertiary surge staffing needs.

9

IMPLEMENT A STANDARD INCIDENT MANAGEMENT SYSTEM AT ALL LEVELS OF GOVERNMENT.

- Strengthen the NEMO-NEOC incident management system to support incident command posts at the state level with improved coordination and operations.
- Update DM plans to include organizational ICS systems at all levels of government to improve disaster preparedness, response, and recovery efforts.
- Increase ICS specific command positions and ESF staffing levels to identify primary, secondary, and tertiary support for continued and prolonged operations.

10

DEVELOP/UPGRADE EARLY WARNING SYSTEMS FOR HYDROMETEOROLOGICAL AND CLIMATE-RELATED HAZARD EVENTS.

- Develop and upgrade EWSs with support from international development partners to cover all hazards and the entire population and reach vulnerable communities in the outlying island states.
- Continue to upgrade and maintain EWS infrastructure and equipment.
- Conduct regular community EWS training for all hazards and vulnerable communities in coordination with NEMO, NWS, PRCS, and all state governments.

11

FULLY ENGAGE THE PRIVATE SECTOR, NGOS, ACADEMIA, AND MEDIA IN THE GOVERNMENT DRM FRAMEWORK.

- Develop procedures for the provision, acceptance, and distribution of support.
- Establish formal assistance agreements with the private sector, including international humanitarian and development assistance partners, banks, I/NGOs, CBOs, and others to support DM efforts. Develop a matrix of agreements and capabilities for quick reference.
- Expand the participation of the public, NEMO, PRCS, Palau Community College, women, and local communities in planning and management, accounting for approaches and methods of gender equity.
- Expand the NEC to include all the critical infrastructure sectors and the private sector partners.
- Establish and implement PPP Law to engage private sector partners in capacity building.
- Establish a knowledge-sharing information platform on mitigation and adaptation.

12

EXPLORE STRATEGIES TO SUPPORT THE CYCLICAL RESERVE AND CLIMATE RESILIENCE FUND.

- Revise the legislation to provision programmatic budgetary mechanisms for DRR and response and recovery.
- Provision of recurrent funding (even if donor funds) with guidelines for access and use.
- Provision transfer mechanisms to subnational level governments.
- Provision of training, education, and capacity development funds.

13

DEVELOP A NATIONAL RISK TRANSFER STRATEGY FOR NATURAL HAZARDS, INCLUDING NATIONAL AND HOUSEHOLD INSURANCE PROGRAMS.

NATIONAL RECOMMENDATIONS

14

REQUIRE INVENTORIES OF DISASTER WAREHOUSES AND MAINTAIN INVENTORIES LOCALLY AT NEMO, PRCS, PALAU INTERNATIONAL AIRPORT, AND PORT OF KOROR.

- Establish a program to develop and maintain pre-disaster commodities contracts with DM stakeholders, including the private sector, to include construction, trucking, oil, shipping, and storage companies.
- Conduct nationwide training for warehouse logistics management and commodities tracking.
- Create and exercise commodity distribution plans.
- Implement a centralized digital tracking system to maintain, record, and update warehouse resources and equipment inventory and allow shared access to partners.

15

DEVELOP A NATIONWIDE EVACUATION AND SHELTER PLAN.

- Identify and develop an inventory (database) of multi-use facilities that can serve as EOC, community centers, shelters, and warehouses. Include public facilities such as churches, sports centers, etc.
- Document suitability factors of designated facilities – including safety and security, elevation from flood zones, and access to WASH and stockpiles.
- Develop and implement evacuation plans and connect them to the shelter plan.
- Tie the early warning systems and protocols to evacuation and shelter plans.
- Factor in the number of at-risk people, identification of flood, storm surge, and cyclone areas (referencing the NDPBA RVA and DisasterAWARE Pro® platform), and the coastal areas and outlying islands with available spaces for temporary shelters or public facilities.

16

STANDARDIZE DATA COLLECTION, MANAGEMENT, AND DISSEMINATION IN SUPPORT OF DM AND DRM.

- Develop formal Communication Interoperability Plans at the national and subnational levels to coordinate policies and SOPs relating to data collection, management, and dissemination.
- Strengthen the development and implementation of Palau's OPS Statistics Dissemination System (SDS) to increase data management and sharing among stakeholders and decision-makers.
- Standardize, digitize, and consolidate the datasets from PALARIS and NEMO post-disaster assessment surveys, hazard zones, and all other hazard-related statistics at national and subnational levels.
- Assign PALARIS as the lead agency for maintaining, managing, and monitoring disaster databases, including dissemination and advocacy for its definition, use, and institutionalization.
- Develop, maintain, and use a GIS-based risk assessment, management, and decision-making tool (such as DisasterAWARE®) to complement the OPS SDS and the PALARIS centralized GIS data platform under development.

17

INCREASE INFORMATION ACCESS AND SHARING AMONGST ALL DM STAKEHOLDERS.

- Designate a GIS-based system (such as DisasterAWARE®) as the COP platform.
- Complete the development of SDS and establish a maintenance plan.
- Develop DM National Data Strategy in coordination with NEMO, PALARIS, and the Office of Planning and Statistics.
- Incorporate standards for data collection, storage, and dissemination into formal Communication Interoperability Plans to coordinate information access and sharing throughout the country.
- Collect, store, and disseminate all data in digital format, ensuring a primary and secondary backup of information.
- Improve data dissemination and sharing practices at all levels of government and improve public data access for DM stakeholders.

18

ENGAGE THE PUBLIC IN EFFORTS TO REDUCE VULNERABILITY AND INCREASE COPING CAPACITY.

- Periodically collect political approval ratings/assess household preparedness levels to determine core DRR/DM needs and gaps within communities.
- Periodically conduct surveys to assess the DRM/DRR needs of vulnerable populations within each state.
- Promote environmental stewardship and community readiness through education campaigns.
- Develop curricula for K-12 and through the leadership of Palau Community College and NEMO to educate the children and the public.
- Establish political and public engagement initiatives by establishing pathways for legislative activities and targeted outreach campaigns for volunteer recruitment.
- Engage the public in first response and readiness through training campaigns headed by the PRCS and other local and international NGOs.

NATIONAL RECOMMENDATIONS

19

REDUCE MARGINALIZATION AND PROMOTE GENDER EQUALITY; ACTIVELY ENGAGE MARGINALIZED GROUPS AND PROMOTE POLICIES TO SUPPORT ECONOMIC AND EDUCATIONAL OPPORTUNITIES FOR WOMEN AND OTHER UNDERSERVED COMMUNITIES.

20

DEVELOP SUSTAINABLE LAND USE PLANNING POLICIES BY TAKING INTO CONSIDERATION PRIMARY HAZARDS.

- Develop zoning and sustainable land use planning policies focusing on climate change, sea level rise, coastal inundation, drought, and flood risks.
- Develop and enforce buildings codes within the housing and business sectors to strengthen critical infrastructure (priority).

21

UPGRADE PUBLIC HEALTH AND MEDICAL FACILITIES AND INTEGRATE THEM INTO THE NATIONAL DISASTER MANAGEMENT SYSTEM.

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5-YEAR PLAN



PALAU NATIONAL RECOMMENDATIONS

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
RECOMMENDATION 1	RECOMMENDATION 7			
Update the legal framework to support national and community disaster preparedness in Palau.	Develop resilience/COOP/COG plans for the country's critical infrastructure sectors and integrate plans across sectors.			
RECOMMENDATION 2				
Strengthen the institutional capacity of the National Emergency Management Office (NEMO) and the Office of Climate Change (OCC).				
	RECOMMENDATION 3			
	Increase resilience and resident capabilities at the subnational, local, and community levels.			
	RECOMMENDATION 4			
	Leverage existing partnerships with international aid organizations, international/foreign funding agencies, donors, and the US military to develop regional capacity building.			
	RECOMMENDATION 5			
	Develop a formal mechanism to assess progress made toward achievement of the DRR (Sendai Framework), Climate Adaptation (Paris Agreement), and UN SDGs.			
	RECOMMENDATION 6			
	Update the Palau National Disaster Risk Management Framework (PNDRM) and the Palau Climate Change Policy (PCCP).			
RECOMMENDATION 8				
Build human resource capacity across the nation to support DM efforts.				
RECOMMENDATION 9				
Fully implement a standard incident management system at all levels of government.				
RECOMMENDATION 10				
Develop/upgrade early warning systems for hydrometeorological and climate-related hazard events.				

5-YEAR PLAN



PALAU NATIONAL RECOMMENDATIONS

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
	RECOMMENDATION 11			
	Fully engage the private sector, NGOs, academia, and media in the government DRM framework.			
		RECOMMENDATION 12		
		Explore strategies to support the Cyclical Reserve and Climate Resilience Fund.		
		RECOMMENDATION 13		
		Develop a national risk transfer strategy for natural hazards, including national and household-level insurance programs.		
RECOMMENDATION 14				
Require inventories of disaster warehouses and maintain inventories locally and at NEMO, PRCS, Palau International Airport, and Port of Koror.				
RECOMMENDATION 15		RECOMMENDATION 20		
Develop a nationwide evacuation and shelter plan.		Develop sustainable land use planning policies by taking into consideration primary hazards.		
	RECOMMENDATION 16			
	Standardize data collection, management, and dissemination in support of DM and DRM.			
RECOMMENDATION 17				
Increase information access and sharing among all DM stakeholders.				
RECOMMENDATION 18				
Engage the public in efforts to reduce vulnerability and increase coping capacity.				
	RECOMMENDATION 19			
	Reduce marginalization and promote gender equality; actively engage marginalized groups and promote policies to support economic and educational opportunities for women and other underserved communities.			
	RECOMMENDATION 21			
	Upgrade public health and medical facilities and integrate them into the national disaster management system.			



NDPBA

PALAU RISK PROFILES

SUBNATIONAL ASSESSMENT RESULTS

Download Here:

<https://www.pdc.org/wp-content/uploads/NDPBA-PLW-Subnational-Profiles-Merged.pdf>

PALAU RISK PROFILES

Subnational risk profiles were developed to provide a more detailed understanding of risk in Palau. These are included separately from this report (linked below), and include drivers of vulnerability, coping capacity, and resilience; a comparison of each state within country as a whole; and a set of strategic, data-driven recommendations.



REFERENCES

BIBLIOGRAPHY

1. ADB. (2021). Asian Development Bank. Pacific Approach 2021-2025. <https://www.adb.org/documents/pacific-approach-2021-2025>
2. ADB. (2021). Asian Development Bank. Review of Opportunities for the Pacific WASH Sector. <https://www.adb.org/publications/opportunities-pacific-wash-sector>
3. ADB. (2019). Asian Development Bank. Pacific Finance Sector Briefs-Palau. <https://www.adb.org/sites/default/files/publication/530251/pacific-finance-sector-palau.pdf>
4. ADB. (2020). Asian Development Bank Member Factsheet-Palau. <https://www.adb.org/sites/default/files/publication/27787/pal-2020.pdf>
5. ADB. (2021). Asian Development Bank. ADB's Work in Palau-Microfinancing Program. <https://www.adb.org/countries/palau/overview>
6. ADB. (2018). Asian Development Bank. Proposed Policy-Based Loan Republic of Palau: Disaster Resilience Program. <https://www.adb.org/sites/default/files/project-documents/52018/52018-001-rrp-en.pdf>
7. Anderson, C. L. (2012). Analysis of Integrating Disaster Risk Reduction and Climate Change Adaptation in the US Pacific Islands and Freely Associated States. <https://www.pacificrisa.org/wp-content/uploads/2013/02/Anderson-Analysis-of-Integrating-Disaster-Risk-Reduction-and-Climate-Change-Adaptation.pdf>
8. Anderson, C. L. (2012). Overview of Climate Risk Reduction in the US Pacific Islands Freely Associated States. <https://www.pacificrisa.org/wp-content/uploads/2013/02/Anderson-Analysis-of-Integrating-Disaster-Risk-Reduction-and-Climate-Change-Adaptation.pdf>
9. BANGO. (2022). Belau Association of Non-Governmental Organizations website. <https://bango-palau.business.site/>
10. BOM. (2010). Australian Government Bureau of Meteorology. SOPAC Member Countries National Capacity Assessment: Tsunami Warning and Mitigation Systems, Palau, Koror 11 – 14 August 2009. http://www.bom.gov.au/tsunami/assessments/pdf/Palau_Full_Report.pdf
11. BOM, & CSIRO. (2014). Australian Bureau of Meteorology and Commonwealth Scientific and Industrial Research Organisation. Climate Variability, Extremes and Change in the Western Tropical Pacific: New Science and Updated Country Reports-Chapter 10: Palau. https://www.pacificclimatechange.net/sites/default/files/documents/PACCSAP_CountryReports2014_Ch10Palau_WEB_140710.pdf
12. Bopha Catastrophe Relief Committee. (2013). Bopha Catastrophe Relief Committee Final Report. <http://palaugov.pw/wp-content/uploads/2017/06/Typhoon-Bopha-Catastrophe-Relief-Committee-Final-Report.pdf>
13. Breanna Gossett. (2021). United States Air Force. Andersen AFB ignites partnerships with Palau. USAF. <https://www.andersen.af.mil/News/Features/Article/2624574/andersen-afb-ignites-partnerships-with-palau/>
14. Carreon, B. (2021, September 28). US and Taiwan ready to provide disaster support to Palau. Island Times Palau. <https://islandtimes.org/us-taiwan-ready-to-provide-disaster-support-to-palau/>
15. Carreon, B. (2021). UNDP, Japan hands over retrofitted national emergency operations center. Island Times Palau. <https://islandtimes.org/undp-japan-hands-over-retrofitted-national-emergency-operations-center/>
16. CFE-DMHA. (2020). Center for Excellence in Disaster Management and Humanitarian Assistance. Palau Disaster Management Reference Handbook (Issue January). <https://www.cfe-dmha.org/LinkClick.aspx?fileticket=BY6k6Au4FgU%3D&portalid=0>

REFERENCES

BIBLIOGRAPHY

17. Coral Reef Research Foundation. (2014). A Summary of Palau's Typhoon History (1945-2013). <https://coralreefpalau.org>
18. EU, & SPC. (2020). European Union and the Secretariat of the Pacific Community. Palau Tsunami Brochure (p. 2). <http://palaugov.pw/wp-content/uploads/2017/06/Tsunami-Brochure.pdf>
19. EU, SPC, & ROP. (2016). European Union and the Secretariat of the Pacific Community and the Government of the Republic of Palau. Palau Community Based Disaster Risk Reduction Toolkit. <https://bsrp.gsd.spc.int/wp-content/uploads/2018/09/Palau-CBDRR-for-web-Copy.pdf>
20. Global Partnership for Effective Cooperation. (2018). Palau. <https://www.effectivecooperation.org/content/country-and-territory-monitoring-profiles-palau>
21. Global Partnership for Effective Cooperation. (2016). Monitoring Profile Palau (Issue October). <https://www.effectivecooperation.org/content/country-and-territory-monitoring-profiles-palau>
22. Globe Newswire. (2018, July 16). New Public-Private Partnership to Transform Island Grids on the Front Lines of Climate Change. <https://www.globenewswire.com/news-release/2018/07/16/1537710/0/en/New-Public-Private-Partnership-to-Transform-Island-Grids-on-the-Front-Lines-of-Climate-Change.html>
23. Gonelevu, M., Buggy, L., Matsutaro, X. E., & Oiph, K. (2018). Pacific Community, Government of Palau, Secretariat for the Pacific Regional Environment Programme; USAID. Climate Change Data and Information Stocktake-Republic of Palau Final Report (Issue January). http://ccprojects.gsd.spc.int/wp-content/uploads/2018/05/Climate-Change-Data-and-Information-Stocktake_Republic-of-Palau_Jan-2018.pdf
24. Government of Palau. (2022). Republic of Palau Economic and Fiscal Update FY 2022. <https://www.palaugov.pw/wp-content/uploads/2022/06/Republic-of-Palau-Economic-and-Fiscal-Update-FY-2022.pdf>
25. Government of Palau. (2019). 1st Voluntary Review on the SDGs-Republic of Palau. https://sustainabledevelopment.un.org/content/documents/23606VNR_FINAL_21June2019_UN_Version.pdf
26. Government of Palau. (2013). General Data Dissemination System-Palau Office of Planning and Statistics. <https://www.palaugov.pw/wp-content/uploads/2013/11/1.-PALAU-Office-of-Planning-and-Statistics.pdf>
27. Government of Palau. (2021). Employee Self Service, Employment Opportunities.
28. Government of Palau. (1997). National Civil Service System. Rules and Regulations Public Service System. <https://www.palaugov.pw/wp-content/uploads/2019/05/Civil-Service-Rules-Regulations.pdf>
29. Government of Palau. (2019). The Fiscal Year 2020 Budget Act. http://ropssa.pw/download/ss_laws/rppl_10_42.pdf
30. Government of Palau. (2016). Drought Report Republic of Palau (Issue June). <http://palaugov.pw/wp-content/uploads/2017/06/Typhoon-Brochure.pdf>
31. Government of Palau. (2016). National Disaster Risk Management Framework (Amended 2016). http://palaugov.pw/wp-content/uploads/2017/08/FINALIZED-NDRMF_2016.pdf
32. Government of Palau. (2010). National Spill Contingency Plan "NATPLAN" for The Republic of Palau (Issue November). https://www.sprep.org/attachments/Palau_Draft_NATPLAN_Nov_2010.doc.pdf
33. Government of Palau. (2015). Palau-Climate Change Policy for Climate and Disaster Resilient Low Emissions Development. http://climatechange.palaugov.pw/wanted/Palau_CC_Policy_UPDATED_FINAL_reduced_size.pdf

REFERENCES

BIBLIOGRAPHY

34. Government of Palau. (1979). Constitution of the Republic of Palau (p. 20). <http://www.unesco.org/education/edurights/media/docs/c4679995d1bddd3ef509ddc66c3cb38e80d492fe.pdf>
35. Government of Palau. (2022). 2020 Census of Population and Housing of the Republic of Palau.
36. Government of Palau. (2021). The Fiscal Year 2022 Budget Act. http://ropssa.pw/download/ss_laws/rppl_11_12_riop_fy22_budget.pdf
37. Government of Palau -Ministry of Finance. (2021). Bureau of Budget and Planning. <https://www.palau.gov.pw/executive-branch/ministries/finance/budgetandplanning/>
38. Government of Palau, & UNDP. (2007). Government of the Republic of Palau; United Nations Development Programme; Palau Automated Land and Resources Information System (PALARIS). Capacity Building for Sustainable Land Management for Mitigation of Land Degradation. https://info.undp.org/docs/pdc/Documents/FJI/00040586_ROP_SLM_-_Prodoc.pdf
39. Government of Palau-OPS. (2017). Ministry of Finance Bureau of Budget and Planning Office of Planning and Statistics. Palau Environment Statistics and System of Environment-Economic Accounting (SEEA) - National Assessment Report (Issue July). <https://www.palau.gov.pw/wp-content/uploads/2017/08/Palau-National-Assessment-Report.pdf>
40. Government of the US and the Government of Palau. (2010). Agreement Between the Government of the United States of America and the Government of the Republic of Palau Following the Compact of Free Association Section 432 Review. <https://www.doi.gov/sites/doi.gov/files/uploads/us-palau-compact-review-agreement-9-3-2010.pdf>
41. Government of Palau. (2022). NEMO Website. <https://www.palau.gov.pw/the-national-emergency-management-office/>
42. Graham, J. (2002). Report To the South Pacific Applied Geoscience Commission (SOPAC) Palau Fire and Rescue Service Comprehensive Review Report Palau Fire and Rescue Service Report Outline. <https://pacific-data.sprep.org/dataset/report-sopac-palau-fire-and-rescue-service-comprehensive-review-report/resource/4ca414dd>
43. Green Climate Fund. (2018). Concept Note: Strengthened Weather and Climate Services for Resilient Development for Pacific Islands. <https://www.greenclimate.fund/document/strengthened-weather-and-climate-services-resilient-development-pacific-islands>
44. IFRC. (2021). International Federation of the Red Cross and Red Crescent Societies. Operation Update Report Republic of Palau: Typhoon Surigae. [https://reliefweb.int/sites/reliefweb.int/files/resources/Republic of Palau - Typhoon Surigae - Operation Update Report n° 1%2C DREF n° MDRPW001.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/Republic%20of%20Palau%20-%20Typhoon%20Surigae%20-%20Operation%20Update%20Report%20n%C3%B0%201%2C%20DREF%20n%C3%B0%20MDRPW001.pdf)
45. IFRC. (2021). International Federation of Red Cross and Red Crescent Societies. International Disaster Response Law in the Pacific-Palau. <https://www.rcrc-resilience-southeastasia.org/disaster-law/international-disaster-response-law-in-the-pacific/country-profiles/palau/>
46. IFRC. (2019). International Federation of Red Cross and Red Crescent Societies. Risk Governance for Resilient Development in the Pacific Legislating and Policy Making for Governance Technical Working Group (Issue October).
47. IMO. (2022). International Maritime Organization Membership. <https://www.imo.org/en/OurWork/ERO/Pages/MemberStates.aspx>
48. IOM. (2022, September 29). International Organization for Migration. IOM and Partners Kick Off Program to

REFERENCES

BIBLIOGRAPHY

- Strengthen Disaster Preparedness and Response in the Republic of Palau. <https://www.iom.int/news/iom-and-partners-kick-program-strengthen-disaster-preparedness-and-response-republic-palau>
49. IOM. (2022, August 23). International Organization for Migration. IOM Supports Palau to Build Community Resilience and Preparedness to Natural Hazards. <https://www.iom.int/news/iom-supports-palau-build-community-resilience-and-preparedness-natural-hazards>
 50. IOM. (2019). International Organization for Migration Palau Humanitarian Compendium. <https://humanitariancompendium.iom.int/appeals/palau-2019>
 51. IOM. (2018). International Organization for Migration. The Republic of Palau IOM Country Strategy 2017-2020. https://publications.iom.int/system/files/pdf/country_strategy_palau.pdf
 52. IRENA. (2020). International Renewable Energy Agency. Republic of Palau Renewable Energy Roadmap 2022-2050, Abu Dhabi, <https://www.irena.org/publications/2022/Jun/Republic-of-Palau-Renewable-Energy-Roadmap>
 53. Island Times Palau. (2021, November 26). NEMO working on installation of emergency multi-hazard siren system. <https://islandtimes.org/nemo-working-on-installation-of-emergency-multi-hazard-siren-system/>
 54. Island Times Palau. (2021, December 3). Japan Grants \$404,828 to the PRCS for a New Warehouse and Training Center. <https://islandtimes.org/japan-grants-404828-to-the-prcs-for-a-new-warehouse-and-training-center/>
 55. Island Times Palau. (2021, December 10). IOM and USAID support early warning process review workshop in Palau. <https://islandtimes.org/49212-2/>
 56. Island Times Palau. (2018, November 16). Kayangel Early Warning System Project okayed. <https://islandtimes.org/kayangel-early-warning-system-project-okayed/>
 57. Island Times Palau. (2018, August 7). Training held to boost Palau's disaster resilience, recovery. <https://islandtimes.org/training-held-to-boost-palau-disaster-resilience-recovery>
 58. Island Times Palau. (2021, August 13). Evacuation Shelters Management Trainings in Ngchesar and Aimeliik. <https://islandtimes.org/evacuation-shelters-management-trainings-in-ngchesar-and-aimeliik/>
 59. Island Times Palau. (2021, May 11). IOM and USAID provide preposition items to NEMO. <https://islandtimes.org/iom-usaid-provide-preposition-items-to-nemo/>
 60. Island Times Palau. (2021). Palau Red Cross Society 13APR21 Update on DM Activities. <https://islandtimes.org/palau-red-cross-society/>
 61. Islands Times Palau. (2021, September 14). Evacuation Shelters Management Trainings in Ngeremlengui. <https://islandtimes.org/evacuation-shelters-management-trainings-in-ngeremlengui/>
 62. Miles, W., Grecni, Z., Matsutaro, E., Colin, P., Keener, V., & Golbuu, Y. (2020). Climate Change in Palau: Indicators and Considerations for Key Sectors. Report for the Pacific Islands Regional Climate Assessment. Honolulu, HI: East-West Center. <https://doi.org/10.5281/zenodo.4124259>
 63. Ministry of Health. (2009). JTF-HD Data Collection Trip Report Subject Matter Expert Exchange (SMEE) Pandemic Influenza Koror, Republic of Palau 27-29 April 2009 Ministry of Health (Issue April).
 64. MOF. (2016). Republic of Palau Ministry of Finance. MOF Drought Report Budget 2016. <https://palagov.pw/wp-content/uploads/2017/06/MOF-Report-Budget.pdf>

REFERENCES

BIBLIOGRAPHY

65. MOF- Bureau of Budget and Planning. (2016). Republic of Palau Ministry of Finance. 2019 Statistical Yearbook. <http://www.palaugov.pw/wp-content/uploads/2020/07/2019-Statistical-Yearbook.pdf>
66. Natoli, T. (2020). IFRC; Irish Research Council; University College Cork, Ireland School of Law. Law and Policies that Protect the Most Vulnerable Against Climate-Related Disaster Risks: Findings and Lessons Learned from Pacific Island Countries. https://media.ifrc.org/ifrc/wp-content/uploads/sites/5/2020/05/PICs-Full-Report-_Natoli-2020.pdf
67. NEC. (2013). Palau National Emergency Committee. Super Typhoon Haiyan Immediate and Near Term Response Plan. <http://palaugov.pw/wp-content/uploads/2017/06/Typhoon-Haiyan-Immediate-Near-Term-Response-Plan.pdf>
68. NEC. (2020). Palau National Emergency Management Office. Palau Marine Advisory System. <http://palaugov.pw/wp-content/uploads/2017/06/Marine-Advisory-System-Brochure.pdf>
69. NEMO. (2017, August 4). Palau National Emergency Management Office. NEMO Launches Community-Based Disaster Risk Reduction Training Program. <https://www.palaugov.pw/nemo-launches-community-based-disaster-risk-reduction-training-program/>
70. NEMO. (2013). Palau National Emergency Management Office. National Progress Report on the Implementation of the Hyogo Framework for Action (2011-2013). https://www.preventionweb.net/files/28740_plw_NationalHFAprogress_2011-13.pdf
71. NEPC. (2019). Palau National Environmental Protection Council. 2019 State of the Environment Report Republic of Palau (Issue May). http://climatechange.palaugov.pw/sites/default/files/documents/2019-Palau-StateOfEnvironment_lowresolution%282%29.pdf
72. Ngemaes, M. (2019). National Weather Service modernization - Presentation slides (Issue August 7). [https://doi.org/10.1016/S0967-0653\(98\)80158-0](https://doi.org/10.1016/S0967-0653(98)80158-0)
73. NOAA-NWS. (2015). El Niño and its Impacts on the Republic of the Republic of Palau-Drought Preparedness (p. 2). https://www.weather.gov/media/peac/one_pagers/El_Nino_Impacts_on_Palau.pdf
74. NOAA-NWS. (2015). El Niño and its Impacts on the Republic of Palau. https://www.pacificrisa.org/wp-content/uploads/2015/11/Pacific-Region-EL-NINO-Fact-Sheet_Palau_2015-FINAL.pdf
75. Office of the President. (2017). Republic of Palau Executive Order No. 397: Repealing the 2010 Palau National Disaster Risk Management Framework (Executive Order No. 287), and Adopting the 2016 Palau National Disaster and Risk Management Framework (p. 2). <https://www.palaugov.pw/documents/executive-order-no-397-adopting-the-2016-palau-national-disaster-and-risk-management-framework/>
76. Office of the President. (2015). Republic of Palau Intended Nationally Determined Contribution (Issue November). [https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Palau First/Palau_INDC.Final Copy.pdf](https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Palau%20First/Palau_INDC.Final%20Copy.pdf)
77. Office of the President of Palau. (2021). Office of the President of Palau Twitter. <https://twitter.com/palaupresident>
78. Office of the President of Palau. (2021). Office of the President of Palau Facebook. <https://www.facebook.com/PalauPresident/>
79. Open Data Watch. (2020). Palau Open Data Inventory Profile 2020. <https://odin.opendatawatch.com/ReportCreator/ExportCountryReportUpdated/PLW/2020>
80. OPS. (2022). Office of Planning and Statistics. 2020 Census of Population and Housing of the Republic of Palau,

REFERENCES

BIBLIOGRAPHY

- Volume I: Basic Tables: Vol. I. <https://www.palau.gov.pw/executive-branch/ministries/finance/budgetandplanning/census-of-population-and-housing/>
81. PACLII. (1986). Pacific Islands Legal Information Institute. Palau National Code. http://www.paclii.org/pw/legis/consol_act/gpt1262/
 82. Palau National Weather Service. (2021). Palau National Weather Service Facebook. <https://www.facebook.com/wsopalau>
 83. Palau National Weather Service. (2020). Typhoon and Tropical Storm Safety Tips. <http://palau.gov.pw/wp-content/uploads/2017/06/Typhoon-Brochure.pdf>
 84. Palau National Weather Service, & NEMO. (2017). National Emergency Management Office Special Weather Statement. <https://www.palau.gov.pw/special-weather-statement-october-17/>
 85. Palau Office of Climate Change. (2022). Palau Office of Climate Change website. <http://climatechange.palau.gov.pw/>
 86. Palau Red Cross Society. (2020). Annual Report 2020. <http://palauredcross.org/pdf/PRCS-Annual-Report-2020.pdf>
 87. Palau Red Cross Society. (2018). Palau Red Cross Society Strategic Plan 2018-2022. http://palauredcross.org/pdf/PRCS-2018-2022-Strategic-Plan_17Apr2018.pdf
 88. PCC. (2022). Palau Community College. <https://pcc.palau.edu/>
 89. PCC. (2018). Palau Community College. Emergency Operations Plan (Issue September). <https://pcc.palau.edu/wp-content/uploads/2019/08/Emergency-Operational-Plan.pdf>
 90. PCRIC. (2021). Pacific Catastrophe Risk Insurance Corporation website. <https://pcric.org/>
 91. PDC. (2008). Pacific Disaster Center. Todd Bosse, Trip Report: JTF-HD Palau SMEE.
 92. PIFS, SPC, SPREP, & UNDRR. (2016). Pacific Islands Forum Secretariat; Secretariat of the Pacific Community; Secretariat of the Pacific Regional Environment Programme; United Nations Office for Disaster Risk Reduction. Framework for Resilient Development in the Pacific-An Integrated Approach. http://gsd.spc.int/frdp/assets/FRDP_2016_Resilient_Dev_pacific.pdf
 93. Polhemus, D. A. (2017). U.S. Fish & Wildlife Service. Drought in the U.S. - Affiliated Pacific Islands: A Multi-level Assessment. <https://doi.org/10.21429/C9ZS74>
 94. Potter, L. (2021). Decentralized Governance and Disaster Displacement in Pacific Island Microstates: A Case Study of Palau [University of New South Wales]. <https://unsworks.unsw.edu.au/entities/publication/71c2645a-16a7-4264-a9aa-703bea062867>
 95. Povak, N. A., Giardina, C. P., Hessburg, P. F., Reynolds, K. M., Salter, R. B., Heider, C., Salminen, E., & MacKenzie, R. (2020). A decision support tool for the conservation of tropical forest and nearshore environments on Babeldaob Island, Palau. *Forest Ecology and Management*, 476(118480), 17. <https://doi.org/10.1016/j.foreco.2020.118480>
 96. PRCS. (2018). Palau Red Cross Society 2018 Annual Report. http://palauredcross.org/pdf/PRCS-2018-Annual-Report_9Jan2019.pdf
 97. Reklai, L. (n.d.). NEC adds two new members. *Island Times Palau*. Retrieved September 14, 2021, from <https://islandtimes.org/nec-adds-two-new-members/>

REFERENCES

BIBLIOGRAPHY

98. Republic of Palau. (2017). Palau Consolidated Legislation, Title 36 Public Planning and Development, Chapter 5 Statistics Act. Pacific Islands Legal Information Institute. http://www.pacii.org/pw/legis/consol_act/ppadt36333/
99. ROP Bureau of Budget and Planning Ministry of Finance. (2018). 2018 Statistical Yearbook. <http://www.palaugov.pw/wp-content/uploads/2020/07/2019-Statistical-Yearbook.pdf>
100. ROP FIC. (2021). Republic of Palau Financial Institutions Commission website. <https://www.ropfic.org/>
101. ROP NEOC. (2016). ROP National Emergency Operations Center-Standard Operating Procedures. <https://www.palaugov.pw/wp-content/uploads/2017/06/ROP-NEOC.pdf>
102. ROP Senate. (2018). Palau Fiscal Year 2019 Budget Act. Senate. <https://www.palaugov.pw/wp-content/uploads/2018/10/RPPL-No.-10-29-re.-The-Fiscal-Year-2019-Budget-Act.pdf>
103. SAGRIC International. (1996). Palau 2020 National Master Development Plan: Issues, Options and Strategies for Palau's Development -The Foundation for Development Final Report - prepared for The Republic of Palau through a project jointly funded by UNDP and US DoI.
104. SPC. (2021, February 11). Secretariat of the Pacific Community. Palau upholds gender equality, social inclusion in disaster risk management. <https://www.spc.int/updates/news/media-release/2021/02/palau-upholds-gender-equality-social-inclusion-in-disaster-risk>
105. SPC. (2015). Secretariat of the Pacific Community. Republic of Palau National Tsunami Support Plan. <https://www.palaugov.pw/wp-content/uploads/2017/06/Palau-National-Tsunami-Support-Plan.pdf>
106. SPC, EU, & USP. (2015). Secretariat of the Pacific Community; European Union; University of the South Pacific. Republic of Palau Training Needs and Gap Analysis. http://prdrse4all.spc.int/sites/default/files/palau_0.pdf
107. SPC-SOPAC, World Bank-GFDRR, & ADB. (2011). Secretariat of the Pacific Community- Applied Geoscience and Technology Division. Country Risk Profile: Palau. <http://pcrafi.spc.int/documents/46>
108. SPREP. (2014). Secretariat of the Pacific Regional Environment Programme. Palau First To Start Work On National Broadcasters' Climate And Disaster Resilience Plan. <https://www.sprep.org/news/palau-first-start-work-national-broadcasters-climate-and-disaster-resilience-plan>
109. SPREP. (2018). Secretariat of the Pacific Regional Environment Programme. Review of Natural Resource and Environment Related Legislation. <https://www.sprep.org/attachments/Publications/EMG/sprep-legislative-review-palau.pdf>
110. U.S. Department of State. (2018). 2018 Investment Climate Statements: Palau. <https://www.state.gov/reports/2018-investment-climate-statements/palau/>
111. UH and PCC. (2017). Memorandum of Understanding between the University of Hawaii at Hilo and Palau Community College. <https://hilo.hawaii.edu/documents/uhh/vcaa/ADA/ArticulationAgreements/UHHILO-PalauCCMOU072017-CL-ADA.pdf>
112. UNDP. (2022, September 5). United Nations Development Programme. No one left behind in disaster communication in Palau. <https://www.undp.org/pacific/press-releases/no-one-left-behind-disaster-communication-palau>
113. UNDP. (2022, April 15). United Nations Development Programme. Installing AM Broadcasting System to enhance Palau disaster communications. <https://www.undp.org/pacific/press-releases/installing-am-broadcasting-system->

REFERENCES

BIBLIOGRAPHY

enhance-palau-disaster-communications

114. UNDP. (2021). United Nations Development Programme. Fifth handover ceremony to NEMO in Palau. <https://www.pacific.undp.org/content/pacific/en/home/presscenter/speeches/2021/handover-ceremony-nemo-palau.html>
115. UNDP. (2021, June 2). United Nations Development Programme. Enhancing capacity for preparedness and response to emergencies. Reliefweb. <https://reliefweb.int/report/palau/enhancing-capacity-preparedness-and-response-emergencies>
116. UNDP. (2021, April 7). United Nations Development Programme. Palau's first-ever digital coastal survey exercise begins. <https://reliefweb.int/report/palau/palau-s-first-ever-digital-coastal-survey-exercise-begins>
117. UNDP. (2020). United Nations Development Programme. Quarterly Progress Report Q2 2020 (Jul-Sep 2020) Enhancing Disaster and Climate Resilience in the Republic of Palau through improved Disaster Preparedness and Infrastructure. <https://info.undp.org>
118. UNDP. (2020). United Nations Development Programme. Enhancing Disaster and Climate Resilience in the Republic of Palau through Improved Disaster Preparedness and Infrastructure Annual Progress Report: April-December 2019 (Issue January). <https://info.undp.org/docs/pdc/Documents/PLW/Final Annual Progress Report EDCR Palau 2019.pdf>
119. UNDP. (2019). United Nations Development Programme. Enhancing Disaster and Climate Resilience in Palau (EDCR) Project. <https://open.undp.org/projects/00118499>
120. UNDP. (2019). United Nations Development Programme. Project Document-Enhancing Disaster and Climate Resilience in the Republic of Palau through Improved Disaster Preparedness and Infrastructure-2019.pdf. <https://info.undp.org/docs/pdc/Documents/PLW/Palau signed project document.pdf>
121. UNDP. (2017). United Nations Development Programme. United Nations Pacific Strategy 2018 – 2022: A Multi-country Sustainable Development Framework in Asia Pacific Region. <https://unsdg.un.org/resources/united-nations-pacific-strategy-2018-2022>
122. UNDRR. (2014). United Nations Office for Disaster Risk Reduction. Progress and Challenges in Disaster Risk Reduction: A contribution towards the development of policy indicators for Post-2015 Framework on Disaster Risk Reduction. https://www.unisdr.org/files/40967_40967progressandchallengesindisaste.pdf
123. UNDRR, & ADPC. (2022). United Nations Development Programme; Asian Disaster Preparedness Center. Disaster Risk Reduction in The Republic of Palau: Status Report 2022. <https://www.undrr.org/publication/disaster-risk-reduction-india-status-report-2020>
124. UNESCAP. (2021). United Nations Economic and Social Commission for Asia and the Pacific. Palau COVID Country Profile. https://www.unescap.org/sites/default/d8files/2021-03/Palau_COVID Country profile 230321.pdf
125. UNESCO. (2018, September 20). United Nations Educational Scientific, and Cultural Organization. Eighth Pacific Tsunami Drill set for September to November 2018. <https://en.unesco.org/news/eighth-pacific-tsunami-drill-set-september-november-2018>
126. US Department of State. (2022). Integrated Country Strategy Palau. <http://www.state.gov>
127. USAID. (2020). United States Agency for International Development. Climate Ready Knowledge Products: Business Continuity Planning Resources. <https://www.climatelinks.org/resources/usaid-climate-ready-knowledge-products-business-continuity-planning-resources>

REFERENCES

BIBLIOGRAPHY

128. USAID. (2021, April 13). United States Agency for International Development. USAID Assists the Federated States of Micronesia and Palau to Secure \$10.4 million for Climate Change Adaptation. <https://www.usaid.gov/news-information/press-releases/apr-13-2021-usaid-assists-federated-states-micronesia-and-palau-climate-change-adaptation>
129. USAID OFDA. (2019). United States Agency for International Development Office of Foreign Development Assistance. USAID-OFDA East Asia and the Pacific DRR Fact Sheet - FY 2019. <https://reliefweb.int/sites/reliefweb.int/files/resources/09.30.19 - USAID-OFDA EAP DRR Fact Sheet - FY 2019-2.pdf>
130. USAID Pacific Islands. (2016). United States Agency for International Development. USAID-PACIFIC ISLANDS Projects in Palau. <https://pw.usembassy.gov/wp-content/uploads/sites/282/2017/05/2016-USAID-Pacific-Islands-Projects-in-Palau.pdf>
131. USAID-OFDA. (2020). United States Agency for International Development Office of Foreign Development Assistance. USAID-OFDA Disaster Risk Reduction (DRR) Programs in East Asia and the Pacific (EAP). <https://reliefweb.int/sites/reliefweb.int/files/resources/09.30.19 - USAID-OFDA EAP DRR Program Map - FY 2019.pdf>
132. WFP. (2018). World Food Programme. Digital Logistics Capacity Assessments (DLCA). Palau Logistics Capacity Assessment. <https://dlca.logcluster.org/display/public/DLCA/Palau>
133. WMO, GFDRR, & UNDRR. (2020). World Meteorological Organization; World Bank Group Global Facility for Disaster Risk Reduction and Recovery; UN Office for Disaster Risk Reduction. Climate Risk Early Warning Systems Annual Report 2020. 44. https://ane4bf-datap1.s3-eu-west-1.amazonaws.com/wmocreus/s3fs-public/ckeditor/files/20210507_CREWS_AR_2020_webpages_0.pdf?6Ruy7mIXycqLeCcDR2Mr0WVipV.PPxf
134. World Bank DATA. (2022). Palau. https://data.worldbank.org/country/palau?most_recent_year_desc=true
135. World Bank-Humanitarian Exchange. (2021). Palau Climate Change. <https://data.humdata.org/dataset/world-bank-climate-change-indicators-for-palau>

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