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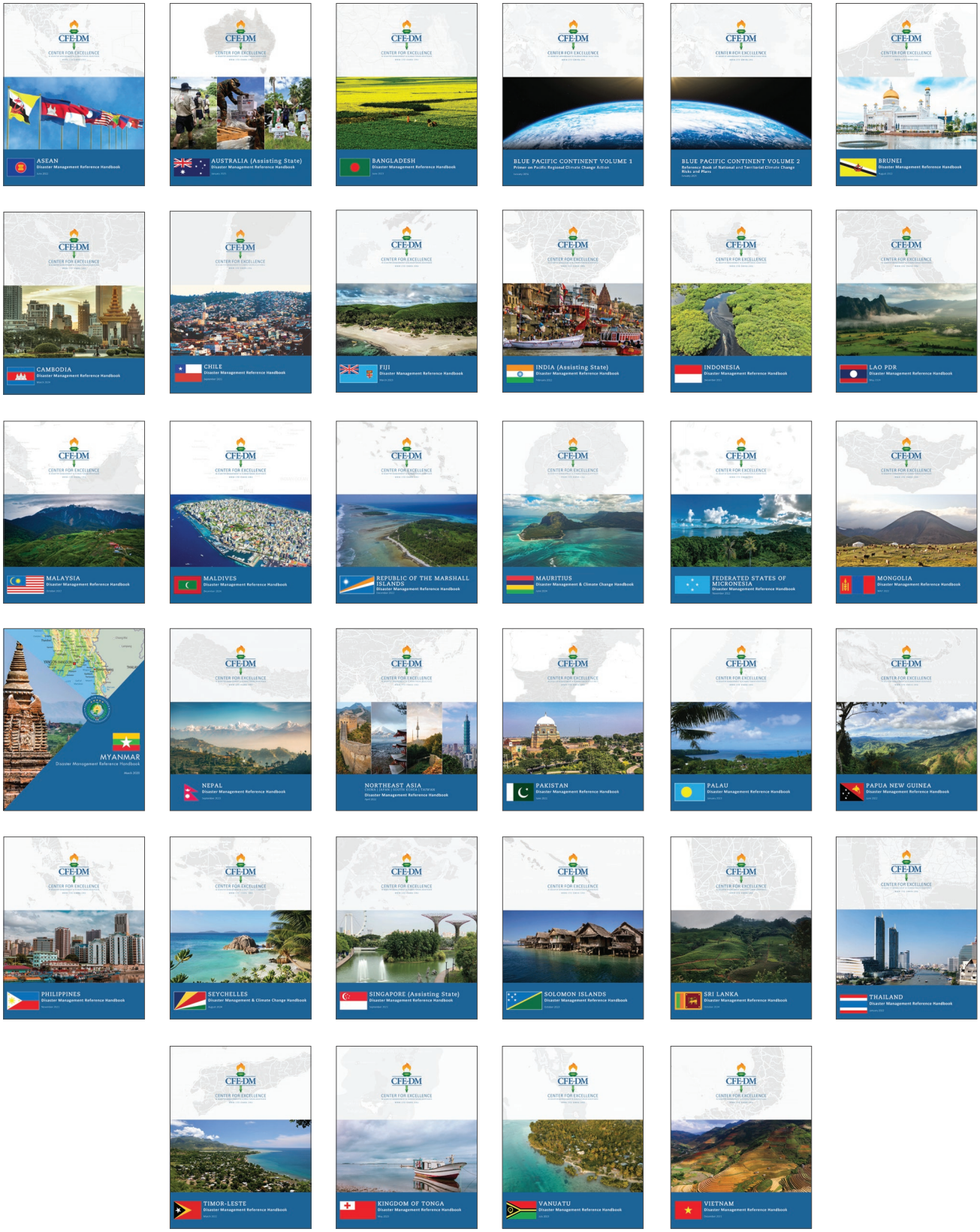
AUSTRALIA (Assisting State)

Disaster Management Reference Handbook

January 2025

Disaster Management Reference Handbook Series

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Front Cover

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Disclaimer

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

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Letter from the Director

The U.S. and Australia are allies, partners, and friends. Among our shared interests is a desire for peace and stability in the Indo-Pacific region and globally. Given more than 100 years of military ties, it is unsurprising that our two countries' defense establishments and military forces continue to share innovation in planning, training, and operations that encompass all domains. The realm of humanitarian assistance and disaster response (HADR) is no exception.

U.S.-Australia relations in disaster management are highlighted by both large-scale military exercises and smaller-scale initiatives such as workshops and symposia. These efforts collectively strengthen civil-military coordination and preparedness for HADR scenarios. Large-scale exercises like Talisman Sabre, a joint biennial military exercise that has grown to include several Pacific Island partners, showcase the operational collaboration between U.S. and Australian armed forces. Similarly, events like Australia's exercise LONGREACH or the U.S.-led RIMPAC further underline the commitment to regional cooperation in disaster response.

Equally significant are tabletop HADR exercises and conferences, where experts and practitioners from both nations develop and share strategies to enhance civil-military coordination. The Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) and the Australian Civil-Military Centre (ACMC) have been instrumental in advancing this agenda. Over the past year, leaders and staff from both organizations have participated in events that foster the exchange of training opportunities, best practices, lessons learned, and research findings, enriching the broader community of practice. Looking ahead, CFE-DM remains committed to supporting Australia's leadership in building resilience within the Pacific Islands region, ensuring stronger, more effective disaster management partnerships.

This updated Australia (Assisting State) Disaster Management Reference Handbook is intended to serve as an initial source of information for individuals preparing for disaster risk reduction activities or immediate deployment alongside Australian partner responders. It highlights the important role Australia plays in preparing for, mitigating, responding to, and recovering from a natural disaster or regional crisis particularly in the Indo-Pacific region. By ensuring the availability of this information, the CFE-DM hopes to provide disaster management decision makers, planners, and responders greater insight into Australia's disaster management capabilities and, thereby, enhance regional civil-military response.

Sincerely,

Joseph D. Martin, SES
Director

About the Center for Excellence in Disaster Management & Humanitarian Assistance

Overview

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

Vision

Resilient Joint Forces, Allies, and Partners that are fully prepared to respond across the spectrum of humanitarian crises.

Mission

CFE-DM builds crisis response capacity in US and Partner militaries, enhances coordination and collaboration with civilian and foreign partners, and strengthens those relationships to save lives and alleviate human suffering before, during, and after humanitarian crises in a changing climate environment.

Contact Information

Center for Excellence in Disaster Management and Humanitarian Assistance
456 Hornet Ave
JBPHH, HI 96860-3503
Telephone: +1 (808) 472-0518
https://www.cfe-dmha.org

EXECUTIVE SUMMARY

Australia plays a significant role in the Indo-Pacific region, and its outreach extends globally. Australia particularly focuses on prosperity and stability within the Southwest Pacific and Southeast Asia, regions with which it is most familiar and where it is active in providing international disaster assistance, particularly to Pacific Island countries and territories (PICT). The country augments this regional focus by acting as a proponent of principled global coordination and cooperation on issues of humanitarian assistance and climate change adaptation.

The Australian Government is aware of the increasing challenges confronting the world - and the Pacific region in particular - with disasters increasing in frequency, scale, and impact. Its newly-published Humanitarian Policy (2024) prioritizes readiness and preparedness, delivering support to crisis-affected communities, and reinforcing the international humanitarian system. Meanwhile, the country's International Development Policy of 2023 is geared toward emerging global challenges, including exacerbated climate hazards. Both policies emphasize the need to support partners in further enhancing their resilience and capacities, and they focus on strengthening preparedness and mitigation by investing in disaster risk reduction (DRR). Australia is well-positioned to conduct disaster response operations in the Southwest Pacific, where a big challenge for many small, remote PICTs is the "tyranny of distance" that slows down the arrival of external assistance after a large-scale disaster.

Australia has a range of specialized capabilities that facilitate international disaster responses under the Department of Foreign Affairs and Trade (DFAT), which is the lead agency for the Australian Government's response to international humanitarian crises. The value these capabilities bring to crisis responses is enhanced in the context of relationships with various PICTs and partnerships with local and international humanitarian organizations. While DFAT is Australia's government lead in overseas assistance, it does not work alone. Interagency support comes from the National Emergency Management Agency (NEMA), which works with DFAT to deploy domestic disaster response capabilities, drawn from Australian states and territories, as needed for international response. Australia also regularly deals with domestic disaster events, including wildfires, drought, heatwaves, flooding, storms, landslides, and earthquakes. Particularly catastrophic were the "Black Summer" bushfires of 2019-2020 when hundreds of fires burned for months, mainly in the country's southeast; the fires killed 26 people, destroyed 2,448 homes, and burned 5.5 million hectares (21,236 square miles) of land.[1] This large-scale domestic disaster saw DFAT providing critical support to the NEMA (then named Emergency Management Australia) in coordinating responses to 156 offers of international assistance from 70 countries.[2] The Black Summer bushfires prompted a reorganization of the domestic disaster management system.[3]

Australia is a critical ally of the United States (U.S.) in ensuring a free and open Indo-Pacific region, and it plays an especially active role in international frameworks regarding coordination in responding to disasters and other humanitarian crises, DRR, climate change action, and maritime security. Australian and U.S. armed forces regularly engage together in military exercises, some of which have a strong disaster assistance focus and lead to greater interoperability when both respond to large-scale disasters in the region. As disaster risks are exacerbated by climate change and crises grow more frequent and intense across the region, the focus on meeting partners' needs to strengthen local systems becomes increasingly critical for regional resilience.

INTERNATIONAL FRAMEWORK

Australia has a long history of international humanitarian action. The Indo-Pacific region is where the majority of disaster response operations occur; however, recognizing that in an interconnected world, events occurring in other regions can impact everyone, Australia works globally to address humanitarian need where it is most acute and where Australian assistance can make a tangible difference to help promote global peace, stability, and prosperity.

The Australian Government has various policies outlining strategy, guidance, and plans for international assistance. Its overall stated goal in providing humanitarian action is to save lives, alleviate suffering, and build resilience, with a focus on upholding human rights and human dignity. The 2024 Humanitarian Policy lays out three priorities:

- Build readiness and preparedness, anticipate shocks before they occur, and work with partners to lessen their impact
- Respond to crises and disasters by delivering support that meets the needs of crisis-affected populations and protects the most vulnerable, both immediately and over the longer term
- Reinforce the international humanitarian system by working to take practical and actionable steps to strengthen adherence to international humanitarian law and by leading reform efforts where needed to ensure greater effectiveness.

These priorities are further promoted through policies that target conflict prevention, peacebuilding, and crisis resilience, including in development programming.[4] As a driver of the 2024 revised Humanitarian Policy, the most recent Australian International Development Policy (2023) was updated to address emerging global challenges. It targets increased investment in disaster and climate risk-informed development, all-hazards early warning systems, anticipatory action, and shock-responsive social protection systems.[5]

Guidelines and Plans for International Assistance

Australian Policies

Australia's International Development Policy

In August 2023, DFAT published Australia's International Development Policy for a Peaceful, Stable and Prosperous Indo-Pacific wherein the stated objective requires sustainable development and lifting people out of poverty. The approach involves forging partnerships of respect, drawing on Australia's strengths, deepening quality and transparency, supporting locally-led change, and maximizing collective impact. All of these elements focus on supporting partners to build effective, accountable states, enhance state and community resilience, connect with Australia and regional architecture, and generate collective action on global challenges. Figure 1 provides an overview of the international development policy.[6]

The policy notes the importance of building regional resilience as a tool to address challenges posed by climate change, global economic uncertainty, and demographic and technological shifts. It acknowledges interests beyond the region but emphasizes that the Indo-Pacific – especially the Pacific Islands, Southeast Asia, and South Asia – remains the focus of Australia's development program.

Key commitments of the development policy

- Build more genuine and respectful partnerships, including by refreshing the approach to country and regional plans
- Anchor the approach in strengths, including by embedding the perspectives of First Nations Australians in development efforts
- Support all people to fulfill their potential, including through new international strategies for gender equality and disability equity and rights
- Respond to the calls of the region and to

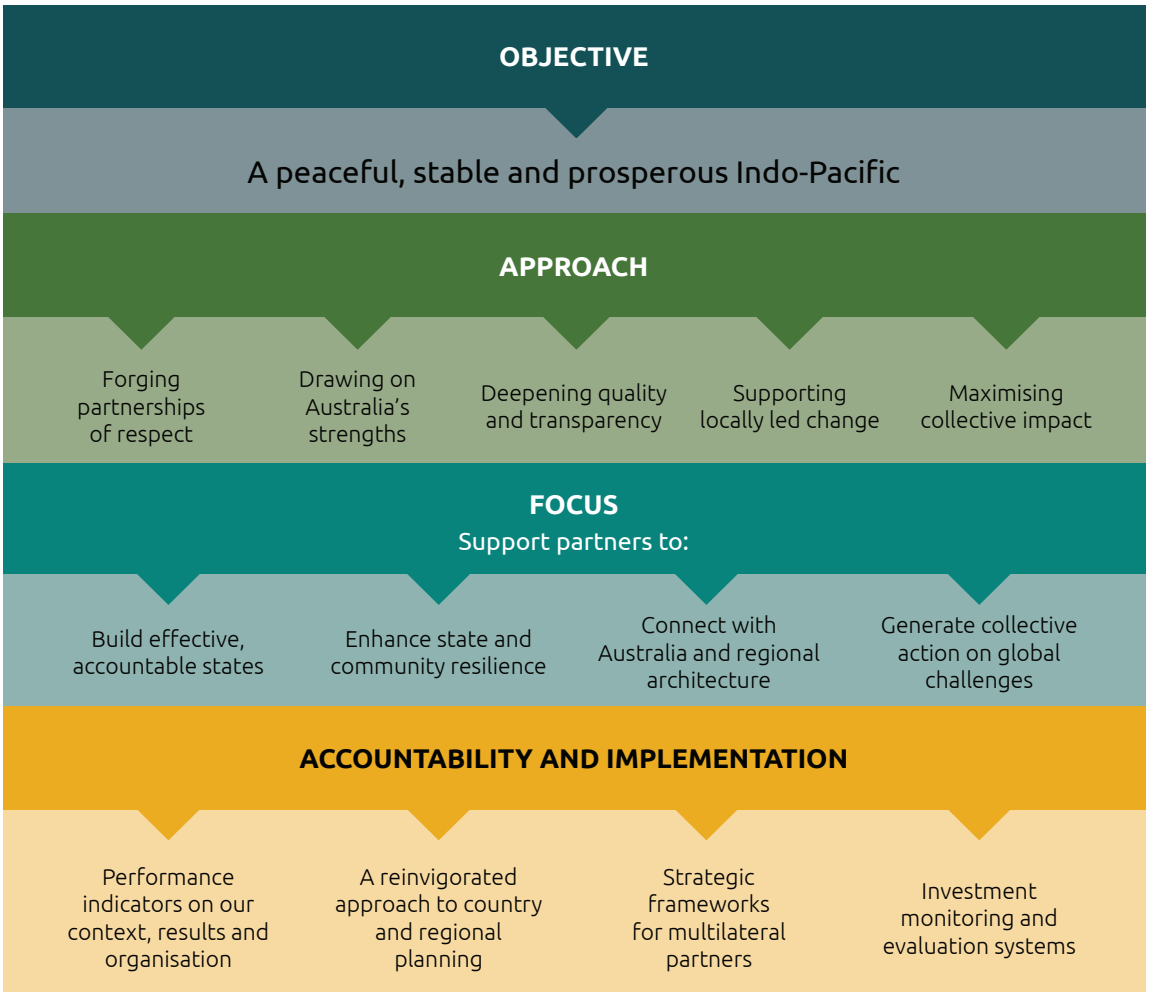


Figure 1: Overview of Australia's International Development Policy, 2023

evidence of the accelerating climate crisis by increasing climate investments and better addressing climate risks
- Support local leadership and local actors, including through a new Civil Society Partnerships Fund
- Develop a new humanitarian policy to ensure delivering results for people affected by crises, to help reduce need, and to build resilience
- Use more innovative development financing to expand available funding.[7]

Under the International Development Policy, Australia committed to increasing investment in disaster and climate risk-informed development, all-hazards early warning systems, anticipatory action, and shock-responsive social protection systems.

Australian Humanitarian Policy

The 2023 International Development Policy committed the Australian Government to developing a new Humanitarian Policy. The new Policy was announced by the Foreign Minister on 16 October 2024. It was informed by extensive domestic and international consultation with more than 80 external organizations, including non-governmental organizations (NGO), United Nations (UN) agencies, other international organizations, whole-of-government partners, academia, and other donor countries. Prominent themes that emerged from these consultations included preparedness and resilience, reinforcing global norms, and providing gender- and disability-inclusive humanitarian assistance. Focusing on root causes to build durable solutions, the Humanitarian Policy aims to ensure Australia has an adaptable, responsive,

and effective framework for delivering results to affected populations and to help reduce humanitarian need.[8]

Australian Government Crisis Management Framework (2024)

The Australian Government Crisis Management Framework (AGCMF), updated in 2024, is the Australian Government's capstone policy framing Australia's national crisis management arrangements. It outlines the Government's approach to preparing for, responding to, and recovering from crises. The Framework provides ministers, senior officials, and Australian Government entities with guidance on their respective roles and responsibilities. It also sets out the arrangements that link ministerial responsibility to the work of key officials, committees, and facilities.[9]

The updated AGCMF introduces a tiered model of crisis coordination to guide and support appropriate and consistent levels of coordination in response to crises. The tiered model allows the Australian Government to assess the severity and complexity of crises, determine the appropriate crisis coordination needs, and select the appropriate mechanisms to respond to those needs.[10]

Considerations for the activation of the Framework's whole-of-government coordination arrangements may include:

- The scale of the crisis and its potential or actual impact on Australia, Australians, or Australia's national interests
- Formal ministerial consideration of the crisis event(s)
- A crisis affecting multiple jurisdictions or industry sectors
- A request for Australian Government assistance from affected states, territories, or countries
- A crisis with both domestic and international components
- A crisis resulting in a large number of Australian casualties
- Community expectations of national leadership during the crisis
- Multiple crises occurring simultaneously or events that are compounding and escalating in complexity and, therefore, require national coordination, resource prioritization, and de-confliction

While the AGCMF primarily identifies domestic hazards and their government leads, it also outlines possible hazard events in the international arena. For international crises, it reaffirms the minister responsible for Foreign Affairs and DFAT as the lead minister and agency, respectively.[11]

Additional Plans

Additional Australian Government plans for crises in the international arena but largely focused on the direct impact on Australian citizens include:

- The Australian Government Plan for the Reception of Australian Citizens and Approved Foreign Nationals Evacuated from Overseas (AUSRECEPLAN); and
- The Australian Government Response Plan for Overseas Mass Casualty Incidents involving Australians overseas (OSMASSCASPLAN).

Multilateral and International Arrangements and Guidelines

In addition to Australia's foreign crisis response, humanitarian, and development strategies, there are several international arrangements and guidelines relating to foreign disaster response that guide Australia's actions in responding to disasters and other crises overseas.

The FRANZ Arrangement

Australia is an active partner in the FRANZ (France, Australia, New Zealand) trilateral cooperation arrangement for humanitarian assistance in the Pacific.[12] The FRANZ Arrangement was established by the Joint Statement on Disaster Relief Cooperation in the South Pacific, which was signed on 22 December 1992 by France, Australia, and New Zealand. The

agreement among the three countries coordinates disaster reconnaissance and relief assistance in the Pacific upon a request from an external partner. The Arrangement is civilian led, with the following agencies as leads:

- France's Ministry of Foreign Affairs and International Development
- Australia's DFAT
- New Zealand's Ministry of Foreign Affairs and Trade (MFAT)

The lead agencies are supported by their respective militaries in a system designed to ensure that FRANZ players adhere to the principles of sovereignty and affected-state leadership. During a disaster response, the FRANZ countries coordinate with other stakeholders, including the Pacific Humanitarian Team. An estimated 40 operations have been implemented in accordance with the FRANZ Arrangement; they include responses in Vanuatu in 2020 and 2023, Tonga in 2022, Papua New Guinea (PNG) in 2021, and Fiji in 2020. Australia took the FRANZ chair on 1 July 2023 for a two-year period.[13]

Guidelines for Quad Partnership on Humanitarian Assistance and Disaster Relief (HADR) in the Indo-Pacific

Australia is one of the four countries that signed onto the Guidelines for the "Quad Partnership on Humanitarian Assistance and Disaster Relief (HADR) in the Indo-Pacific." The Guidelines were signed into operation by the Foreign Ministers of Australia, India, and Japan and the U.S. Secretary of State on 23 September 2022, four months after the Quad Leaders announced the partnership as part of a shared vision for a free and open Indo-Pacific that is inclusive and resilient. A request for international assistance is needed before Quad partners may act in coordination under the Partnership. Quad partners may provide joint or coordinated individual assistance in crisis preparation or alert, crisis-response, or post-crisis review phases of disaster response. Any humanitarian action will be carried out with respect for the sovereignty, territorial integrity, and national unity of the affected state. Response operations will be guided by the core humanitarian principles of humanity, neutrality, and impartiality, as outlined in UN General Assembly Resolution 46/182 on the provision of humanitarian assistance.

Quad partners strive to promote inclusion by advancing gender equality, ensuring persons with disabilities are agents and beneficiaries of humanitarian action, and ensuring indigenous people, minority groups, and persons in vulnerable situations are not left behind. The Guidelines call for zero tolerance of sexual exploitation, abuse, and harassment. The Partnership also coordinates HADR operations with the UN and other international agencies and donors, regional and local governments, public and private organizations, and NGOs. Quad partners meet twice a year to share lessons and operational updates and are expected to conduct at least one scenario-based table-top exercise to improve preparedness, coordination, and interoperability.[14] Quad cooperation originated from the 2004 ad hoc Tsunami Core Group, which catalyzed international response efforts in the aftermath of the 26 December 2004 Indian Ocean (Boxing Day) tsunami that caused an estimated 230,000 fatalities in 14 countries across the Indian Ocean from Indonesia to East Africa.[15]

Asia-Pacific Regional Guidelines for the Use of Foreign Military Assets in Natural Disaster Response Operations ("APC-MADRO Guidelines")

Australia was an active participant in the annual Asia-Pacific Conferences on Military Assistance to Disaster Relief Operations (APC-MADRO), which took place from 2005 to 2010 and resulted in the Asia-Pacific Regional Guidelines for the Use of Foreign Military Assets in Natural Disaster Response Operations ("APC-MADRO Guidelines").[16] The annual conference discussions started in the aftermath of the 2004 Indian Ocean Tsunami to discuss emerging challenges for armed forces conducting

disaster response operations. The conferences were organized with the aim of developing collaborative guidelines to assist planning for foreign military assistance in support of disaster response operations in the Asia-Pacific region.[17] The Australian Government co-hosted the 2008 conference in Canberra along with the UN Office for the Coordination of Humanitarian Affairs (OCHA). The Australian Civil-Military Centre (ACMC, formerly the Asia-Pacific Civil Military Centre of Excellence) also co-hosted conferences along with OCHA and CFE-DM.[18] The resulting non-binding guidelines complement other existing guidelines and contribute to ensuring effective and principled foreign military assistance to disaster relief in the region.

Australian Agencies/ Programs Involved in International Humanitarian Response

The Australian Government Overseas Assistance Plan (AUSASSISTPLAN), published in 2018, details the process for the Australian Government to provide emergency physical assistance to overseas countries, not inclusive of the evacuation of Australian citizens and approved foreign nationals.[19] AUSASSISTPLAN is consistent with the AGCMF and outlines the responsibilities for leading and funding the provision of immediate emergency assistance to other countries.[20]

Department of Foreign Affairs and Trade

DFAT is the lead agency for the Australian Government's response to international disasters and humanitarian crises. DFAT has over 6,000 staff, located in Australia and overseas, and they work through a network of more than 120 embassies, high commissions, consulates-general, and representative offices across five continents.[21] Among DFAT's six key activities, one is to "deliver international development and humanitarian assistance" via a program that is effective, efficient, and responsive.[22]

In August 2023, DFAT released a new International Development Policy, which noted that climate change is among the slate of increasing challenges to security in the Indo-Pacific region. The new policy stated that Australia would support local leadership and local actors, as well as develop a humanitarian policy that not only reduces need and delivers results for people affected by crises but also builds resilience. The International Development Policy states that the Indo-Pacific – especially the Pacific Islands, Southeast Asia, and South Asia – remains the focus of Australia's development program, though it acknowledges interests beyond it.[23]

DFAT's Global Watch Office provides situational awareness and initial whole-of-government messaging for overseas incidents and crises that may have consequences for Australians or Australian interests. DFAT keeps informed the National Situation Room (NSR), a round-the-clock crisis-management information and whole-of-government coordination facility within the NEMA.[24] This flow of information enables the updating of the National Joint Common Operating Picture, which is maintained in the NSR, and it is especially important if there are domestic consequences from an international crisis. For more significant crises, DFAT may activate the department's Crisis Centre.[25]

DFAT maintains a pool of highly trained staff through its Crisis Response Team (CRT), which can be deployed overseas at short notice to support Australian diplomatic posts and/or partners in the field. The CRT includes staff with high level expertise in humanitarian, consular, policy, and technical responses and who provide essential support in affected countries.

The roles of DFAT in leading an Australian response to an international crisis are detailed below, in accordance with the AUSASSISTPLAN.

- Upon approval from the Minister of Foreign Affairs or an approved delegate, request the NEMA Coordinator-General activate AUSASSISTPLAN
- Lead and coordinate the whole-of-government response to an international crisis. The Head of Mission, who is the senior Australian Government representative in any

foreign country, or an appropriate delegate will lead the response in-country and consult and receive direction as necessary from Canberra
- Liaise with relevant government authorities in-country and provide advice on affected government requirements and updated information
- Provide the Australian Government with advice on emerging issues or disasters in-country
- Develop the requirements for the technical teams
- In line with the proposed tasking of a capability, obtain, clarify, and detail the authority for an Australian Government response, including any operating restrictions
- In line with the AGCMF, lead Inter-Departmental Emergency Task Force (IDETF)
- Arrange Third Person Notes and authorities as required
- Provide situational reporting as required to the IDETF and relevant Australian Government, state, and territory departments and agencies
- Provide to NEMA tasking documentation, financial limits, and the scope of requirements for the deployment(s)
- Appoint a Mission Coordinator to coordinate Australian Government activities in-country
- Coordinate the Australian in-country response
- Coordinate in-country logistics for deployed personnel as agreed in the tasking
- Produce and distribute whole-of-government talking points and media releases for the response
- Conduct donor coordination (including information on the response of other donors and to inform other donors of Australia's response)
- Conduct an end-of-deployment evaluation and lessons learned activity and participate in those events conducted by other parties

The AUSASSISTPLAN consists of three phases — STANDBY (monitor and prepare), ALERT (enhanced preparations), and ACTIVE (responding to known impact). In STANDBY, the default phase, capabilities maintain a readiness level for deployment, and activities include monitoring potential situations, planning for potential responses, and undertaking training and exercises. The ALERT phase is declared when a response is likely and allows for capabilities to be brought to an enhanced level of preparedness. DFAT works with interagency partners (e.g. the Departments of Defence and Health, and NEMA) to develop implementation plans, determine timings, and consider constraints. Based on a request from DFAT, a phase change to ALERT will be authorized by NEMA's Deputy Coordinator-General for Emergency Management and Response, who oversees NEMA operations.[26] Similarly, a phase change to ACTIVE follows authorization and tasking from DFAT if an event has occurred and AUSASSISTPLAN action has been authorized. DFAT's Crisis Centre will advise all stakeholders on phase changes.[27]

DFAT's Humanitarian Logistics Capability (HLC) is a 10-year investment slated to run from 2018 through 2028. It is intended to build DFAT's technical expertise and operational capability to support the Australian Government's commitment to respond within 48 hours to a request for humanitarian assistance in the region.[28] As part of the HLC, there is one Australia-based warehouse stockpile, pre-positioning of supplies with national disaster management authorities and partner organizations, and a partnership with the UN Humanitarian Relief Depot (UNHRD) Network to extend Australia's reach globally. The HLC strives to improve coordination and interaction among the Australian interagency and its partners. International coordination includes participation in the OCHA/national logistics cluster, as part of a coordinated international response to a humanitarian emergency. Close coordination is prioritized with:

- Partner governments and their established national disaster management offices (NDMO)
- The whole-of-government response

mechanism, especially Australian Defence Force (ADF)
- DFAT's other humanitarian partners, such as UN agencies, members of the International Red Cross and Red Crescent Movement, Australian Humanitarian Partnership members, and DFAT's civilian deployment capabilities
- Other parts of DFAT, particularly country programs and Consular Crisis Management and Contingency Planning Section.[29]

The HLC manages a warehouse in Brisbane with supplies for 55,000 people from which Australia can respond to humanitarian crises in the Indo-Pacific. The HLC maintains a team of logisticians who can deploy forward with the supplies and procurement experts to support rapid procurement of specialized supplies during a crisis. The HLC also supports a warehouse in PNG; these stocks can support humanitarian needs for 2,500 people in PNG.[30]

National Emergency Management Agency

The NEMA is an Executive Agency under the Department of Home Affairs that focuses on domestic disaster response, but it also has significant roles and responsibilities during an international disaster response.[31] During the Australian Government's response to a foreign disaster, the NEMA works with DFAT to facilitate Australian assistance and response efforts overseas. In May 2024, NEMA personnel were among those deployed by the Australian Government in response to the landslide in PNG's Enga Province.[32]

The NEMA was formed in 2022 by merging Emergency Management Australia with the National Recovery and Resilience Agency, a reorganization that followed the Black Summer Bush Fires of 2019-2020.[33] That catastrophic domestic disaster saw DFAT supporting the NEMA to coordinate 156 offers of international assistance from 70 countries[34] – including the acceptance of 100 firefighters, a military CC-17 Globemaster transport plane, and 15 personnel carrying fire retardant from Canada;[35] troops of "Bula Force" from Fiji to clear roads;[36] five firefighting experts from France;[37] 38 military engineers from Indonesia;[38] two Hercules transport aircraft, protective masks, and cash from Japan;[39] 40 firefighters from Malaysia;[40] three helicopters and their crew, two army combat engineer sections, and one command element from New Zealand to support ADF firefighting;[41] 100 defense personnel from PNG to assist ADF;[42] cash from the Philippines Red Cross;[43] two Chinook helicopters and 42 personnel from Singapore;[44] 200 Red Crescent volunteers from the United Arab Emirates;[45] 350 firefighters from the U.S.;[46] and cash from Vanuatu.[47]

Australian Defence Force

The ADF – comprised of the Royal Australian Navy, the Australian Army, and the Royal Australian Air Force (RAAF) – provides additional capabilities during large-scale disasters or other crises that necessitate an international response inclusive of foreign military assets. In pursuit of its mission to defend Australia and its national interests, the ADF deploys military capabilities including personnel, logistics, medical capability, transport, evacuation, and protection. The ADF has responded to numerous international disasters in the region and strives to maintain a near-continuous presence in the Southwest Pacific. Recent ADF foreign disaster responses include but are not limited to:
- 2024 landslide in PNG[48]
- 2023 Tropical Cyclones (TC) Judy and Kevin in Vanuatu[49]
- 2023 earthquake in Türkiye[50]
- 2022 drought in Kiribati[51]
- 2022 undersea volcanic eruption and tsunami in Tonga[52]
- 2021 Coronavirus Disease 2019 (COVID-19) pandemic in Fiji,[53] India, Nepal, and Sri Lanka[54]
- 2021 floods in Timor-Leste[55]
- 2021 TC Ana in Fiji[56]

Photo 1 depicts an Australian Army CH-47 Chinook helicopter delivering aid supplies to Futuna Island during Operation Vanuatu Assist following TCs Judy and Kevin in 2023.[57]



Photo 1: Australian Army CH-47 Delivers Aid to Vanuatu

The ADF's Pacific Maritime Security Program (PMSP) reflects Australia's investment in maritime security partnerships throughout the Pacific. It is a comprehensive package of capability, infrastructure, sustainment, training, and coordination designed to increase national and regional maritime security for 15 PICTs and Timor-Leste. The program originated as the Pacific Patrol Boat Program, through which Australia gave vessels to over a dozen countries. Components of the current PMSP include:

- Delivering 24 new Guardian-class Patrol Boats with safe and secure berthing to 13 nations
- Providing a package of maintenance and sustainment support for the boats
- Training for partner country crews through commercial providers and the Royal Australian Navy's Sea Training Group
- Embedding in-country Navy advisors to support safe operations
- Enhancing regional coordination and communication
- Providing fixed-wing aerial surveillance capabilities, uncrewed aerial vehicles, and satellite surveillance capability through the Enhanced Aerial Surveillance Program to the Pacific Island nations who are members of the Pacific Islands Forum Fisheries Agency[58]

Australian Federal Police

The Australian Federal Police (AFP) assist with identification of mass-fatality victims after a disaster. AFP has honed their Disaster Victim Identification (DVI) skills, systems, and procedures over numerous disasters, both local and overseas. DVI investigations require a coordinated and cooperative response among agencies, including the police, forensic specialists, recovery agencies, victim support agencies, emergency services, non-government services, and private companies both domestically and internationally. The AFP and all Australian police jurisdictions follow the internationally accepted DVI processes set out by the International Criminal Police Organization (INTERPOL); these processes standardize procedures to ensure consistency in an international response. AFP has provided DVI services in response to the 2002 Bali bombings, 2004 Indian Ocean tsunami, 2007 Garuda Airlines crash in Yogyakarta, Indonesia, 2009 Black Saturday bushfires in Victoria, 2010 Christmas Island boat tragedy, 2014 shooting down of Malaysian Airlines Flight MH17 over Ukraine, and the 2019 Whakaari/White Island volcano eruption in New Zealand.[59] Additionally, the "International Engagement 2020 and Beyond" strategy is the cornerstone for AFP interactions with international organizations and other stakeholders to address crime, particularly transnational criminal threats, affecting Australians and Australian interests overseas. AFP works to identify, disrupt, and dismantle transnational and organized crime syndicates affecting Australia, including those involving drug trafficking, money laundering, human trafficking, people smuggling, cybercrime, child sexual exploitation material, terrorist attacks, and violent extremism.[60]

Australian Medical Assistance Team

The Australian Medical Assistance Team (AUSMAT) is a specialized medical response team of qualified professionals – including doctors, nurses, paramedics, and logisticians

– who provide emergency medical care in the aftermath of a disaster. DFAT works closely with the Department of Health and Aged Care and the NEMA as well as state and territory governments to prepare and deploy AUSMAT specialists. AUSMAT personnel are drawn from Australian state and territory health services and are capable of deploying at short notice. AUSMAT is structured to meet the health needs of disaster-affected communities and can range from a team of four people to a field hospital with 80 staff, depending on the scale of the disaster and the type of humanitarian need. AUSMAT is one of very few Emergency Medical Teams in the region that is internationally deployable and verified by the World Health Organization (WHO). AUSMAT members are leading contributors to WHO activities to establish global standards on medical assistance during disasters. AUSMAT personnel can also draw upon the Darwin-based National Critical Care and Trauma Response Centre to provide training and mentoring throughout the Indo-Pacific for local doctors, nurses, and other medical professionals to strengthen local health systems.

Some of the humanitarian disasters to which the Australian Government has deployed AUSMAT specialists include but are not limited to:

- 2023 response to TCs Kevin and Judy in Vanuatu
- 2020-2022 response to COVID-19 in Solomon Islands, PNG, Fiji, Timor-Leste, and Kiribati
- 2021 response to severe flooding in Timor-Leste
- 2019 response to the measles outbreak in Samoa
- 2019 response to the MV Solomon Trader oil spill in Solomon Islands
- 2018 cave rescue operation in Thailand
- 2018 response to the Southern Highlands earthquake in PNG
- 2016 response to TC Winston in Fiji[61]

Photo 2 (credit: Australian DFAT) shows AUSMAT personnel arriving in PNG in 2021 to assist with the response to COVID-19.[62]



Photo 2: AUSMAT Arrives in Papua New Guinea to Assist with the Response to COVID-19

Disaster Assistance Response Teams

The Australian Government's disaster assistance response teams (DART) can deploy quickly to crises overseas to help save lives and help communities recover by providing a range of capabilities. DARTs can conduct damage assessments, structural assessments, and urban search and rescue (USAR) missions, which include locating and removing people from rubble. DART capabilities also include water rescue during flooding, urgent repairs to critical structures, management of hazardous materials or spills, water purification and desalination, and general emergency management assistance.

The DARTs are drawn from Fire and Rescue New South Wales and Queensland Fire and Emergency Services. These state fire services also contribute to the work of the International Urban Search and Rescue Advisory Group (INSARAG). INSARAG is the global network under the UN of more than 90 countries and organizations; it upholds international standards for emergency rescue teams and designs best practices for international coordination in emergency response. The Queensland and New South Wales state teams — known internationally as Australian Taskforce 1 (AUS-1) and Australian Taskforce 2 (AUS-2), respectively — are both classified as 'heavy' INSARAG teams. USAR teams are classified as Light, Medium, or Heavy. Heavy USAR teams have the most capacity, including to conduct complex technical search and rescue operations in collapsed or failed structures, particularly those

structures reinforced or built with structural steel, to conduct rigging and lifting operations, and to have the equipment and manpower to work in a technical capacity at two work sites simultaneously.[63]

The Australian Government has deployed DARTs following numerous disasters, including:

- 2023 TCs Kevin and Judy
- 2023 Türkiye-Syria earthquake
- 2022 Tonga volcano and tsunami
- 2019 MV Solomon Trader oil spill
- 2018 Greece wildfires
- 2018 TC Gita in Tonga
- 2015 TC Pam in Vanuatu
- 2014 Solomon Islands flooding
- 2011 Japan earthquake and tsunami
- 2011 Christchurch earthquake in New Zealand[64]

Photo 3 (credit: DFAT) shows the AUS-2 DART from Fire and Rescue New South Wales responding to the earthquake in Türkiye in 2023.[65]

Photo 4 (credit: Queensland Fire and Emergency Services) shows the AUS-1 DART from Queensland conducting search and rescue activities in 2011 in Christchurch, New Zealand.[66]



Photo 3: AUS-2 DART Responds to 2023 Türkiye Earthquake



Photo 4: Queensland DART Conducts Search and Rescue Activities in 2011 in Christchurch

Deployable Power Restoration Capability

The Deployable Power Restoration Capability is a specialized team of powerline technicians sourced from two domestic electricity distributors, Essential Energy and Endeavour Energy. The team can deploy to Pacific Island states rapidly and work alongside local power utilities to restore power following a disaster. They provide surge support to national powerline technicians in the affected country and help restore power as agreed with the affected government. Their role can include disconnecting fallen lines from poles, clearing debris for safe reconstruction of power lines, re-erecting fallen poles or installing new poles, re-stringing power lines or stringing new power lines, re-installing fallen transformers or installing new ones, re-installing customer service lines or installing new ones, and installing generators.[67] The team can also assist in assessing needs in the affected area and the development of additional response options. Following TCs Kevin and Judy in Vanuatu in 2023, the Deployable Power Restoration Capability was

able to restore power at Port Vila airport, which was then capable of welcoming nighttime flights bringing deliveries of life-saving assistance.[68]

Disaster Management Partners Involved in International Humanitarian Response

Australia's government is not only a direct player in disaster management, but it also supports major international and Australian organizations that deliver aid and assistance as well as DRR programming and climate change action. Approximately one-third of Australia's aid budget is channeled through multilateral organizations.[69] At the highest level, Australia's government delivers funding and support to UN agencies, especially the World Food Programme (WFP), which is Australia's largest humanitarian partner.[70] Additional non-government and civil society groups, which participate in international humanitarian response and climate change action and which are based in Australia, are included below.

Australia Assists

Australia Assists is an Australian Government program, managed by Tetra Tech International Development. The program deploys skilled humanitarian specialists to support multilateral agencies, governments, civil society, and communities in times of crisis. The program's purpose is to save lives, alleviate suffering, maintain human dignity during emergencies, and strengthen preparedness for future challenges. Deployments through Australia Assists are designed to support Australia's multilateral, bilateral, and civil society partners in alignment with the country's humanitarian, development, and foreign policy priorities. The program takes a strengths-based approach, recognizing and reinforcing local leadership, building on existing capabilities, and promoting equity and inclusion.

Australia Assists is committed to cross-cutting themes such as localization, Gender Equality, Disability, and Social Inclusion (GEDSI), and climate resilience. By embedding skilled humanitarian specialists within government agencies and multilateral organizations, the program ensures that support is integrated into national frameworks and aligned with local priorities. This approach enhances local ownership, strengthens inclusivity, and builds resilience against hazard events.

By working closely with partners across the Indo-Pacific and globally, Australia Assists supports local development of effective policies and practices that enhance disaster preparedness, response, and recovery. Through these efforts, the program reinforces Australia's commitment to regional stability and a humanitarian approach that is both inclusive and sustainable, fostering a safer, more resilient future for communities worldwide.[71]

Australian Council for International Development

The Australian Council for International Development (ACFID) serves as a convener for Australian NGOs involved in development and humanitarian action outside of Australia. Although it is primarily an organization focused on uniting and supporting its members and, therefore, advocates with the Australian Government on policy issues related to its members' activities,[72] it does compile a list of members that are responding to humanitarian emergencies and can share that list for informational (media) or support (donors) purposes.[73] Members range from large civil society groups like the Australian Red Cross (ARC) to medical groupings or church-affiliated bodies.

Australian Humanitarian Partnership

The Australian Humanitarian Partnership (AHP) is a strategic 10-year (2017-2027) partnership between Australia's DFAT and Australian NGOs. AHP delivers effective, innovative, and collaborative humanitarian assistance by allowing Australia to utilize the networks and access of Australian NGOs to respond to disasters and protracted crises

within the region and globally. The AHP supports partner countries, local organizations, and communities to prevent, prepare for, respond to, and recover from disasters and other humanitarian crises.[74] The AHP supports effective collaboration and coordination between the Australian Government and Australian NGOs. Between them, they identify the stakeholders best placed to respond to specific disasters or crises. The partnership has worked or is working on humanitarian crises from Morocco through the Pacific Islands. The NGOs that participate are:

- CARE Australia – partnering with Live & Learn
- Save the Children
- Caritas Australia – as part of CAN DO (Church Agencies Network - Disaster Operation), which brings together Caritas Australia, Act for Peace, Adventist Development and Relief Agency, the Anglican Board of Mission, Anglican Overseas Aid, Australian Lutheran World Service, Transform Aid International, and Uniting World
- Plan International Australia – partnering with ActionAid, ChildFund Australia, International Medical Corps of the United Kingdom (UK), CBM Australia, and Australian Volunteers International
- Oxfam Australia – partnering with ABC International Development, CBM Australia, and Habitat for Humanity Australia
- World Vision Australia – partnering with Habitat for Humanity Australia, the Australian Bureau of Meteorology, CBM Australia, and Field Ready.[75]

Preparedness activities fall under "Disaster READY," a climate change adaptation and disaster risk reduction and resilience program, implemented through the AHP and its networks in Fiji, Vanuatu, Solomon Islands, PNG, and Timor-Leste.[76] Initially conceived of as a 5-year program, success convinced the Australian Government to commit funding for an additional 5-year period.[77] Phase I reached 245,000 people with knowledge and resources to support their work to mitigate hazards in their communities. Phase II was launched in 2022 and emphasizes the inclusion of women and girls as well as people living with disabilities in DRR.[78]

Australian Red Cross

The ARC, as auxiliary to the Australian Government, has a duty to consider any request from the Government to supplement public humanitarian services. Its domestic role is to help Australians through disasters, emergencies, and other challenges,[79] and more than 20,000 volunteers allow the organization to provide Australians with preparedness and emergency resources.[80] The ARC is also a member of the International Red Cross and Red Crescent Movement, which comprises the International Federation of Red Cross and Red Crescent Societies (IFRC), National Societies in 191 countries, and the International Committee of the Red Cross.

The IFRC regularly coordinates the Movement's humanitarian responses by mobilizing resources and technical support from among the Movement's member National Societies, including the ARC.[81] However, the ARC also has strong, habitual relationships across the Asia-Pacific region. It partners directly with the National Societies of Fiji, Indonesia, Mongolia, Myanmar, PNG, Solomon Islands, Timor-Leste, Tonga, and Vanuatu. These partnerships see ARC deliver direct funding, advice and capacity building on ethics, resource mobilization, financial management, and women's leadership, assistance in the areas of protection, gender and inclusion, shelter and settlements, emergency health, and water, sanitation, and hygiene (WASH), as well as advocacy with international stakeholders on issues of preparedness and early detection and warning.[82]

The ARC also receives Australian Government funding to enable National Societies in other countries to lead disaster responses in their own countries. Over the course of 2019-2024, the Australian Government delivered more than

AU$90 million (US$60 million) to the ARC for humanitarian action, which included support for COVID-19 action by National Societies in the Pacific, Bangladesh, Indonesia, and Malaysia, post-cyclone and -flood work with NDMOs in Fiji, Mongolia, Timor-Leste, and Vanuatu, support for conflict-affected communities in the Middle East and Ukraine, and support for food security in Africa. Additional preparedness work that stems from the ARC relationship with the Australian Government includes pre-positioning funding and supplies ahead of a disaster, climate change mitigation and adaptation efforts, and supporting the development of more ecologically friendly supply chains.[83]

Humanitarian Advisory Group

The Humanitarian Advisory Group (HAG) is a research and networking enterprise[84] that invests in collaboration across stakeholders – e.g., local and global humanitarian agencies, academics and researchers, and humanitarian leadership bodies – amplifies the voices and knowledge of local and national organizations, finances independent research, events, education, and training, and mentors early career humanitarians.[85] The desired outcome is to ensure that the humanitarian practitioner community delivers better outcomes for affected populations. The HAG works to achieve this through testing new ideas, strengthening the evidence base for decision-making and monitoring and evaluating programs, and advocating stronger policies. A key thematic area is to learn from past humanitarian action successes and failures and to help design better strategies and programs. The HAG has a network of experts across the following areas:

- Humanitarian civil-military coordination
- Protection of civilians in armed conflict
- Climate change
- Humanitarian reform
- Non-traditional humanitarian actors – private sector and emerging donors
- The humanitarian-development-peace nexus
- Women, Peace and Security[86]

Key products examine responses to cyclones and earthquakes in Indonesia, Philippines, Solomon Islands, and more. Key partners to produce these information resources are major NGOs and research institutions across Australia and the region.

RedR Australia

RedR Australia is a response agency that trains and deploys technical specialists to support communities before, during, and after crises and conflicts. It maintains a roster of 1,000 experts in DRR, preparedness, and recovery, among other topics. As such, it is a partner of various UN agencies, governments, and fellow responders to ensure that communities in disaster-prone countries can call upon experts ahead of or during emergencies.[87] In its largest ever single response, RedR Australia deployed more than 60 technical specialists to Bangladesh and Myanmar to provide assistance to Rohingya people who have fled Myanmar and are housed in refugee camps in southeastern Bangladesh. The organization has also deployed experts to work with refugee populations from Syria and who are in Iraq, Jordan, Türkiye, and Lebanon, and RedR experts work on protection, education, monitoring and evaluation, health, and civil-military coordination in these countries. Finally, closer to Australia, RedR has technical specialists working with local emergency responders in PICTs to ensure communities are prepared when disasters strike. RedR specialists supported the Hunga Tonga-Hunga Ha'apai (HTHH) volcano and tsunami response, COVID-19 activities, and Kiribati government responses to drought.[88]

United Nations

A key means for Australia to channel funding for humanitarian partners is through the UN Central Emergency Response Fund (CERF), which both enables provision of life-saving support when a crisis emerges and supports stakeholders working in underfunded crises. Australia is consistently among the largest 20 donors to the CERF, which, in recent years, has delivered health care, food assistance and

agricultural inputs, access to water and sanitation services, education, protection, and shelter.[89]

Australia's single largest humanitarian partner, the UN WFP focuses on addressing hunger and food security. It delivers food assistance in emergencies and works with communities and governments to build capacity for emergency preparedness and response, for managing supply chains and logistics, and for strengthening resilience against climate change. The WFP-Australia partnership is governed by a Strategic Partnership Framework that lays out the shared priorities of protection, gender equality, and disability inclusion. In recent years, Australia has provided funding for WFP to allocate resources where humanitarian needs are greatest in addition to funding for WFP to respond to specific crises, including in Afghanistan, Bangladesh, and Myanmar.[90] Australia also provides core and directed funding to the UN High Commissioner for Refugees (UNHCR) to provide humanitarian assistance to refugees, asylum seekers, and stateless and internally displaced persons, including in Bangladesh, the Horn of Africa, Myanmar, and Sudan. The UNHCR-Australia Strategic Partnership Framework (2022-2026) outlines shared objectives, especially protecting vulnerable displaced persons, promoting sustainable durable solutions, providing timely, effective, evidence- and needs-based humanitarian programs, strengthening international protection for refugees and internally displaced persons, and promoting the capacities of local and national actors to respond to crises.[91]

As a partner of the UN Population Fund (UNFPA), Australia supports the Regional Prepositioning Initiative, which provides crisis-affected women and girls with essential supplies to address urgent sexual and reproductive health needs.[92] Australia also works with UN OCHA to ensure OCHA can mobilize and coordinate humanitarian action, strengthen disaster preparedness across the Indo-Pacific region, and advocate for and lead effective and timely humanitarian response. Australian funding allows OCHA to partner with national authorities before, during, and after hazard events. Australia also contributes to OCHA-managed country-based pooled funds for Afghanistan, Myanmar, Somalia, and Ukraine.[93]

International Disaster Response Operations

Australia has demonstrated a strong commitment to delivering humanitarian assistance and disaster relief to numerous nations. Through close collaboration with partner governments and humanitarian organizations, Australia ensures that its assistance is tailored to address specific needs and is delivered in a practical and effective manner. Australia's capabilities for responding to humanitarian crises encompass deployment of personnel with specialized humanitarian expertise, provision of life-saving relief supplies and logistical support, and establishment of partnerships with local and international organizations. This section highlights some of Australia's significant international disaster responses in the past 10 years.

Response to PNG Landslide (2024)

On 24 May 2024, a catastrophic landslide on the mountainous terrain in PNG's Enga Province necessitated the urgent deployment of humanitarian assistance to the affected area. According to estimates, approximately 1,400 households and 7,850 individuals were directly impacted by the event.[94] The Australian Government was the first international partner to provide assistance in support of PNG's response efforts and committed an initial AU$2.5 million (US$1.7 million) of humanitarian funding for, among other things, emergency relief supplies, including shelter and hygiene kits for the affected population.[95] In coordination with the government of PNG, Australia deployed a 16-person DART to support incident management, geohazard assessments, and early recovery efforts.[96] The ADF played a pivotal role in providing essential aid, which encompassed the initial delivery of

relief items utilizing RAAF C-130J Hercules tactical transport aircraft, transport of 10 relief aid pallets using a C-17A Globemaster III heavy lift aircraft, and conveyance of aid to remote mountainous areas via RAAF C-27J Spartan transport aircraft.[97] Photo 5 shows Australian relief supplies unloaded at Wapenamanda Airport, PNG.[98] In support of PNG's recovery effort, Australia further provided AU$2 million (US$1.3 million) to support health services and reconstruction of the Highlands Highway – a critical transportation route.[99]

Response to TCs Judy and Kevin in Vanuatu (2023)

In March 2023, TCs Judy and Kevin affected an estimated 250,000 people in Vanuatu; this number translates to approximately 80% of the population. The storms also brought extensive damage to infrastructure, residences, and agricultural lands. As indicated by the Post Disaster Needs Assessment carried out by the Vanuatu Government, the estimated loss and damage amounted to US$433 million.[100] In the aftermath of the storms, Australia activated the Deployable Power Restoration Capability to restore power at Port Vila airport and enable the resumption of flights crucial for delivering life-saving aid. The Capability specialist team consisted of powerline technicians equipped to offer surge support to the affected country as per the agreement with the government and to conduct crisis assessments of the affected area.[101] As part of the Australian Government's response to the disaster, the ADF commenced Operation Vanuatu Assist, which entailed delivering over 100 tons of humanitarian aid, including essential food, shelter, and medical supplies, to the affected areas. Following initial aerial damage assessments by the RAAF, the Royal Navy's HMAS Canberra was deployed with further humanitarian aid, helicopters, and engineering personnel. More than 600 ADF personnel were deployed in response to the two TCs. In addition to humanitarian relief supplies, the assistance provided to Vanuatu integrated hydrographic reconnaissance, route clearance, emergency medical evacuations, transportation of local government officials, and cleanup and remediation of local infrastructure.[102] As of 19 June 2023, the Australian Government had committed AU$12.7 million (US$8.4 million) in support of the Vanuatu Government as part of its ongoing response and recovery efforts.[103] Photo 6 shows residents of Tanna Island, Vanuatu, unloading Australian humanitarian relief supplies from HMAS Canberra.[104]



Photo 5: Australian Relief Supplies Unloaded at Wapenamanda Airport, PNG

Response to Türkiye and Syria Earthquakes (2023)

On 6 February 2023, a 7.8-magnitude earthquake occurred near the southern Turkish city of Gaziantep and caused significant impacts in northwestern Syria. Later the same day, another 7.8-magnitude earthquake was registered approximately 80 kilometers (km; 49.7 miles) north of the initial earthquake, near Elbistan, Kahramanmaras, Türkiye.[105] Following these seismic events, Australia dispatched an USAR Team under the Australian DART to execute search and rescue operations in the impacted regions, and the DART oversaw

search efforts at a total of 27 sites.[106] The Australian Government provided AU$18 million (US$11.9 million) in humanitarian assistance in support of the affected population in both Türkiye and northwestern Syria. In support of the response effort in Türkiye, funding was provided to International Red Cross and Red Crescent Movement partners for food and shelter assistance, and additional funding went to Australian NGOs through the AHP. For the response effort in Syria, Australia funded immediate aid through the UN Children's Fund (UNICEF) and UNFPA, which directed shelter materials, clean water, and sanitation resources to the affected population, with a focus on women and girls.[107] Photo 7 shows the Australian DART conducting damage assessments in Hatay Province, Türkiye.[108]

Response to the HTHH Volcano and Tsunami (2022)

On 15 January 2022, the eruption of the HTHH undersea volcano and consequent tsunami resulted in substantial ashfall and flooding in Tonga. Three lives were lost, and nearly 3,000 people were displaced even as the eruption and tsunami caused extensive damage to infrastructure.[109] Tonga's international and domestic undersea fiber-optic cables were heavily damaged, and communications both between Tonga's outer and main islands and between Tonga and the outside world were disrupted. In response to a request from the Tongan Government and in coordination with international partners, Australia committed AU$19 million (US$12.5 million) for initial humanitarian assistance, recovery, and reconstruction.[110] On 20 January, an RAAF C-17 aircraft made multiple flights to transport more than 110 tons of emergency relief supplies and equipment. Additionally, the Royal Navy's HMAS Adelaide delivered essential medical supplies, engineering equipment, and helicopters to bolster logistical and distribution efforts. Subsequently, HMAS Supply and HMAS Canberra contributed to the relief mission by transporting fuel, construction materials, and disaster relief supplies.[111]



Photo 6: Residents of Tanna Island Unloading Humanitarian Aid from HMAS Canberra



Photo 7: Australian DART Conducts Damage Assessments in Türkiye

Overall, Australian naval vessels and RAAF flights delivered over 370 tons of essential emergency relief supplies and equipment to Tonga; these relief supplies included:

- Shelter kits and bedding
- Water containers
- Water purification tablets

- WASH kits
- Personal Protective Equipment and clean-up equipment
- Equipment to restore communications
- Engineering equipment and helicopters to support logistics and distribution[112]

Regional Response to the COVID-19 Pandemic

The COVID-19 pandemic posed a significant threat to global economic growth, poverty reduction, and political stability. It disproportionately impacted the developing world, particularly PICTs. Australia established numerous partnerships with its Pacific neighbors and promptly extended its support by offering COVID-specific humanitarian aid and relief to the Pacific Islands and Timor-Leste to support their national and regional healthcare initiatives. In response to the crisis, Australia dispatched health experts to assist the WHO regional offices in Fiji and the Ministry of Health in the Solomon Islands. In collaboration with the WHO, the U.S., and New Zealand, Australia contributed COVID-19 rapid diagnostic kits to several PICTs, including Fiji, Kiribati, Nauru, and PNG. Due to limited capacity, these countries faced challenges in conducting in-country testing. The provision of these kits empowered their respective health departments to conduct faster and more effective testing, thereby delivering results more quickly and enhancing their ability to manage the pandemic.[113] In partnership with the WHO, Australia conducted food security assessments for Fiji, Samoa, Solomon Islands, Tonga, and Vanuatu. This partnership aimed to identify and overcome challenges in the supply chain to ensure a continuous food supply to these regions. Moreover, in conjunction with New Zealand, Australia created an "Australian-Pacific Corridor" to establish a humanitarian pathway to the Pacific and Timor-Leste. This initiative was intended to facilitate the uninterrupted delivery of essential medical and testing equipment, critical personnel, food, and essential supplies, even with strict border controls and reduced commercial flights.[114] The AUSMAT provided medical specialists and logisticians in support of PNG's government to prevent, detect, and respond to the COVID-19 pandemic.[115]

Beyond the Pacific Islands, Australia's and Indonesia's Partnership for Economic Development (PROSPERA) facilitated rapid responses and supported Indonesia's economic response to the pandemic by facilitating the conduct of impact assessments, implementing economic stimulus measures, and working toward longer-term financial recovery.[116] Additional Australian support went to UNHCR to address pandemic-related needs within the context of the Rohingya crisis in Cox's Bazar, Bangladesh. This collaboration aimed to enhance access to clean water, hygiene supplies, and waste disposal in the refugee camps.[117] Australia also partnered with the World Bank Group to provide AU$5 million (US$3.3 million) to support Vietnam's economic recovery from the negative impacts of the pandemic. These funds were provided by Australia and administered by the World Bank Group Strategic Partnership - Phase 2, which aims to support Vietnam's development agenda through knowledge sharing and to inform policymaking. Funds were earmarked for economic recovery activities, including the acceleration of the execution of the investment program and reducing transaction costs for the government, people, and businesses. The program was part of an AU$10.5 million (US$7 million) commitment from Australia toward Vietnam's COVID-19 recovery efforts.[118]

In response to the challenges posed by COVID-19, Australia released a strategic framework entitled, "Partnerships for Recovery: Australia's COVID-19 Development Response."[119] This publication, which built upon a Foreign Policy White Paper, outlined a comprehensive approach to bolster health security, preserve social stability, foster economic recovery, and support vulnerable populations, including women, girls, persons with disabilities, and individuals living in poverty. During the pandemic, these groups faced compounded difficulties due to pre-existing challenges. The strategy detailed the Australian Government's immediate emphasis on emergency health

and humanitarian aid and highlighted the prioritization of partnerships with other governments, public awareness campaigns, local health system strengthening through equipment and training, and facilitation of the distribution of essential goods. Additionally, Australia extended support for WASH services and collaborated with local organizations to address gender-based violence and reinstate essential sexual and reproductive services that the COVID-19 crisis disrupted. Figure 2 provides an illustration of the strategic framework guiding Australia's whole-of-government development efforts in response to COVID-19.[120]

Finally, Australia collaborated with international financial institutions to advocate for robust and timely support to developing countries within the context of the pandemic. The establishment of the Australian Infrastructure Financing Facility for the Pacific aimed to extend grants and loans for essential infrastructure projects in the Pacific and Timor-Leste. This facility proved pivotal in Australia's COVID-19 recovery strategy in the region, as it identified climate-resilient infrastructure projects that promote sustainable economic growth and local employment.[121]

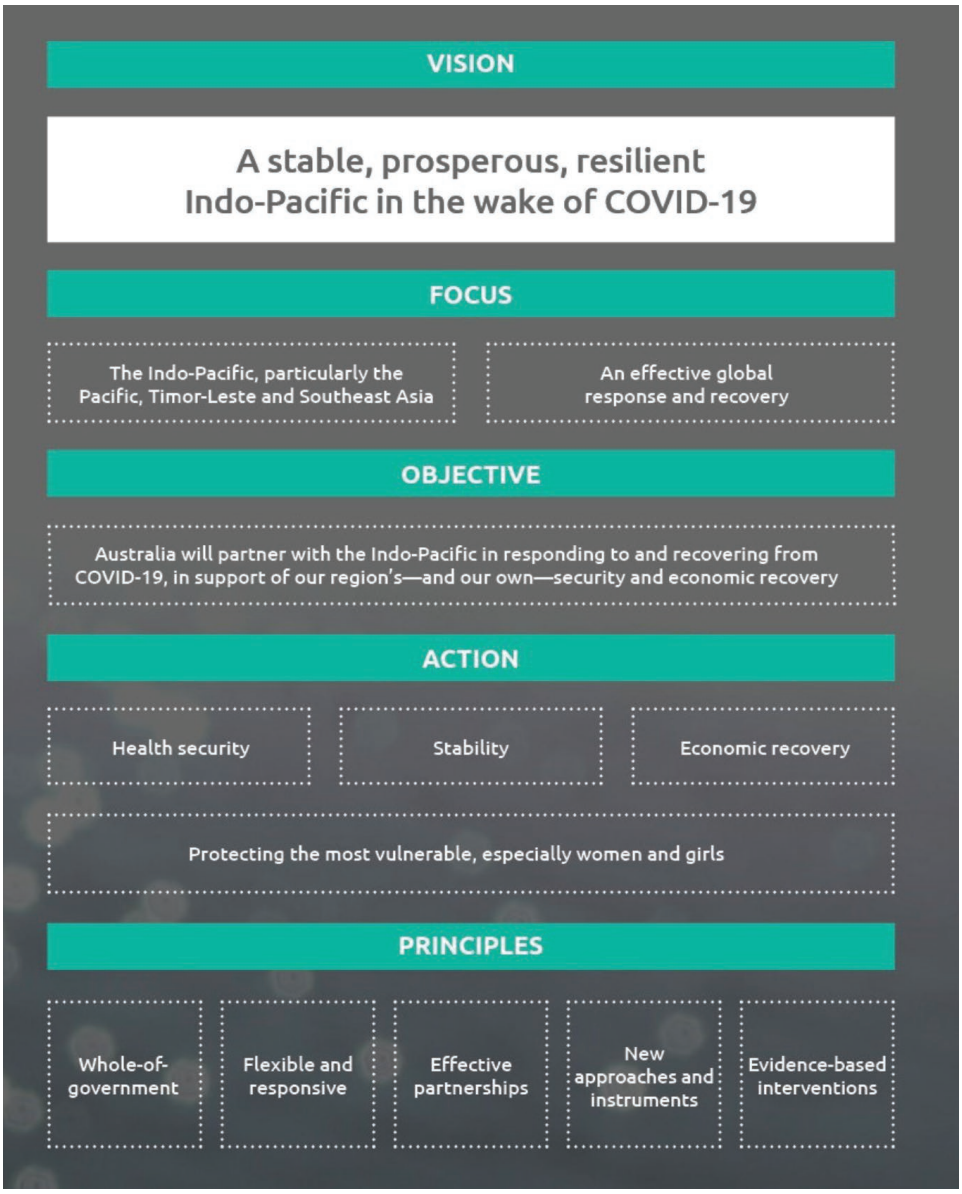


Figure 2: Australia's COVID-19 Development Response Framework

Response to TC Yasa in Fiji (2020)

On 17 December 2020, TC Yasa, classified as a Category 5 cyclone, struck Fiji's Viti Levu and Vanua Levu islands. The cyclone triggered widespread flooding and inflicted extensive damage on agricultural resources and essential electrical and communication infrastructure. In response, the Government of Fiji promptly established more than 450 evacuation centers, which accommodated over 23,000 individuals. After a Fijian Government appeal for aid, Australia extended a humanitarian assistance package amounting to AU$4.5 million (US$2.9 million) to bolster relief efforts.[122] This aid package encompassed provisions for relief supplies, educational materials, and support for international and local NGOs and the Fiji Red Cross. During the initial response phase, the 6th Engineering Support Regiment of the Australian Army, based in Brisbane, cleared debris and restored critical infrastructure and educational facilities. Furthermore, two aerial assessment missions utilizing RAAF P-8A Poseidon aircraft provided the Fijian Government with early assessments to gauge the magnitude of the damage inflicted by TC Yasa. The Royal Navy's HMAS Adelaide was also deployed for three weeks to deliver immediate aid to remote island populations. An ADF C-17A Globemaster aircraft transported emergency relief provisions, including tents, tarps, water purification tablets, and essential family kits.[123]

Response to TC Harold in Fiji, Solomon Islands, Tonga, and Vanuatu (2020)

In April 2020, TC Harold brought extensive damage to Fiji, Solomon Islands, Tonga, and Vanuatu. The cyclone struck the Solomon Islands on 2-3 April 2020 before intensifying as it moved to Vanuatu on 5 April. Subsequently, the cyclone affected the southern regions of Fiji on 8 April and reached Tonga on 9 April.[124] More than 159,000 people were affected in Vanuatu, where there was also significant damage to schools, crops, buildings, power, telecommunications, and the local boat fleet. In Fiji, more than 180,000 people were affected, 917 homes were destroyed, and 2,629 homes were severely damaged. Furthermore, communities on the western coast of Tonga's Tongatapu and 'Eua islands were impacted. Figure 3 shows the path of TC Harold from the Solomon Islands towards Vanuatu, Fiji, and Tonga.[125]

In Vanuatu, TC Harold struck the northern provinces of Sanma, Penama, and Malampa. The country experienced overcrowding of evacuation centers, food insecurity, damage to education and health facilities, and an increase in communicable diseases such as conjunctivitis and diarrhea.[126] In addition to supporting Vanuatu's NDMO with initial aerial surveillance of the scale of impact, Australia also supported the Vanuatu Red Cross and local NGOs with distribution of locally pre-positioned relief items. Upon the request of the Government of Vanuatu, four Australian flights delivered humanitarian relief supplies on 13, 21, and 26 April and 16 May. Furthermore, Australia provided a package

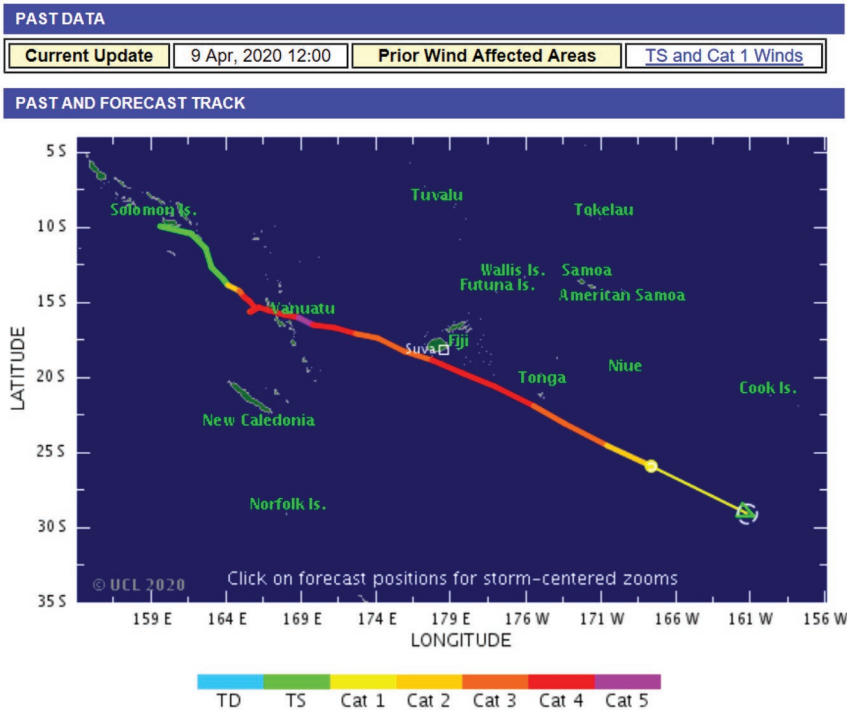


Figure 3: Path of Tropical Cyclone Harold in the Pacific Region

of humanitarian assistance to include:

- Supplies such as blankets, lanterns, and shelter and hygiene kits
- Essential health, education, and safety services
- Assistance to international and local NGOs in support of the Government of Vanuatu's response effort for immediate and medium-term services[127]

Australia supported the Fijian Government's initial response efforts by providing surveillance of the damage and access to prepositioned humanitarian relief supplies. Four Australian flights delivered humanitarian supplies on 18, 22, and 30 April and 1 May. In response to the Fijian Government's request for international assistance, Australia provided:

- Relief supplies to include shelter kits and tents, kitchen utensils, water containers, and personal hygiene items
- Funding for the Fiji Red Cross and NGOs to provide community services for long-term development
- Support to UNFPA Regional Prepositioning Initiative to distribute 250 prepositioned dignity kits directly to women and girls in the southern islands[128]

In support of the Tongan Government, Australia provided an initial response to include hygiene supplies, food items, and protection activities. Furthermore, Australia supported the Tonga Family Health Association through the International Planned Parenthood Federation and UNFPA to provide gender-based violence support, sexual and reproductive health services, and other essential medical care. In the Solomon Islands, widespread damage was reported to crops, food gardens, homes, buildings, and roads across the nation. Australia provided the Solomon Islands' NDMO with immediate emergency funding for damage assessments and initial clean-up. Figure 4 provides an overview of Australia's response to TC Harold.[129]

Response to the Sulawesi Earthquake and Tsunami (2018)

On 28 September 2018, Indonesia's Central Sulawesi was struck by a 7.5-magnitude earthquake and subsequent 1.5-meter (m; 4.9 feet) tsunami that, together, caused major damage to Palu and Donggala.[130] Consequently, the Indonesian authorities estimated that 2.4 million people were affected, and the Association of Southeast Asian Nations (ASEAN) Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre) estimated that 191,000 people needed immediate assistance. In support of the Indonesian Government's response efforts, Australia committed AU$10.25 million (US$6.78 million) of humanitarian assistance; the package included:

- Funding for Australian NGOs through the AHP to work with their Indonesian partners in providing water and sanitation resources, shelter, protection services, psychosocial support, and essential supplies
- Hygiene and reproductive health assistance to over 25,000 women and girls through UN agencies and international and local NGOs
- Funding for the Indonesian Red Cross to provide around 80,000 people with access to shelter, sanitation, and clean water
- Essential relief items, including tarps, tools to build shelter, and items to ensure access to safe water and electricity.[131]

The ADF also played a pivotal role in supporting the Indonesian Government by delivering supplies with C-130 and C-17 flights. Figure 5 shows an overview of Australia's response to the Sulawesi earthquake and tsunami.[132]

Response to TC Gita in Tonga (2018)

On 12 February 2018, TC Gita struck Tonga, where it damaged over 4,000 residential properties and caused power outages that affected more than 80% of homes. The cyclone delivered an estimated US$164 million worth

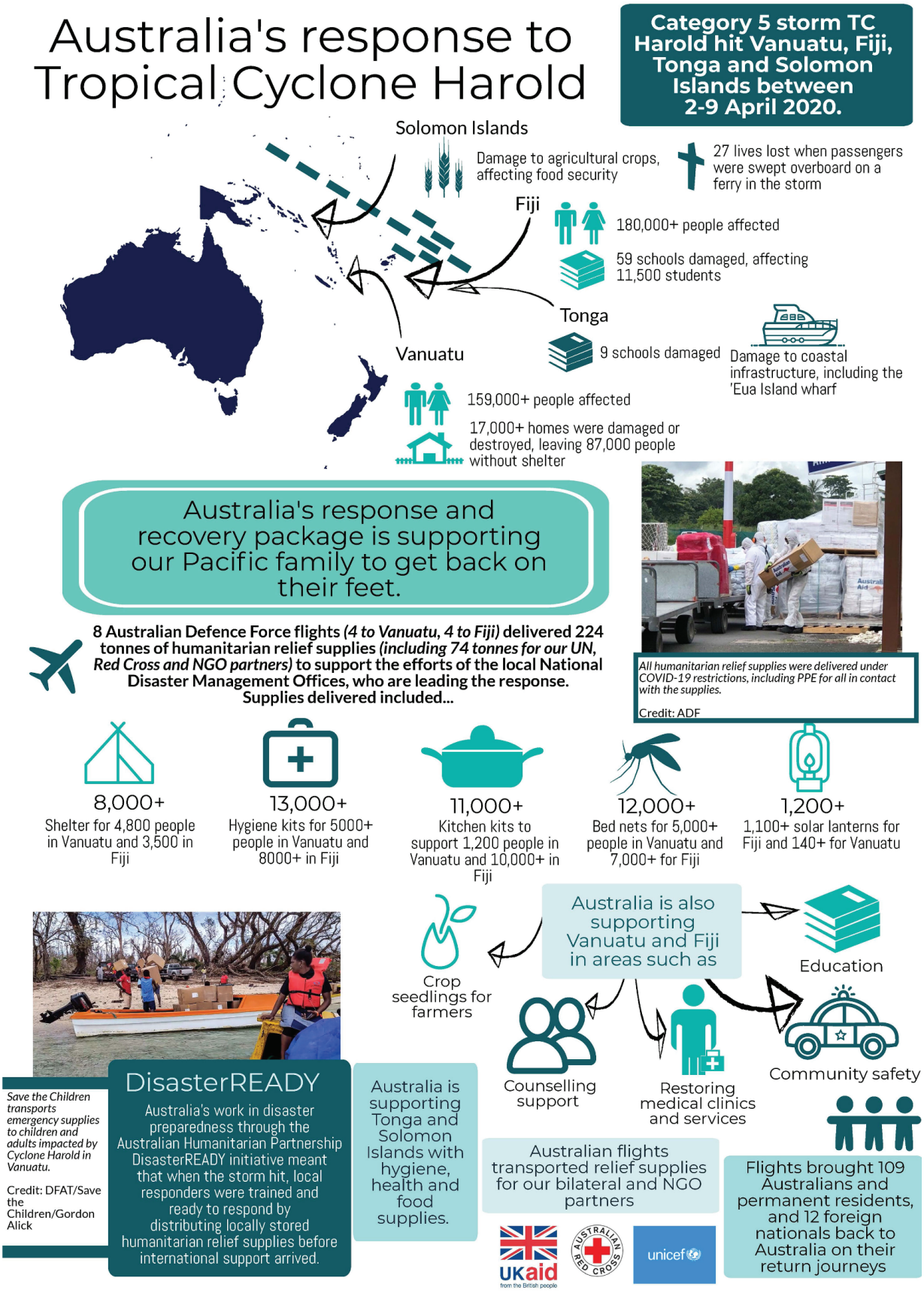


Figure 4: Overview of Australia's Response to Tropical Cyclone Harold

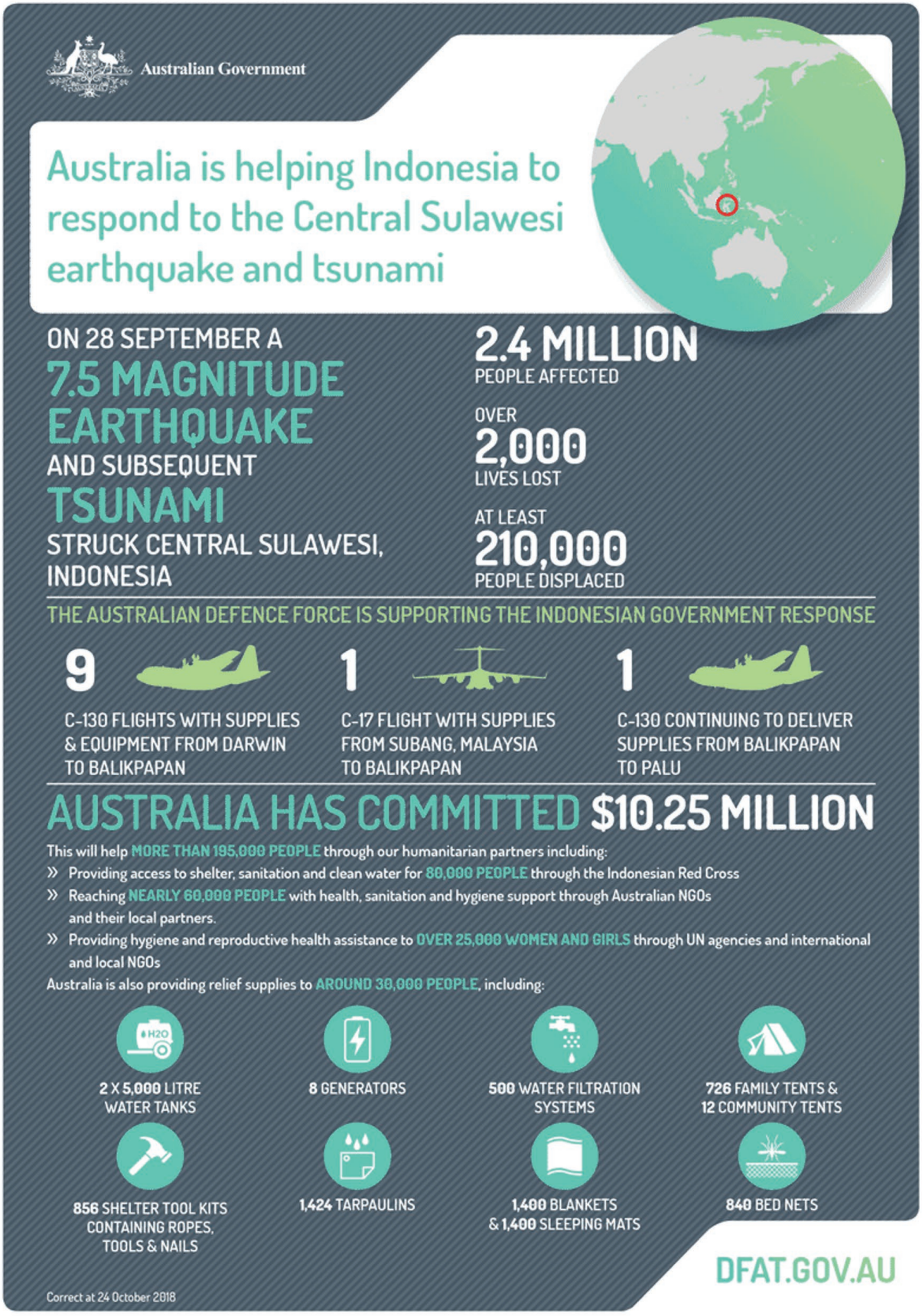


Figure 5: Overview of Australia's Response to the Sulawesi Earthquake and Tsunami

of damage, with estimated expenses for recovery and reconstruction amounting to US$149 million. Australia promptly provided humanitarian assistance via ADF C-17 flights and helped to restore power across Tongatapu. Furthermore, Australia assisted the Tongan Government in long-term development initiatives, encompassing endeavors to reinstate educational institutions, repair water supply systems, and restore or reconstruct vital infrastructure. Australia also deployed medical specialists and the DART for preliminary assessments following the storm. On 23 March, two Australian Cabinet Ministers unveiled a package totaling AU$10.5 million (US$6.9 million) to support Tonga's recovery and reconstruction endeavors.[133]

Response to Volcano Eruption in Vanuatu (2017-2018)

The Manaro Voui volcano on Ambae Island, Vanuatu, exhibited increased activity in 2017 and 2018, and it delivered significant ashfall and gas emissions, which prompted the Government of Vanuatu to declare a state of emergency on 12 April 2018, when large parts of the island were rendered uninhabitable. Subsequently, the entire population of Ambae, approximately 10,000 individuals, evacuated to the neighboring island of Maewo. The Government of Vanuatu received support for this evacuation from Australia, France, and New Zealand under the FRANZ Arrangement. Australia played a key role in providing assistance for the evacuation, delivering health and education services, and addressing emerging infrastructure needs on Maewo. This support was extended through local and Australian NGOs with a focus on protection, psychosocial support, livelihoods, shelter, WASH, and early recovery efforts. In addition, Australia supported the Vanuatu Police Force in enhancing its capacity to manage the movement of displaced communities on Maewo. Furthermore, technical experts deployed under the Australia Assists program assisted Vanuatu's NDMO in evacuation planning and the long-term resettlement of affected populations.[134]

Humanitarian Assistance to Sri Lanka (2016)

Severe weather struck Sri Lanka in May 2016 and led to extensive flooding and deadly landslides, which impacted 22 of the country's 25 districts. The events led to over 100 deaths and displaced approximately 360,000 individuals. In response to this crisis, Sri Lanka appealed for international assistance. Australia allocated AU$500,000 (US$330,650) to UNICEF to provide immediate assistance to children in displacement camps. This aid encompassed supplies of clean water, establishment of child-friendly spaces, and direct support to approximately 500 children and 2,000 families. Additionally, part of the financial support was directed toward the reconstruction and renovation of 22 damaged schools.[135]

Response to TC Winston in Fiji (2016)

After TC Winston devastated Fiji on 20-21 February 2016, Australia collaborated with the Fijian Government to offer AU$35 million (US$23 million) in financial aid. This assistance was aimed at helping Fiji recover from the widespread destruction caused by the cyclone, which resulted in 44 fatalities and impacted over 540,000 individuals. Australia deployed 60 technical experts from DFAT's Crisis Response Team and 21 personnel from the AUSMAT, which provided care to over 1,700 people in Fiji. The ADF deployed approximately 1,000 personnel and seven MRH-90 helicopters to deliver aid, alongside C-17 and C-130 flights that transported more than 520 tons of supplies and equipment. Furthermore, HMAS Canberra provided engineering assets, helicopters, water purification equipment, and humanitarian supplies. Figure 6 details Australia's response to help Fiji recover from TC Winston.[136]

Response to the Nepal Earthquake (2015)

On 25 April 2015, a 7.8-magnitude earthquake struck northwest of Kathmandu, Nepal; it was followed by a 7.3-magnitude earthquake northeast of Kathmandu on 12 May. These events were accompanied by numerous aftershocks and landslides, impacting several regions, including Kathmandu, Gorkha, Lamjung,

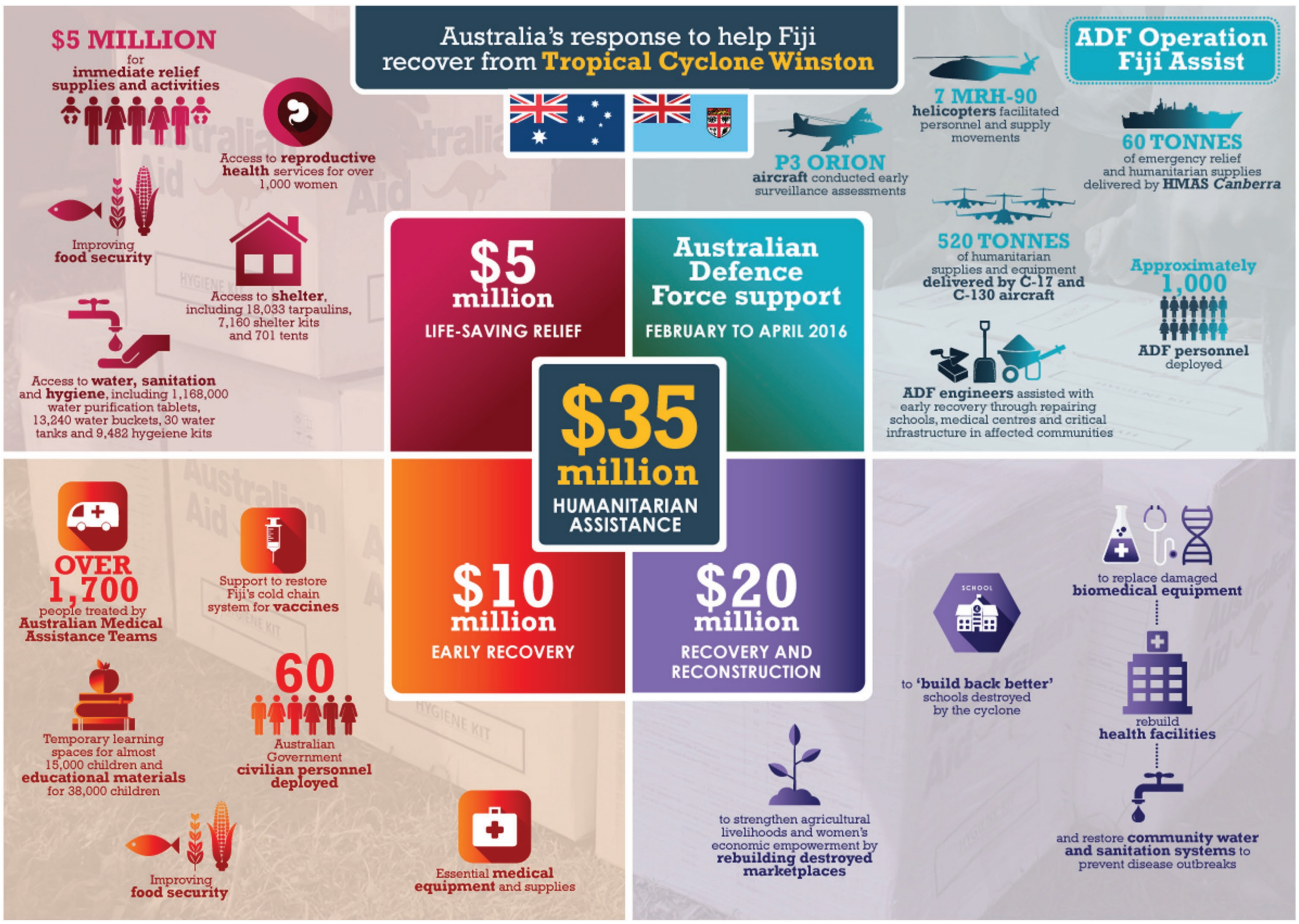


Figure 6: Overview of Australia's Response to Tropical Cyclone Winston in Fiji

Sinhupalchowk, Langtang, and Everest Base Camp. The human toll was immense, with approximately 9,000 fatalities and 20,000 injuries reported. The earthquakes also caused extensive damage to critical infrastructure, including schools, hospitals, and roads, with 409,000 homes destroyed and 265,000 homes damaged. In response to this crisis, Australia provided substantial humanitarian aid, committing AU$11.9 million (US$7.8 million) for immediate relief efforts. This support was channeled through UN agencies, the ARC, and NGO partners, facilitating the provision of 15 tons of humanitarian relief supplies. Moreover, Australia's DFAT successfully utilized pre-positioned emergency relief supplies from warehouses in Brisbane and Sabang, Indonesia, to assist up to 10,000 individuals. Furthermore, Australia's response extended beyond immediate relief efforts, as demonstrated by the AU$16 million (US$10.5 million) recovery package provided between 2015 and 2017. This support aimed to assist the Government of Nepal through the UN Development Programme (UNDP) by stimulating the local economy and deploying Australian Civilian Corps infrastructure specialists. ADF also contributed to the relief efforts by deploying two C-17 aircrafts to deliver aid to Kathmandu and evacuate affected communities.[137]

Response to TC Pam in Vanuatu (2015)

TC Pam, a Category 5 cyclone that hit Vanuatu on 12-14 March 2015, caused 11 deaths and extensive damage to critical infrastructure. The affected population numbered approximately 195,000 individuals across Tafea, Shefa, Malampa, and Penama Provinces. In response, in June 2015, the Vanuatu Government unveiled a recovery strategy titled, "Strengthening ni-Vanuatu Resilience – National Recovery and Economic Strengthening Program

Plan," which outlined its primary 2-year focus. Australia provided AU$50 million (US$33 million) to support the Vanuatu Government's short- and long-term recovery initiatives in alignment with the recovery plan. Figure 7 details the Australian Government's response in support of the Vanuatu Government's response effort.[138]

Highlights of Australia's response in support of the Vanuatu Government and with international partners include:

- An AUSMAT treated 1,341 patients at Port Vila Central Hospital, provided medical assistance on five islands, and undertook 26 aero-medical evacuations from outer islands to Port Vila

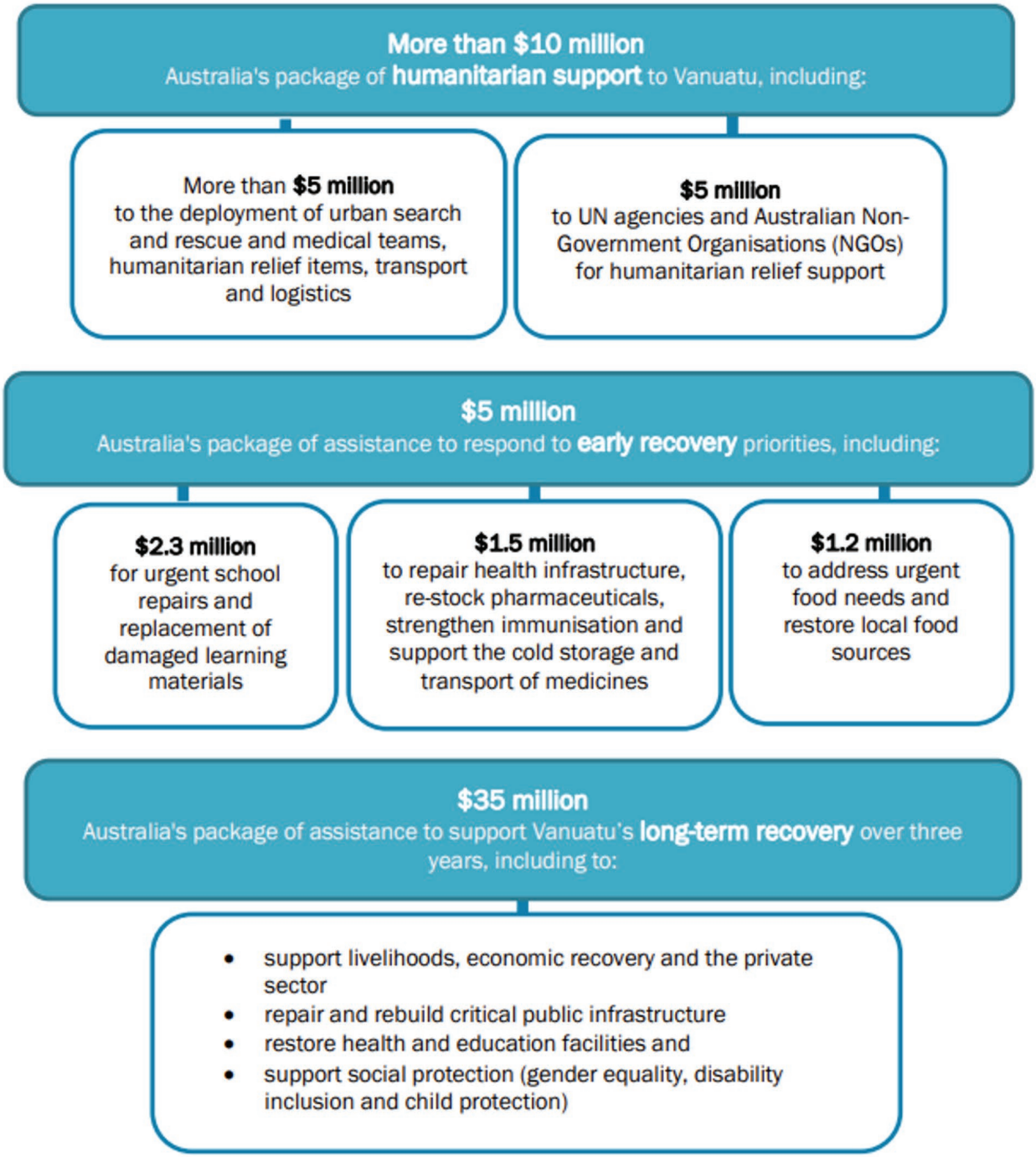


Figure 7: Australian Government's Response to Tropical Cyclone Pam

- An Australian USAR team helped with urgent repairs to Port Vila Central Hospital and 27 schools
- Funding to UNICEF delivered learning materials and school supplies to over 17,000 children and provided 5,017 children with trauma support
- Funding allowed the WFP to directly distribute approximately 500 tons of rice to over 32,000 people
- ADF transported 182 tons of emergency relief supplies for DFAT and humanitarian partners[139]

Response to Northern Iraq (2014)

During the height of the so-called Islamic State's campaign to take territory in Iraq and Syria, in early August 2014, the Islamist militants attacked Sinjar, the homeland of Iraq's Yazidis, an ancient religious minority. In the first days of the onslaught, some 12,000 Yazidis were killed or abducted while some 250,000 sought refuge on Mount Sinjar,[140] part of a 97-km (60-mile) mountain chain along the border of Iraq and Syria. Islamist fighters surrounded the mountain even as temperatures soared above 40°C (104°F), and the assailants prevented the Yazidis from accessing food, water, or medical care. Hundreds perished before the arrival of a coordinated relief and rescue mission that included Yazidis, Kurdish forces, and international military forces from 7 to 13 August.[141] As part of the response to this humanitarian crisis, the RAAF conducted a humanitarian airdrop using a C-130J Hercules. The airdrop included 150 boxes of high-energy biscuits and 340 boxes of bottled water. Notably, this operational airdrop marked the ADF's first large-scale air delivery of humanitarian aid since its involvement in East Timor in 1999.[142]

Response to Solomon Islands Flooding (2014)

The Solomon Islands experienced severe flooding caused by heavy rains from a tropical depression in early April 2014; this system would later develop into TC Ita. In the Solomon Islands, 22 people were killed and over 50,000 were affected. The capital, Honiara, was particularly impacted when the Mataniko River overflowed, destroying homes and infrastructure. Approximately 10,000 residents were displaced and sought refuge in nearly 30 evacuation centers within the city. Furthermore, over 9,000 households in Honiara, Guadalcanal, and Isabel suffered extensive damage to their food gardens, with an estimated 75-100% loss.[143] Access to clean drinking water was a critical concern for half of the affected population. Australia contributed AU$3 million (US$1.9 million) in relief aid, which encompassed the provision of potable water, emergency accommodations, and sanitation and hygiene resources.[144] Moreover, DFAT extended coordination and technical support to the Solomon Islands Government. Additionally, a 12-person ADF assistance team, along with RAAF assets, deployed. The AFP and the Regional Assistance Mission to Solomon Islands (RAMSI) Participating Police Force also supplied personnel and equipment to the Royal Solomon Island Police Force.[145]

Response to South Sudan (2014)

Conflict between supporters of South Sudan's President and his former deputy erupted in December 2013. Although the conflict would last into 2020, in its initial stages, violence led to the loss of thousands of lives and the displacement of over 1 million people, many of whom sought refuge in neighboring countries. Several times over the course of the first months of the conflict, civilians sought refuge in UN bases and camps only to be assaulted and killed there or chased out by militia and gangs who overwhelmed base defenders.[146] In response to this humanitarian crisis, the RAAF delivered 200 tons of cargo and equipment to the United Nations Mission in South Sudan between 3 and 12 January 2014. This support included eight C-17A Globemaster flights and two C-130J Hercules flights, which provided strategic airlift support and facilitated the transportation of UN staff.[147]

Women, Peace and Security

Policies and Frameworks

Australia ratified the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) on 17 August 1983.[148] The CEDAW is a landmark international agreement that affirms the principles of fundamental human rights and equality for women worldwide. As of April 2022, 189 countries are parties to the CEDAW.[149] Furthermore, Article 17 of the Convention established the CEDAW Committee, comprising 23 elected members who serve as independent gender experts; Australia participates as a member of the Committee.[150]

In 2000, UN Security Council Resolution (UNSCR) 1325 on Women, Peace and Security (WPS) was adopted, marking the first formal acknowledgment by the Security Council of the distinct impact of armed conflict on women and the crucial significance of integrating gender perspectives into all UN initiatives concerning conflict prevention, conflict resolution, peacebuilding, peacekeeping, rehabilitation, and reconstruction.[151] The emphasis on women's security and gender equity has been bolstered by the passing of UNSCRs 1820 (2008), 1888 (2008), 1889 (2009), 1960 (2010), 2106 (2013), 2122 (2013), 2242 (2015), 2467 (2019), and 2493 (2019).[152] These subsequent UNSCRs also highlight the important role women can play in preventing, managing, and resolving conflict. In 2015, the UN Entity for Gender Equality and the Empowerment of Women, also known as UN Women, carried out a comprehensive global review of UNSCR 1325. The recommendations from the global study underscored the necessity to facilitate the meaningful involvement of women in peace processes, with a focus on safeguarding the well-being of women and girls during humanitarian crises and augmenting women's leadership and decision-making roles in endeavors aimed at the prevention and mitigation of violent extremism.[153]

The Australian Government Office for Women established a WPS Inter-Departmental Working Group to facilitate dialogues aimed at formulating Australia's first National Action Plan (NAP) on WPS (2012-2018). This inclusive approach encompassed engagement with governmental entities and civil society organizations (CSO) such as the Women's International League for Peace and Freedom (WILPF) Australia.[154] The importance of gender equality in preventing conflict and promoting peacebuilding has grown since the introduction of Australia's first NAP.[155]

In April 2021, the Australian Government adopted the second NAP for the period 2021-2031 to advance gender equality and the human rights of women and girls. The NAP was developed with recommendations from two independent reviews, national consultations conducted by the government and CSOs, and WPS research evidence.[156] The second NAP is organized into four key outcomes designed to guide the county's international efforts; they are:

- Support women's and girls' meaningful participation and needs in conflict prevention and peace processes
- Reduce sexual and gender-based violence (GBV)
- Support resilience, crisis response, and security, law, and justice sector efforts to meet the needs and rights of all women and girls
- Demonstrate leadership and accountability for the WPS agenda[157]

National Organizations

DFAT is the lead agency responsible for coordinating the whole-of-government implementation of the NAP on WPS with other departments and agencies, some of which include the Departments of Defence and Home Affairs, AFP, and ACMC. These government agencies will strengthen implementation by increasing women's meaningful participation and leadership in the peace and security sector, building knowledge and capabilities, using evidence-based approaches, and strengthening partnerships with CSOs. The DFAT, AFP, and Departments of Defence and Home Affairs developed and

implemented agency-specific plans that outline their contribution to advancing the NAP.

In support of DFAT, the ACMC is responsible for spearheading partnerships and facilitating dialogues with expertise drawn from government entities, academia, and CSOs from across Asia and the Pacific.[158] The dialogues facilitate discourse on implementation progress and recommendations from independent reviews, exchange of ideas regarding emerging best practices and recent research, and formation of new partnerships to support comprehensive government implementation. On 29 March 2022, the Australian Government's Inter-Departmental Committee (formerly the Working Group) on the NAP for WPS endorsed the Framework for Civil Society-Government Engagement on WPS. This Framework was developed by ACMC in partnership with fellow government agencies and the Australian Civil Society Coalition on Women, Peace and Security to outline engagement between the Australian Government and CSOs.[159]

The Gender, Peace and Security (GPS) Directorate of the ADF was established in 2020. The GPS Directorate is responsible for operationalizing the priorities outlined in the NAP through the Defence Gender, Peace and Security Mandate (2020-2030).[160] The Mandate aims to synchronize the ADF's actions with Australia's ambitious objectives pertaining to gender equality, human rights, and the meaningful engagement of women and girls in peace and security processes. It serves to unify ADF operations on this front and signifies an increasing level of maturity in the integration of UNSCR 1325 WPS principles. The Mandate consists of six lines of effort spanning core ADF areas: 1) policy and doctrine; 2) education and training; 3) personnel; 4) mission readiness and effectiveness; 5) international engagement; and 6) governance and reporting.[161]

One of the areas of ADF's WPS implementation is within the PMSP, which supports PICTs and Timor-Leste in building maritime security. The WPS element works to increase women's participation in defense and security operations. The PMSP includes training to strengthen defense capability and professional and policy development support.[162] Consequent to the program's efforts, Tuvalu selected the first woman to join its Police Maritime Wing to crew its new Guardian-class Patrol Boat, and the Fiji Navy developed and implemented policies to introduce women into its personnel.[163]

The AFP is responsible for operationalizing the International Command Gender Strategy (2018-2024) and ensuring that a gender perspective is considered in international operations and partnerships with law enforcement.[164] The Strategy comprises three themes – lead and role model, build capability, and engage and collaborate with stakeholders – alongside five strategic priorities, each with specific objectives, targets, initiatives, and measures. The five strategic priorities are: 1) improve gender composition of International Command deployments; 2) ensure gender mainstreaming across deployment activities; 3) improve composition and capacity with partner police; 4) improve capability on gender-related law enforcement operations; and 5) increase stakeholder engagement and collaboration with civil society.

The WPS Implementation Plan (2021-2023) highlighted the Department of Home Affairs' and Australian Border Force's contributions to the WPS agenda.[165] In September 2019, representatives from the Department of Home Affairs, in partnership with the National Security College at the Australian National University, delivered an inaugural "Women in National Security: Why Diversity is in Papua New Guinea's National Interest" course in Port Moresby, PNG.[166] The course highlights tangible benefits that increased diversity brings to the national security environment.

On 17 October 2022, the Australian Government unveiled the National Plan to End Violence against Women and Children (2022-2032), which laid out a comprehensive societal strategy aimed at collective action to realize the shared goal of ending GBV.[167] The National Plan encompasses four domains: prevention,

early intervention, response, and recovery and healing. Additionally, the First Action Plan (2023-2027) sets out a roadmap with 10 actions for implementation during the first five years of the National Plan.

Programs and Initiatives in the Asia-Pacific Region

The Women's International Network on Disaster Risk Reduction (WIN DRR) is dedicated to advancing the Sendai Framework for DRR by empowering women in decision-making and leadership roles in DRR in the Asia-Pacific region. Among the key supporters of this initiative are the UN Office for Disaster Risk Reduction (UNDRR) and the Australian Government.[168] The WIN DRR provides a professional network to support women working in the DRR sector and consists of four program components: building the evidence base; recognizing women's achievements; strengthening leadership capacities; and supporting institutions to enhance women's leadership.

Australia also partners with UN Women's Women's Resilience to Disasters (WRD) program to expand WRD activities and a community of practice across Fiji, Kiribati, the Solomon Islands, and Vanuatu. The WRD program provides a comprehensive package to strengthen women's and girls' resilience to disasters and climate-related hazards at the country, regional, and global levels.[169] The WRD Knowledge Hub is an integral component of the WRD program, and it offers access to knowledge, research, tools, a community of practice for experts, women's perspectives, and learning opportunities on gender-responsive disaster prevention, preparedness, and recovery. Figure 8 depicts the WRD Knowledge Framework architecture for building women's disaster and climate resilience to include three pillars, 15 topics, and three cross-cutting issues.[170]

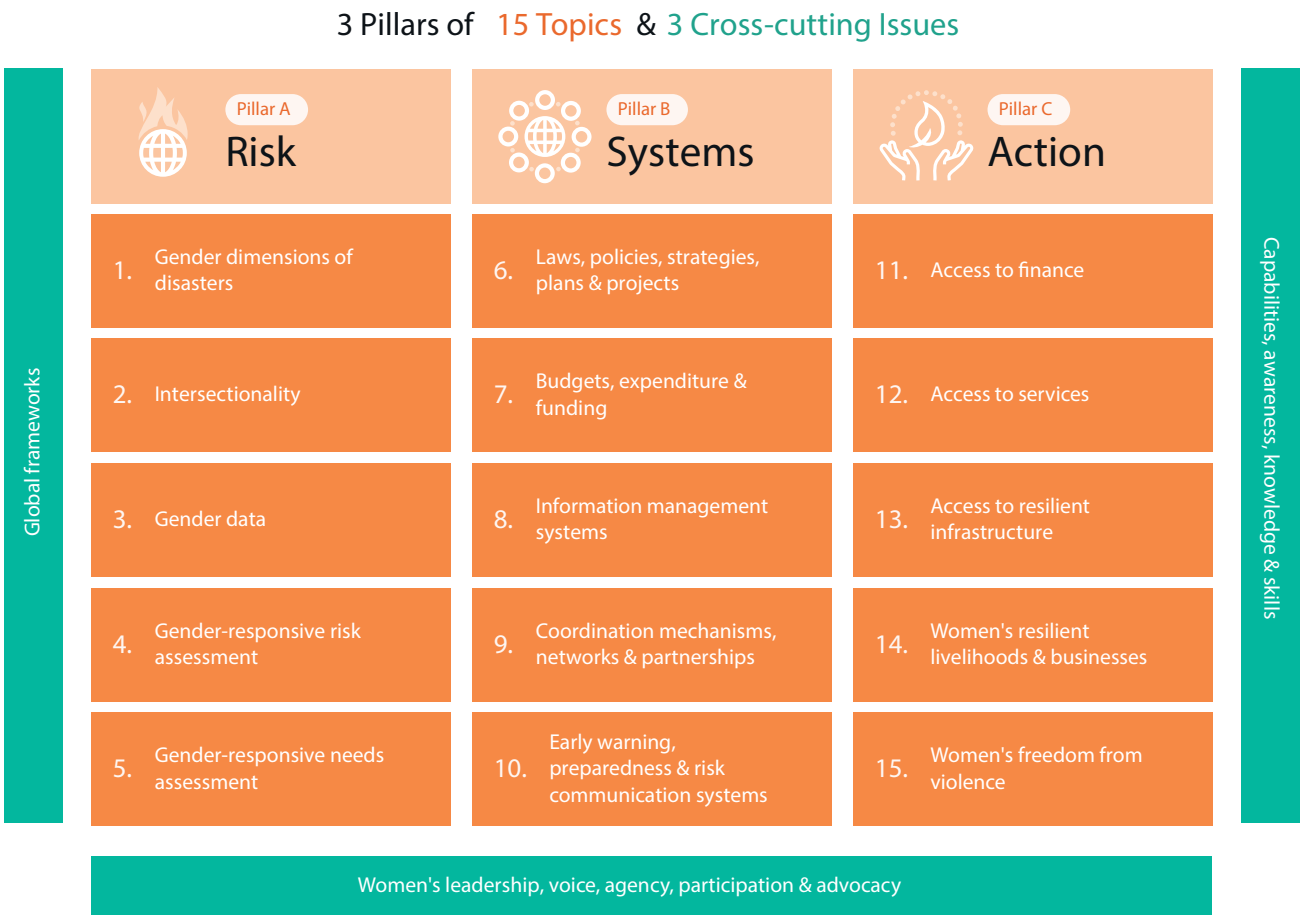


Figure 8: Women's Resilience to Disasters Knowledge Framework

The kNOwVAWdata (Know Violence Against Women Data) program, initiated in 2016, represents a collaborative effort involving UNFPA, DFAT, the University of Melbourne, and Australia's National Research Organisation for Women's Safety.[171] This program encompasses two phases: 1) provide support to 23 countries in Asia and the Pacific in their endeavors to address the prevalence of violence against women through data-driven activities to inform policy and advocacy efforts, and 2) enhance regional and national capabilities in measuring violence against women while providing sustained support for these efforts.

The Australian Government allocated a total of AU$25 million (US$16.8 million) over five years (2022-2027) to advance the WPS agenda in support of the Women, Peace and Humanitarian Fund, ActionAid Australia, and UN Women's Regional Framework Towards Peaceful, Inclusive Societies: Advancing the WPS Agenda in the Asia Pacific Region.[172] The UN Women Regional Framework aims to address priority WPS issues and emerging trends in the Asia-Pacific region. Framework activities include:

- Technical support to governments in the region to develop, implement, and review NAPs and the ASEAN Regional Plan of Action on WPS
- Research, data, and tools on WPS
- Creation of a coordination mechanism and engagement platform for government, CSOs, and other WPS actors
- Capacity strengthening and networking opportunities for women's rights CSOs to advance WPS[173]

Initiatives funded by the Australian Government aimed at mainstreaming gender equality and increasing women's leadership roles in the Pacific region include Pacific Women Shaping Pacific Development, Pacific Women Lead, and Balance of Power. The Pacific Women Shaping Pacific Development is a 10-year program designed to improve opportunities for the political, economic, and social advancement of women in the Pacific. Australia manages the program in collaboration with a diverse range of implementing partners, including governments in the Cook Islands, Federated States of Micronesia (FSM), Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, PNG, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu, as well as various multilateral organizations, international and national NGOs, and CSOs.[174] The Pacific Women Lead design framework fosters collaborative efforts between Australia and Pacific nations spanning the period 2021-2026 to bolster initiatives and advance gender equality in the region.[175] Balance of Power is an initiative to support PICTs' efforts to achieve their objectives of inclusive and effective leadership in line with national policy frameworks with the aim of contributing to a balance in women's and men's leadership roles and opportunities.[176] The first phase of the initiative, from 2019 to 2024, focused on Vanuatu and Tonga, with small country offices established in Port Vila and Nuku'alofa; these country offices are supported by the regional head office in Suva, Fiji.

Training and Exercises

In 2023, Australia's Department of Defence released a Defence Strategic Review, affirming Australia's strategic posture in the Indo-Pacific region and indicating a commitment to expanding and strengthening partnerships, enhancing regional military exercises, and increasing the focus of the country on diplomacy in the Pacific and Southeast Asia.[177] The U.S. views the bilateral U.S.-Australia Alliance as "an anchor for peace and stability in the Indo-Pacific region and around the world."[178] In 2021, the Australia, UK, U.S. (AUKUS) trilateral security partnership was established to enable the partner nations to support their security and defense interests. One of two pillars within the AUKUS construct focuses on enhancing joint capabilities and interoperability among the nations.[179] While major power alliances underpin Australia's strategic posture in the Indo-Pacific, regional partnerships remain "essential," and the 2023 Defence Strategic Review calls for expanded

relationships with Japan and India, in addition to partnerships across Southeast Asia and the Pacific.[180]

An emerging component of Australia's training and exercise scheme is POVAI ENDEAVOR, a collaborative multilateral exercise framework, through which regional partners in the Pacific aim to align their cooperative efforts in a variety of domains, including HADR.[181] The Framework was proposed in 2013 and officially established in 2015, during the South Pacific Defence Ministers Meeting (SPDMM). The Framework aims to capture bilateral and multilateral exercises in the region and foster greater regional cooperation and interoperability.[182] SPDMM member states include Australia, Chile, Fiji, France, New Zealand, PNG, and Tonga. Observer nations include Japan, the UK, and the U.S. During the 2023 SPDMM, delegates endorsed an initiative to establish a set of regional HADR standard operating procedures (SOP),[183] which were the subject of additional discussion at the SPDMM held in New Zealand in October 2024, when members called for a shared understanding of how the new Pacific Response Group (PRG) would operate in each jurisdiction.[184]

This section covers the last five years of major events in which both the U.S. military and the ADF are primary participants and HADR activities were a key component of the exercise or training engagement. The list is not exhaustive but serves to provide a foundational context for when, where, and with whom Australia conducts HADR-related exercise engagements.

Rim of the Pacific (RIMPAC) – June-August 2024

From 27 June through 1 August 2024, RIMPAC brought together naval forces from 29 nations and integrated numerous NGOs in what was the largest RIMPAC to date. The theme of this iteration was "Partners: Integrated and Prepared." In addition to leadership by the U.S. Navy's Third Fleet under Vice Admiral John Wade, key leadership of the Combined Task Force (CTF) formed for the exercise included the Chilean Navy's Commodore Alberto Guerrero, serving as Deputy CTF, Japan Maritime Self-Defense Force (JMSDF) Rear Admiral Kazushi Yokota, serving as Vice Commander, the Royal Canadian Navy's Commodore Kristjan Monaghan, in command of the maritime component, and the RAAF's Air Commodore Louise DesJardins, commanding the air component.[185] Australia views RIMPAC as an opportunity to strengthen its international partnerships, and demonstrate its capability and commitment toward alliances, agreements, and relationships with partner nations. The ADF contingent in RIMPAC 2024 included 320 personnel, a guided missile destroyer, and one aircraft.[186]

RIMPAC 2024 also hosted the largest HADR exercise in the history of the exercise; eight partner nations and the statewide Hawaii Healthcare Emergency Management (HHEM) Coalition engaged directly in the HADR component.[187] Notable first-time HADR activities included:

- USAR with participation from Mexico, Peru, and the U.S.
- HHEM mass casualty event with partners, including Mexico, Peru, and the U.S.
- Operations with HMCS Max Bernays (AOPV 432), a Canadian special mission support platform and icebreaker
- Operations with JS Kunisaki (LST-4003), a JMSDF Osumi-class amphibious landing ship
- Integration with U.S. Marines Combat Logistics Company 33 (CLC-33) and U.S. Navy Seabees First Naval Construction Regiment (1NCR) in constructing a helicopter landing zone, production of drinking water, bridge assessment, and removal of downed trees
- Constructing a pagoda with combined U.S. Navy and South Korean Seabee forces
- Use of unmanned aerial systems from Naval Facilities Engineering Systems Command for port surveys and damage assessment[188]

RIMPAC is the world's largest joint, combined, maritime exercise, led by U.S. Navy Third Fleet. The biennial exercise hosts a wide range of activities in a multi-domain environment.

RIMPAC's purpose is to build relationships, enhance interoperability and proficiency, and contribute to peace and stability in the Indo-Pacific region.[189] Since its first iteration in 1971 with fewer than 10 participating nations, the exercise has grown to include more than two dozen participating navies, plus international agencies and NGOs.[190] Since the 1990s, RIMPAC has increasingly focused on HADR scenarios, conducted throughout the planning and execution of the exercise.[191]

Regional Exercise LONGREACH – July 2024

Regional Exercise LONGREACH is an initiative of the SPDMM with the intention of strengthening Pacific military cooperation, coordination, and contributions to regional HADR responses.[192] LONGREACH was historically an annual bilateral exercise engagement between the ADF and Republic of Fiji Military Forces (RFMF) with a focus on HADR preparedness, especially in the cyclone season.[193] Since 2022, the updated exercise construct has included a collection of bilateral and multilateral exercise engagements between SPDMM member countries and observers.

Exercise BALIKATAN 2024 – April-May 2024

Exercise BALIKATAN 2024 (BK24) hosted approximately 16,000 personnel from the U.S. and Philippines' armed forces. Between 22 April and 10 May, exercise activities primarily took place in areas of the Philippines' islands of Luzon and Palawan.[194] First run in 2000, Exercise BALIKATAN is a major annual bilateral training exercise between the U.S. and the Philippines in direct support of the U.S.-Philippine Mutual Defense Treaty of 1951. The aim is to enhance military cooperation and readiness between the U.S. and the Philippines, but recent iterations have seen the exercise expand in size and scope to include an Australian contingent and several other participating nations and organizations.[195] The exercise consists of three main components: a command-and-control exercise, a field training exercise and a series of humanitarian civic assistance (HCA) activities.[196] During BK24, HCA activities included health care services and the construction of school buildings.[197]

BK is led by Commander U.S. Marine Corps Pacific. The Combined Joint Civil Military Operations Task Force carries out HCA activities. The U.S. military and Armed Forces Philippines share key leadership roles in the task force.[198] Since 2014, the ADF has regularly participated.[199] Australia views the Philippines as one of its closest partners in the collective effort to maintain regional security and stability in the region.[200] In BK24, the Australian contingent included approximately 200 personnel from the Royal Australian Regiment, RAAF, and joint ADF medics.[201] Fourteen nations also participated in the Philippines' International Observer Program; they included Brunei, Canada, France, Germany, India, Indonesia, Japan, Malaysia, New Zealand, Republic of Korea, Singapore, Thailand, the UK, and Vietnam.[202]

Exercise COPE NORTH – February 2024

Exercise COPE NORTH (CN) ran 2-23 February 2024. The annual CN exercise aims to develop participating nations' ability to execute large-force employment under the Agile Combat Employment (ACE) concept. CN24 was led by a joint international command structure with leaders from the U.S., Australia, and Japan, a first for the exercise.[203] CN began in 1978 as a bilateral U.S.-Japan series to enhance air operations in defense of Japan.[204] Australia became a participating partner with the inclusion of the RAAF in 2011,[205] and, since then, the series has been trilateral and focused on HADR, large force employment, and aerial combat training. The HADR training event is aimed at improving multinational interoperability needed to support the Indo-Pacific region in the event of a natural disaster. The exercise is U.S. Air Force Pacific's (PACAF) largest annual exercise with partner nations, and it takes place across multiple airfields, including in FSM, Guam, the Commonwealth of the Northern Mariana Islands, Japan, and Palau.[206] The ADF views the CN series as a unique opportunity for training. Due to the dynamic and dispersed nature of the exercise, participants are afforded a broader

range of training, particularly for HADR and ACE operations.[207]

Regional Exercise LONGREACH – October 2023

LONGREACH 2023 was co-hosted by the Papua New Guinea Defence Force (PNGDF) and the ADF. Participants included Fiji, France, Japan, New Zealand, Tonga, the UK, and the U.S. Notably, the role of gender in disasters was incorporated into the 2023 exercise scenarios.[208]

Exercise CROCODILE RESPONSE – June 2023

Exercise CROCODILE RESPONSE (CR) is an annual HADR exercise designed to strengthen the humanitarian response capabilities of the armed forces of Australia, Indonesia, and the U.S., in the event of natural disaster in the Indo-Pacific region.[209] The exercise takes place in both Indonesia and Australia's Northern Territory.[210] CR23 began with academics in Bogor, Indonesia, and concluded with a field training exercise (FTX) at Mount Bundey Training Area, Australia. CR23 included a complex scenario enabling participants to practice disaster relief skills, including loss of essential services, casualty evacuation and expeditionary medical care, water purification, and food replenishment. The academics phase included an exchange of lessons learned and training led by subject matter experts.[211] Non-military organizations play a major role. From inception, the exercise has been conducted in partnership with Australia's DFAT, the United States Agency for International Development (USAID) Bureau for Humanitarian Affairs (BHA), and the AUSMAT. Recent iterations have also included coordination with Indonesia's Disaster Management Agency (BNPB) and National Search and Rescue Agency (BASARNAS).[212]

Exercise BALIKATAN – April 2023

BK23, which ran 11-28 April 2023, saw participation by more than 17,000 personnel from across all participating nations. Many ASEAN members were present as part of the Philippines' international observer program. The Australian contingent consisted of approximately 100 personnel. ADF personnel were involved in multiple complex scenarios throughout the exercise. A portion of the contingent was already deployed to the region as part of Australia's Enhanced Defence Cooperation Program with the Philippines.[213]

Exercise CROIX DU SUD – April-May 2023

Exercise CROIX DU SUD (CS) is a biennial multi-national HADR exercise, hosted by France, Australia, and New Zealand. CS23 ran from 24 April through 6 May 2023. It involved 19 nations and 3,000 military and civilian personnel. The scale of CS23 was the largest yet for the series. The exercise was led by a French Combined Joint Task Force, with a base of operations in New Caledonia. The French contingent included a land and naval component, led by the French Armed Forces in New Caledonia (FANC) and the French Aero-Naval Rapid Reaction Force.[214] Participants also included Australia, Fiji, New Zealand, Tonga, the UK, and the U.S. The following nations provided staff: Canada, Germany, Indonesia, Netherlands, Peru, Philippines, PNG, and Singapore. Observer nations included Brunei, Japan, Malaysia, and Vanuatu.[215] The CS exercise series aims to prepare participants for major HADR operations in the South Pacific when military assistance could be requested for a non-combatant evacuation operation, followed by stability and security operations. The exercise focuses on post-disaster HADR operations and involves nearly 20 participants and observers, and multiple land, air, and sea assets.[216]

Exercise COPE NORTH - February 2023

CN23 ran 8-24 February 2023 and expanded in scope to include a more prominent ACE component. It also experimented with smaller ACE aircraft to support the movement of cargo and personnel.[217] While the U.S. Air Force and Japan Air Self-Defense Forces (JASDF) contributed the largest element, the RAAF and French Armée de l'Air et de l'Espace (FASF) also contributed contingents.

Regional Exercise LONGREACH – August 2022

In 2022, as part of the POVAI ENDEAVOR Framework, Exercise LONGREACH was inaugurated as a 3-day planning and preparedness event. It included broad participation of regional militaries and non-military organizations, which more effectively represents Australia's whole-of-government and NGO cooperative approach to building Pacific Island partners' capacity to prepare for major disasters and emergencies.[218] Hosted at Blackrock Peacekeeping and Humanitarian Assistance and Disaster Relief Camp in Fiji, LONGREACH 2022 was led by the RFMF and included the ADF, His Majesty's Armed Forces of Tonga, PNGDF, New Zealand forces, and FANC. NDMOs in attendance represented Fiji and Tonga. In addition, the ACMC and CFE-DM participated.[219]

RIMPAC 2022 – June–August 2022

RIMPAC 2022 was held from 29 June through 4 August 2022 under the theme, "Capable, Adaptive, Partners." Participation included 26 nations. In addition to the U.S. Navy Third Fleet's Vice Admiral Michael Boyle, CTF Commander, key leadership of the multinational force included leaders from the Royal Canadian Navy, JMSDF, Royal Australian Navy, and Royal Canadian Air Force.[220] In this iteration of the biennial exercise, HADR activities focused on effective collaboration among multiple nations in a dynamic scenario environment. During the HADR exercise, participants experimented with military-to-military collaboration models and created opportunities for civil-military engagement.[221] In addition to the regular exercise program, RIMPAC 2022 introduced space and cyber operations for all partner nations.[222] The Australian contingent in RIMPAC 2022 included three amphibious ships, two RAAF P-8A aircraft, multiple capabilities from Australian Army units, and approximately 1,600 ADF personnel.[223] The Royal Australian Navy improved its interoperability with the U.S. Navy and demonstrated increased focus on the undersea domain, specifically leveraging its subsurface technology program to respond to disasters in cooperation with partner nations.[224]

Exercise CROCODILE RESPONSE – May 2022

CR22 ran 9-20 May 2022. This iteration of the annual exercise saw the addition of full participation by Indonesia's armed forces (TNI) alongside ADF and U.S. personnel. CR22 included three phases: academics, tabletop exercises, and an FTX. Academic instruction was provided by USAID BHA, DFAT, and the BASARNAS search and rescue team. The training evolution took place in Darwin and other areas of Australia's Northern Territory. Notably, in CR22 a U.S. dock landing ship, USS ASHLAND, and an ADF mechanized landing craft provided expeditionary HADR capabilities from the sea.[225]

Exercise BALIKATAN – March 2022

Approximately 9,000 personnel participated in BK22, which ran from 28 March through 8 April 2022. Participants were primarily from the U.S. and Philippines armed forces. ADF participated with 40 personnel.[226] HCA projects included education building renovations, community health engagements, and disaster response healthcare training.[227]

Exercise COPE NORTH - February 2022

CN22 saw expanded participation in the 2-18 February 2022 iteration of this series. CN22 continued to roll out the ACE component of the exercise, training partners to project combat power via a network of distributed operating locations throughout the Indo-Pacific. ACE and HADR missions both require significant support services, and integration of these missions into this exercise series enables partners to train across a wider spectrum of operations.[228] The FASF contributed a contingent to CN22. India also participated for the first time. Eight other countries participated as observers to the exercise.[229]

Exercise CROCODILE RESPONSE – May 2021

In the first iteration of this exercise series, CR21 ran 9-28 May 2021. It was led by the ADF Northern Command and included ADF

units and the U.S. Marine Rotational Force – Darwin (MRF-D). In addition to ADF and U.S. personnel, TNI and Indonesia civic organizations as well as armed services members from the Philippines and Malaysia were present as exercise observers and participants during the humanitarian operations training phase of the exercise. The exercise's final phase was conducted in the Tiwi islands of Australia's Northern Territory and featured transportation capabilities by the ADF's Mark 8 landing craft mechanized and U.S. Marine Corps' MV-22B Osprey.[230] The CR series followed its predecessor Exercise CROCODILE STRIKE, which was a series of bilateral and trilateral training engagements between the U.S. and Australia in the Indo-Pacific region.

Exercise BALIKATAN – April 2021

Due to the COVID-19 pandemic, the scope of BK21 was significantly scaled down. The exercise ran 12-23 April 2021 with only a small contingent of U.S. and Philippines personnel. Several infrastructure improvements and medical training events were successfully conducted. Exercise activities took place in the Luzon region.[231]

Exercise COPE NORTH – February 2021

CN21 ran 3-19 February 2021. The first phase of this iteration was an HADR exercise reinforcing partners' combined ability to respond in the event of a natural disaster in the region. During CN21, PACAF aimed to operationalize ACE as a warfighting concept.[232] CN21 was dominated by personnel and assets of PACAF, with smaller contingents from JASDF and RAAF.

Partnerships, Agreements, and Memberships

Australia's DFAT prepares for and responds to international incidents or crises that may affect Australians and Australian interests overseas, and this preparation includes all-hazard contingency plans, as laid out in the AGCMF. DFAT undertakes and implements these efforts with support from the Departments of Defence and Home Affairs, the NEMA, and other agencies on a case-by-case basis. A DFAT delegate will convene the IDETF to manage the Australian Government's response, including humanitarian and consular assistance.[233] ADF can assist a DFAT-coordinated international response by transporting aid supplies or specialist personnel and equipment, including medical or search-and-rescue teams.[234]

Australia is a key donor to the UN's CERF. Moreover, the country supports disaster risk management (DRM) programs in Indonesia, PNG, Philippines, and the Pacific region by connecting Geoscience Australia, Commonwealth Scientific and Industrial Research Organisation (CSIRO), and the Bureau of Meteorology (BoM) directly with their counterparts in other countries.[235] On the issue of climate change, Australia focuses its partnerships and financial assistance on the Pacific Islands region and on Southeast Asia, and it delivers financial and technical assistance via bilateral and multilateral agreements and mechanisms. Much of the country's work in this area is led by the Department of Climate Change, Energy, Environment, and Water (DCCEEW).[236] Under its International Development Policy, Australia commits to building climate resilience and DRR into its development activities by both increasing climate-related investment and mainstreaming climate considerations into all development assistance across all sectors.[237]

Bilateral Partnerships

In addition to the availability of AUSMAT and DART to respond to disasters with specific medical, search and rescue, or other skills, Australia maintains a humanitarian supply and logistics capacity via which it can respond to Indo-Pacific regional emergencies. At the request of a partner government, Australia can send supplies that comprise shelter material, water purification systems, and other essential supplies. The list of supplies is tailored in cooperation with the affected government to ensure timeliness and relevancy. There are two humanitarian warehouses – one in Brisbane, Queensland, and one in PNG – with supplies that can support

affected people. The HLC warehouse in Brisbane includes stockpiles maintained by UN agencies, the ARC, and the AHP, all of which can swiftly access and coordinate a rapid delivery of relief supplies in conjunction with the Australian Government.[238]

Indonesia

Australia and Indonesia are no strangers to bilateral and multilateral cooperation in the wake of disasters. They undertook bilateral action after the 2004 Indian Ocean tsunami and 2006 Yogyakarta earthquakes. Since the founding of Indonesia's BNPB in 2008, Australia's DFAT has focused DRM assistance through the BNPB via technical support and by establishing focal points for mobilization in case of a disaster event after which Indonesia requires international assistance.[239] Moreover, from 2008 through 2018, Geoscience Australia and the BNPB worked with Indonesian government agencies and universities to support Indonesia's developing DRM system. The results were increased domestic Indonesian production of useful hazard information, improved collection of hazard data, consultation of local communities regarding their perceptions of hazards, and the BNPB's development of contingency plans. The 10-year program also allowed Indonesian stakeholders across government, science, and civil society to build a collaborative process to use science to improve DRM and to guide adaptation and mitigation investment.[240]

The Australia-Indonesia Partnership on Disaster Risk Management (SIAP SIAGA, 2018-2024) is an AU$36 million (US$23.9 million) program that aims to enhance Indonesia's ability to prevent, prepare for, respond to, and recover from rapid and slow onset disasters and to strengthen cooperation between Australia and Indonesia on humanitarian action in the Indo-Pacific region.[241] The period covered roughly coincides with Indonesia's National Medium-Term Development Plan (2020-2024), which prioritizes improving environmental quality, increasing resilience to disasters and climate change, and implementing low-carbon programs. Given Indonesia's high exposure to hazards and high disaster risk on various indices, the SIAP SIAGA also supports work on challenges identified in Indonesia's National Plan on Disaster Management (2020-2024) – i.e., management, planning, and investment in sub-national entities – in addition to general efforts to strengthen the overall DRM system.[242] The SIAP SIAGA integrates stakeholders at national and sub-national levels to identify bottlenecks in disaster management (DM) systems at various government and community levels and design solutions to improve the effectiveness of DM services.[243] The program outcomes include:

- Stronger institutional capacity and organizational system within the BNPB delivers improved leadership and coordination in DRM
- Target provinces, districts, and villages are better able to prevent, prepare for, respond to, and recover from disasters
- Cooperation between Australia and Indonesia on regional humanitarian preparedness and response is stronger
- Learning, innovation, and inclusion for DRM is strengthened.[244]

The SIAP SIAGA investment utilizes two contract arrangements, one that sees the IFRC and the Indonesian Red Cross (PMI) focus on strengthening PMI's role as a central actor in Indonesia's DRM ecosystem, and one led by Palladium International Proprietary Limited to work with the BNPB, Indonesia's Ministries of Home Affairs and Foreign Affairs, and sub-national agencies in East Java, Bali, Nusa Tenggara Timur, and Nusa Tenggara Barat, as well as with non-government entities.[245] During the height of the COVID-19 pandemic, SIAP SIAGA became a key delivery means for Australia's pandemic-related support to Indonesia, and both Palladium and the IFRC-PMI partnerships shifted to deliver this assistance.[246]

The ADF and TNI conduct an annual exercise series – Nusa Bhakti Ausindo – oriented toward HADR. Participants work to plan

and consider execution of a disaster response operation based on a scenario that changes each iteration. The exercises integrate participants from government agencies, the ARC and PMI, and both the BNPB and Australia's NEMA. The ADF and TNI have undertaken real-world disaster response operations in support of each other, most recently during Australia's Black Summer bushfires (2019-2020) and the Sulawesi earthquake in 2018.[247]

New Zealand

Australia and New Zealand have long practiced cooperative DM across the Tasman Sea. They have shared resources and incident management personnel when responding to disaster events both at home and abroad.[248] Most recently, in September 2022, emergency management coordinators from both countries signed a new memorandum of cooperation on DM to encourage information sharing on research and best practices, to facilitate shared assistance in the form of technical advisors, and to explore opportunities for joint activities – especially exercises. The memorandum also makes space for more connected approaches to regional and international DRR activities.[249]

The Australia-New Zealand Emergency Management Committee (ANZEMC) was established in 2009 to serve as the peak government committee responsible for DM. ANZEMC brings together senior officials from Australian federal, state, and territory governments, alongside counterparts from New Zealand to formulate disaster policy for government consideration. It is supported by two subcommittees – the Mitigation and Risk Subcommittee and the Community Outcomes and Recovery Subcommittee. In addition to serving as a bilateral coordination mechanism, the ANZEMC feeds into Australia's national DRR and emergency management system.[250] In 2022, the Australian and New Zealand NEMAs signed a memorandum of cooperation on DM to encourage information sharing, especially in terms of emergency management research and best practices. Moreover, the new agreement is intended to facilitate share disaster assistance as required and to explore potential opportunities for combined exercises.[251]

The National Council for Fire and Emergency Services (AFAC) serves as the national authority for fire and emergency services in both Australia and New Zealand; it complements arrangements among state, territory, and federal governments and provides a trusted source of advice for the sector through sharing knowledge, lessons, and challenges and through delivering national projects. AFAC has led development in specific areas related to fire and emergency services. It facilitates resource sharing of firefighters, specialists, and aircraft and enables a national and, where required, international response to large-scale emergency events by delivering firefighting resources through the AFAC National Resource Sharing Centre and aircraft contracted through the National Aerial Firefighting Centre.[252]

In 2018, the top-level foreign affairs and trade bodies – DFAT in Australia and New Zealand's MFAT – jointly developed and deployed a Humanitarian Monitoring and Evaluation Framework for the Pacific; it is intended to support decision making, improve evidence for the impact of humanitarian action, identify lessons learned to improve effectiveness, and support better communications with affected populations. After use during the response to TC Gita in Tonga in 2018, a DFAT-MFAT review agreed upon the value of the Framework and has annually reviewed and updated it and integrated other stakeholder input to ensure that Pacific Island governments, civil society, and other international actors can use it.[253]

Pacific Islands

Australian government entities work with PICTs individually and on a regional basis through the major regional political, scientific, and cultural organizations there – i.e., Pacific Islands Forum (PIF), the Pacific Community (SPC), and the Secretariat of the Pacific Regional Environment Programme (SPREP), all of which count Australia as a member.

The Climate and Oceans Support Program in the Pacific (COSPPac) is one of the major vehicles for Australian financial and technical support to 14 PICTs. COSPPac is intended to enhance PICTs' ability to manage and mitigate climate change impacts by building tools to forecast and report on climate, tides, and the ocean in general and how best to share information and data with communities and other stakeholders. COSPPac is funded by the Australian and New Zealand governments through DFAT and MFAT and is implemented by Australia's BoM, SPREP, Geoscience Australia, New Zealand's National Institute of Water and Atmospheric Research, and SPC.[254] COSPPac-1 ran 2012-2018 and was succeeded by COSPPac-2,[255] which ran 2018-2023,[256] and COSPPac-3, which is running 2023-2029 with the stated intent of focusing on sustained development Pacific National Meteorological and Hydrological Services and Land and Survey Departments to enable them to deliver climate and ocean information services.[257]

From 2016 through early 2024, the Australia Pacific Climate Partnership was the key support for Australian Government climate and disaster resilience programming for the PICTs and Timor-Leste. It focused on technical advice and expertise as well as resourcing implementing partners across the issues of climate change, DRR, and gender, disability, and social inclusion.[258] Under the partnership framework and with COSPPac funding, Geoscience Australia began conducting the Pacific Sea Level and Geodetic Monitoring (PSLGN) project to ensure accurate recordings of sea level across 13 Pacific countries – Cook Islands, Fiji, FSM, Kiribati, Marshall Islands, Nauru, Niue, PNG, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu. The PSLGN project uses sea level stations present across the region since the 1990s, and it analyzes tide gauges and changes in land height maintained by Australia's BoM and the SPC, respectively.[259] Ensuring that PICT partners have access to these data allows them to make better decisions in preparation for climate hazards.[260] Also under the Partnership, CSIRO and SPREP developed Next Generation Climate Projections for the Western Tropical Pacific, which updated model-based projections for climate hazards in 14 PICTs and delivered case studies, guidance materials, and communications products to facilitate use by national and local stakeholders. Key case studies examined the climate change impact on coffee and cocoa agriculture in PNG, cocoa growing in Samoa, root crops in Fiji, and pearl oyster cultivation in Cook Islands.[261]

Additional support to PICTs from Geoscience Australia is the Tropical Cyclone Hazard Assessments for Fiji, Tonga, Tuvalu, and Timor-Leste; each Assessment supported the concerned country's ability to understand frequency and intensity of cyclones and then identify high-risk areas for which mitigation strategies were needed. Furthermore, Geoscience Australia developed Probabilistic Tsunami Hazard Assessment guidelines for the Pacific region to increase local emergency managers' ability to plan for tsunami. Similarly, a partnership with the SPC allowed Geoscience Australia to conduct flood mapping for Samoa as part of a process of understanding how tsunami waters could impact areas.[262]

Based on a 5-year (2023-2028) Memorandum of Understanding (MoU) between CSIRO and SPREP, Australia's science research body will co-design and co-deliver research programs that address climate change resilience, island and ocean ecosystems, environmental monitoring, governance, waste management, and pollution control.[263] CSIRO's work with SPREP helped Vanuatu's Meteorology and Geo-hazards Department develop the Vanuatu Climate Futures Portal, which makes climate information accessible to government, industries, and local communities in order to build resources for managing risk through adaptation, planning, and decision-making support for agriculture, infrastructure investment, fisheries, and tourism.[264] In addition, CSIRO worked with the PNG Department of Environment and Conservation and the PNG Climate Change and Development Authority to develop a framework to help government and local community stakeholders design adaptation strategies tailored

to the characteristics of local livelihoods. The project used participatory scenario planning workshops to analyze current and potential future characteristics of livelihoods systems and identify strategies for tackling potential threats.[265]

Pacific military forces, government agencies, and NGOs, along with Australian counterparts conduct a series of HADR exercises, designed to be held annually. The LONGREACH series is an initiative of the SPDMM and is intended to bring together regional experts and practitioners to better prepare their regional military forces to respond to natural disasters in coordination and cooperation with civilian responders.[266] Past hosts include Fiji, Kiribati, New Caledonia, PNG, Solomon Islands, Timor-Leste, Tonga, Tuvalu, and Vanuatu.[267]

Papua New Guinea

Australia has been working with PNG to strengthen capacity to monitor and build resilience to natural hazards since 1995. The DFAT-funded Technical DRR program has run since 2016 and is intended to ensure that PNG's emergency managers can provide a single source of authoritative hazard information and data, real-time hazard alerts, and education.[268] DFAT's Australian Aid now manages the overall Technical DRR program with the goal of ensuring that local emergency managers have access to credible and reliable information that promotes good decision making and builds community resilience. The program integrates Geoscience Australia in establishing a community-based network to monitor, model, assess, and analyze natural hazards and to send hazard alerts, develop improved building codes, and guide investment. The program delivers equipment, software, SOPs, and science communications materials to the local stakeholders working within the program. Among the key developments is the community-based seismic network of professional-grade, low-cost "Raspberry Shake" sensors that not only detect earthquakes but also can be used for community education about seismic activity. At the national level, the program is helping PNG's emergency managers integrate ShakeMap from the U.S. Geological Survey (USGS) into the country's own automated alert system and to develop a nation-wide tsunami guide to help develop risk mitigation strategies for this hazard. Finally, it is helping the PNG Department of Mineral Policy and Geohazards Management develop a new PNG Geohazards website to provide a single space for leaders and communities to access information on hazards, disasters, and response plans.[269]

Australia has a strong working relationship with the Rabaul Volcano Observatory (RVO) and Port Moresby Geophysical Observatory (PMGO). The RVO is responsible for monitoring all of PNG's volcanoes, but consistent resource shortfalls have meant focusing on the most threatening volcanoes and relying on communities for alternative monitoring and alerting arrangements for other volcanoes. Since 1998, assistance from Australia has allowed RVO's outreach and preparedness programs to expand, and it now distributes awareness materials and conducts weeks-long visits to communities in risk areas.[270] Since 2013, the PMGO has operated and maintained a seismic network of 10 stations, each equipped with a three-component, short period seismometer co-located with a strong motion accelerometer. This network is complimented by three broadband seismometers, two operated and maintained by Geoscience Australia as part of the Australian National Seismic Network and one operated by the USGS as part of the Global Seismographic Network.[271]

Examples of Australia delivering emergency aid to PNG include AU$8 million (US$5.3 million) in support to agricultural recovery after the 2015 El Niño-related drought that impacted 2 million people in PNG's Highlands and support for community reconstruction of infrastructure and water and sanitation services after the 2018 Hela Province earthquake.[272] The most recent delivery of assistance to PNG was in response to the May 2024 landslide in Enga Province. In addition to committing an initial AU$2.5 million (US$1.67 million) in humanitarian response funding for the PNG government, Australia delivered financial support to PNG

civil society for relief supplies, water and hygiene, and mental and physical first aid. Australia deployed a 16-person DART on 27 May in the expectation that the team would deliver incident management assistance and technical advice; the DART included fire and emergency specialists and logistics experts. Additional support came directly from the NEMA, DFAT, and several Australian states. The HLC came into play with deployment of relief supplies for 750 families from DFAT's pre-positioned warehouses in Brisbane and Port Moresby; supplies were delivered by ADF assets.[273]

Finally, the two governments signed the PNG-Australia Climate Change Action Plan in 2018. It provides a high-level framework for the two countries to share information and cooperate on climate change action and affirms a commitment to share knowledge and focus on the priorities of the PNG Government regarding climate change mitigation and adaptation. That promise has borne out in various programs and projects. The Climate Resilient Green Growth Project (2019-2023), delivered in partnership with the Global Green Growth Institute, supported Enga, Milne Bay, and New Ireland Provinces to mainstream climate priorities into provincial planning and to mobilize climate finance for high-quality projects. The Economic and Social Infrastructure Program also delivered competitive grants for off-grid renewable energy in regional and rural areas. The Water for Women project Strongim WASH Komuniti Projek helped improve delivery of WASH services to more than 40,000 people, especially women and people living with a disability, in East Sepik Province. The Transport Sector Support Program supported PNG authorities' construction of more climate resilient transport infrastructure.[274]

Philippines

Since 2006, Australia has been a major financial partner of Philippine Government DRR and DRM efforts. Initially, the relationship focused on post-disaster relief and recovery, but it has evolved to integrate both countries' national science agencies, NGOs, and militaries. Geoscience Australia has given technical support to the Philippine Institute of Volcanology and Seismology Rapid Earthquake Damage Assessment System and worked with the National Disaster Coordinating Council to sustain the Hazards Mapping and Assessment for Effective Community-based Disaster Risk Management (READY Project), which involved mapping and assessment of areas vulnerable to hazards and disasters, establishment of community-based early warning, and development of information, education, and communication materials and campaigns.[275] More recently, since 2010, the Australian Government, through Australian Aid and Geoscience Australia, has worked closely with the Philippines National Disaster Risk Reduction and Management Council, and technical agencies, such as the Philippine Atmospheric Geophysical and Astronomical Services Administration, the Philippine Institute of Volcanology and Seismology, the National Mapping and Resource Information Authority, and the Mines and Geosciences Bureau. Initial phases focused on hazard mapping and risk assessments of key urban areas, especially Manila.[276]

There are two key DRR efforts supported by Australia and implemented by Philippines' national stakeholders. "Strengthening Institutions and Empowering Localities against Disasters and Climate Change" (SHIELD, 2021-2026), is an Australian DRM partnership with the Philippines. The program is implemented by a consortium, led by the UNDP and incorporating the Philippine Business for Social Progress, National Resilience Council, Consortium of Bangsamoro Civil Society, and UN-Habitat.[277] SHIELD works with local governments who are first responders to disasters and emergencies with the goal of increasing resilience to frequent natural hazard events and climate change risks. The program builds the ability of local governments, the private sector, civil society, and academic institutions to unlock financing and to implement risk-informed and inclusive resilience actions at the local level. The initiative also supports the national government and works with scientific agencies in the Philippines to produce tailored and

accessible information to inform local resilience actions.[278] Resilient Emergency Communications for Enhanced Disaster Response (REACHED) is funded by an Australian grant for climate-vulnerable local governments in Philippines to develop and strengthen communications equipment and practices to ensure smooth execution in case of a disaster. It is implemented by a collaborative partnership that includes the Philippines Department of Information and Communications Technology and Office of Civil Defense, as well as the WFP, Globe Telecom, and PLDT-Smart.[279]

Philippines is also a regular stop during the ADF's Indo-Pacific Endeavour regional engagement, an annual activity that has run since 2017.[280] The engagement focuses on deepening diplomatic and defense partnerships with Southeast Asia and parts of the Indian Ocean Rim as it incorporates military exercises, workshops, training, and people-to-people exchanges. HADR is a regular topic[281] and featured during the 2023 iteration of Indo-Pacific Endeavour when HMAS Canberra hosted a humanitarian response tabletop exercise based on a scenario of a major earthquake after which Australian military and civilian responders support the Philippines' response.[282]

United States

In 2010, USAID and the former Australian Agency for International Development (AusAID, now Australian Aid under DFAT) signed an MoU that provided a framework for partnership aimed at helping developing countries achieve their development goals and move toward sustainable and private-sector-led growth, reap the benefits of technological change and innovation, and end conflict and instability. In 2016, USAID and DFAT expanded on previous collaboration by signing another MoU that committed them to exploring collaboration through science, technology, open innovation systems, and partnership. A 2020 MoU sought to lay out the common points within USAID and DFAT goals and approaches to ensure greater efficiency and impact of their respective – individual and shared – aid and development activities, including, among other things, supporting high-quality climate- and disaster-resilient infrastructure, advancing climate mitigation, adaptation and resilience, and reducing the risk of and improving preparedness for disasters.[283] In the 2022 Australia-U.S. Ministerial Consultation, the two countries agreed to share assessments and advice on the national and regional security risks posed by climate change via a Senior Officials' Working Group on Climate Security Risk.[284] And finally, at the close of Australia-U.S. Ministerial Consultations in July 2023, the two countries noted the signing of an MoU between DFAT and USAID to facilitate joint pre-positioning of humanitarian supplies in Australia and PNG.[285]

U.S. military and ADF personnel regularly interact in training for HADR operations. Among the key U.S. personnel whose mission and training are directly linked to this mission are the Marines of the MRF-D, based in Australia. The Exercise Crocodile Response series includes ADF, MRF-D, and Indonesia's armed forces.[286] DFAT and USAID BHA staff frequently participate to offer expertise from the humanitarian perspective. The exercise culminates in a field training exercise where forces conduct water purification, transport coordination, and provision of basic medical care, among other tasks. The field exercise generally follows a joint humanitarian operations training and tabletop exercise. In past iterations, Malaysian and Philippines armed forces personnel have taken part in the humanitarian operations training phase, delivered in the form of a USAID / BHA Joint Humanitarian Operations Course; the BNPB and Indonesian search-and-rescue professionals commonly observe throughout.[287]

In June 2015, officials from the Australian and U.S. domestic emergency management agencies signed a memorandum of cooperation on emergency management. Under the agreement, the organizations committed to promoting cooperation and understanding in crisis coordination and the management of all-hazards events, policy and planning, and the administration and evaluation of recovery programs.[288] Most recently, in May

2023, the NEMA Coordinator-General and the Administrator of the U.S. Federal Emergency Management Agency (FEMA) signed an MoU to enhance cooperation on DRR and emergency management. The formal agreement focuses on building capabilities through information sharing and joint training and exercises. The initial cooperation arrangement is planned to extend over five years.[289]

Multilateral Partnerships

Australia is a partner of various regional and international organizations that have developed policies or procedures to address hazards, risk, and climate change.

ASEAN

Australia became the first Dialogue Partner of ASEAN in 1974, and, in 2024, to mark the 50th anniversary of the relationship, Australia opened the ASEAN-Australia Centre, which is intended to strengthen business, education, cultural, and community connections between Australia and the region. Australia collaborates closely on various ASEAN-led arrangements – the East Asia Summit (EAS), ASEAN Regional Forum, and ASEAN-Defence Ministers' Meeting-Plus. In 2021, ASEAN and Australia established a Comprehensive Strategic Partnership that paved the way for more intense cooperation through three "Australia for ASEAN" (Aus4ASEAN) initiatives. Among these initiatives, the Aus4ASEAN Futures Initiative supports projects focused on ASEAN's transition to a green economy.[290]

The AHA Centre works with the ASEAN member-states' national DM agencies as their main focal points and constituents. Additional partners include international organizations, the private sector, and civil society organizations, such as the International Red Cross and Red Crescent Movement and UN agencies, and it has established multilateral cooperation with ASEAN Dialogue Partners, including Australia.[291]

Australia was a founding member in 2005 of the EAS, a forum for strategic dialogue. The EAS has 18 members - the 10 ASEAN member-states (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam) along with Australia, India, Japan, New Zealand, the People's Republic of China (PRC), the Republic of Korea, Russia, and the United States. ASEAN leads the forum, and the chair position rotates among ASEAN member-states. The EAS Leaders' Summit and meetings of EAS Foreign Ministers and Economic Ministers are held annually and serve as platforms for political, regional security, and economic discussions, augmented by regular meetings of the EAS Environment, Energy, and Education Ministers. EAS Senior Officials' Meetings and EAS Ambassadors' Meetings in Jakarta may address emerging issues.[292] Among the work streams in the EAS plan of action for 2024-2028 is cooperation on DM.[293] Under this rubric, EAS does the following:

- Support the operation of the AHA Centre and encourage all EAS participating countries to provide funding and technical support
- Build links between EAS DM activities and ASEAN Agreement on Disaster Management and Emergency Response (AADMER) work and promote information sharing, rapid response, and coordinated action
- Deepen engagement between the ASEAN Committee on Disaster Management (ACDM) and DM authorities of non-ASEAN EAS participating countries to guide cooperation in DM and DRR, especially via the ACDM Session on EAS Cooperation on Disaster Management, the 24x7 Points of Contact Network Meetings, and the Virtual Knowledge Portal
- Conduct disaster response and recovery exercises such as the EAS Earthquake Response and Relief Joint Exercise
- Conduct capacity-building and exchange experiences and sound practices in DM including activities on DRR and preparedness reporting in accordance with the Sendai Framework.[294]

Among the major developments from the EAS is the Rapid Disaster Response Toolkit, the first iteration of which came from the 2011 Australia-Indonesia EAS Disaster Management

Initiative. The Toolkit was launched in June 2015 as a reference guide for decision-makers when sending or receiving international disaster assistance, and from then on, participants would work to operationalize the Toolkit via regional exercises. In November 2016, Indonesia, in partnership with Australia, conducted the Ambon Disaster Response Exercise to promote awareness and application of the Toolkit. This was followed by the 2017-2018 EAS International Disaster Assistance Workshop series, based on an Australian disaster scenario, which allowed all EAS participating countries to explore how they would receive requests and make offers of disaster assistance. The AHA Centre participated to explore how it would facilitate ASEAN's collective assistance in conjunction with other EAS participating countries.[295] The Toolkit contains three Tools:

- TOOL 1: The NATIONAL FOCAL POINT TABLE provides contact information (telephone numbers and e-mail addresses) for EAS participating country officials that have responsibility for managing offers of and requests for international disaster assistance. Each EAS participating country is encouraged to include in its contact information the way in which requests for or offers of assistance flow within a government.
- TOOL 2: The GUIDANCE FOR RAPID DISASTER RESPONSE is a reference booklet intended for DM decision-makers across the EAS. It outlines key issues to consider ahead of or during disaster response; such issues include but are not limited to legal frameworks, diplomatic concerns, the local ability to absorb external assets or personnel, and the appropriateness (or not) of domestic or foreign military assistance. This Tool contains checklists of issues to consider, easy-to-use references, links to templates, and similar documents.
- TOOL 3: The EAS COUNTRY DISASTER RESPONSE ARRANGEMENTS booklet outlines the rapid disaster response arrangements for each EAS participating country. This information includes a detailed inventory of capabilities available and likely gaps and, in some cases, includes details on acceptable standards for assisting state capabilities (e.g., the INSARAG Guidelines).[296]

The Toolkit is available either as a box set of hard-copy posters (Tool 1) and booklets (Tools 2 and 3) or in soft-copy on-line (via the following links).

- Tool 1: National Focal Point Table: *https://www.rcrc-resilience-southeastasia.org/wp-content/uploads/2018/01/2015-EAS-Toolkit-1-National-Focal-Point-Table.pdf*
- Tool 2: Guidance for Rapid Disaster Response: *https://www.rcrc-resilience-southeastasia.org/wp-content/uploads/2018/01/2015-EAS-Toolkit-2-Guidance-for-Rapid-Disaster-Response.pdf*
- Tool 3: EAS Country Disaster Response Arrangements: *https://www.asean.org/wp-content/uploads/images/2015/June/EAS_toolkit/EAS-Toolkit-3.pdf*

Figure 9 shows Australia's entry in Tool 3.[297]

Australia was also a founding member of the ASEAN Regional Forum (ARF), founded in 1994 as a platform for security dialogue in the Indo-Pacific. Like the EAS, the ARF is centered on the leadership of the 10 ASEAN member-states; 17 other states, including Australia, cooperate alongside the ASEAN focal points on five work streams, one of which is Disaster Relief. Each work stream is the focus of an annual meeting along with workshops and other activities that meet the demands and goals of a multi-year work plan.[298]

Coalition for Disaster Resilient Infrastructure

Headquartered in India, the Coalition for Disaster Resilient Infrastructure (CDRI) is a partnership among 31 national governments, six international organizations and multilateral development banks, and two private sector organizations.[299] It promotes building climate and disaster resilience into new and existing infrastructure. It has three strategic priorities: 1) technical support and capacity building; 2)

Australia



Receiving Disaster Response		
Publicly available guideline for receiving international assistance?		Arrangements for International Reception (under development).
Signatory to the UN Model Customs Agreement?		Yes.
Does your country use the UN Cluster Approach? If no, does your country intend to use it in the future?		No. No.
Immigration and customs	Immigration – Rapid entry or transit arrangements	There are arrangements for providing priority management for emergency entry.
	Customs – Rapid entry or transit arrangements	Customs cannot waive inspection requirements of goods or equipment. If goods arrive and are not exported, Customs cannot waive import duties, taxes and charges. Vehicles are covered under temporary import provisions.
Food	Food restrictions	No food permitted into Australia. This includes no animal, dairy, soy, plant, or nut products.
	Food expiry timeframes	No food permitted into Australia.
Medicine	Medicine restrictions	In general, medicines and medical equipment will not be allowed into Australia for disaster response. The Assisting Country should contact the Department of Agriculture to see if an import permit is required for any personnel medication. An import permit is required for medicines which contain a substance subject to import controls. Prior quarantine clearance may be required to import any material of biological origin (human, animal, plant or bacterial) or any medicines containing certain substances. See http://www.tga.gov.au/import-and-export-controlled-subtances for a list of controlled substances.
	Medicine expiry timeframes	In general, medicines will not be allowed into Australia for disaster response.
	Medicine labelling requirements	As above.
	Medicine approval	As above.
Equipment	Requirements around receiving equipment	Pre-supply a list of equipment for customs and quarantine approval before entering Australia.
	Gifting restrictions	No gifting of equipment is permitted upon withdrawal.
Receiving Disaster Response		
Required documents for incoming goods or personnel		A manifest is required for incoming goods and personnel. Full passport details, copies of passports and existing visas should be provided to the local Australian Mission in your country prior to deployment. Where an Assisting Country is intending to utilise professional qualifications (i.e. medical, USAR qualifications), these should be provided to the Australian Mission in your country prior to deployment.
Visas		Visas are required. Processes can be put in place to expedite the granting of visas, which will be assessed on a case-by-case basis.
Passport expiry		6 months minimum validity is required.
Accreditation		Australia will only accept firefighters who have established relationships with the Forest Fire Management Group and are familiar with Australian incident control arrangements. For individuals in FMTs, the following evidence is required: current certification to practice in your country, evidence of inoculation status, evidence of disaster medicine training. INSARAG accredited USAR teams must present details of accreditation.
Incoming personnel/ Teams	USAR teams	INSARAG accredited USAR teams are permitted.
	FMT teams	FMT teams are permitted on a case-by-case basis. Australia will continue to contribute to the development of the WHO FMT classification standards.
	Military	International military are not permitted as first responders. Military capabilities may be approved if providing air-life/logistical support to civilian capabilities.
	Firearms	Firearms are not permitted.
	Virtual OSOCC access?	Yes – Emergency Management Australia, Australian Defence Force and Department of Foreign Affairs and Trade all have access, as do state and territory fire and rescue services and state and territory control centres.
	Search and Rescue/cadaver dogs	Dogs/canines are not permitted into Australia.
	UNDAC teams	UNDAC teams may be accepted, and if required, will be managed within the relevant Australian State and Territory Emergency Management Arrangements.
	Technical response team	Technical response teams will be permitted on a case-by-case basis.
Sending Disaster Response		
INSARAG accredited USAR teams		INSARAG Accredited Heavy (2), Medium.
Niche capabilities		National Critical Care and Trauma Centre.
Other assets or capabilities		• Australian Medical Assistance Teams (FMT 1, FMT 2 equivalent) and full field hospital. • Rapid Impact Assessment Teams. • Rapid Damage Assessment Teams. • Humanitarian and Disaster Relief supplies. • Emergency Management Planners. • Hazardous Materials Team and experts. • Logistical management capability.
Known limitations or restrictions		Nil.

Figure 9: Australia's Entry in the EAS Toolkit

research and knowledge management; and 3) advocacy and partnerships. Under the technical support category, CDRI supports disaster response and recovery.[300] Australia is not only a member but is also a backer of the CDRI, especially its Infrastructure for Resilient Island States initiative,[301] on the Steering Committee of which Australia sits. This initiative focuses on supporting small island developing states (SIDS) in their efforts to build resilient, sustainable, and inclusive infrastructure, and while developing the initiative, CDRI held consultative sessions with regional groupings in the Pacific, Asia-Pacific, and Caribbean, and the first round of assistance will focus on technical support and knowledge products.[302]

Global Facility for Disaster Reduction and Recovery

The Global Facility for Disaster Reduction and Recovery (GFDRR) is a global partnership, founded to support developing countries to understand, manage, and reduce their risk from natural hazards and climate change. The World Bank Group hosts the GFDRR, which has the support of 20 countries, including Australia, as well as 11 international organizations, and it works with more than 400 sub-national, national, regional, and international partners. To ensure that GFDRR meets its main mission of helping communities and countries reduce risk by integrating DRM and climate change action into development strategies, the Project Management Unit, staffed by World Bank personnel, delivers research, analytics, and tools, and maintains dialogue among development partners, technical and sectoral experts, and governments.[303] GFDRR financing is maintained in five trust funds, each with one or more donors, and it delivers financing via grants, which may be executed by the World Bank itself or by recipient countries or organizations.[304]

Pacific Humanitarian Warehousing Program

With the SPC as the lead implementing partner, the Pacific Humanitarian Warehousing Program (PHWP, 2023-2031) seeks to build national humanitarian warehousing capacity across 14 Pacific countries and Timor-Leste.[305] It is intended that this capacity will enhance the ability of all participating countries to respond to a disaster within the first 48 hours. After having emerged at the 2022 Pacific DRR Meeting in Fiji, the PHWP was launched at the September 2023 meeting of the foreign ministers of the Partners in the Blue Pacific (PBP) with Pacific Ministers. The PBP includes Australia, Canada, Germany, Japan, New Zealand, South Korea, the UK, and the U.S. Along with France, PBP members committed US$55 million to the PHWP.[306] The eight-year program will refurbish, build, or lease warehouses and will pre-position approved relief supplies in those warehouses. It will include components that ensure national disaster management offices also build and maintain supply and logistics management capabilities.[307] Cook Islands, Fiji, FSM, Kiribati, Marshall Islands, Nauru, Niue, Palau, PNG, Samoa, Solomon Islands, Timor-Leste, Tonga, Tuvalu, and Vanuatu have indicated they will be part of the program, which emphasizes a reliance on local knowledge and expertise from NGOs, community groups, local and national DM offices, and multilateral agencies.[308]

The "Quad"

Australia, India, Japan, and the U.S. formed the Quad as a diplomatic partnership committed to supporting an open, stable and prosperous Indo-Pacific that is inclusive and resilient.[309] Quad cooperation traces its origin to the 2004 ad hoc Tsunami Core Group, which catalyzed international response efforts after the Indian Ocean tsunami.[310] In regular meetings since 2019, the grouping has elaborated a view of the region's priorities and most pressing challenges as encompassing health security, climate change, infrastructure, critical and emerging technology, cyber security, HADR, space, maritime security, disinformation, and terrorism. Quad partners have committed to working closely to ensure their efforts complement bilateral and regional engagement. They engage regularly through heads of state and government, foreign ministers,

Quad "Sherpas," and other senior officials and experts. Of note, in September 2022, the Quad Foreign Ministers' Meeting saw the entry into operation of guidelines for the Quad HADR Partnership,[311] which is designed to respond to Indo-Pacific regional vulnerabilities and provide a dedicated framework for Quad partners to coordinate disaster response operations after a request for international assistance from an affected state. The guidelines require Quad partners to meet twice each year to share lessons and operational updates and to conduct at least one scenario-based table-top exercise to improve preparedness, coordination, and interoperability.[312] The first edition of the HADR Tabletop Exercise was conducted in India in 2022, and Australia hosted in 2023; these iterations helped establish an SOP, to include command and control systems and stockpiling of in-region supplies.[313]

Partners in the Blue Pacific

The PBP formed in 2022 as an inclusive, informal coordination initiative among Australia, Japan, New Zealand, the UK, and the United States. Since then, Canada, Germany, and the Republic of Korea have joined.[314] Lines of effort and flagship projects are expected to develop in response to Pacific priorities across the DRR landscape, including efforts related to climate change, COVID-19 recovery, connectivity and transportation, maritime security, health, prosperity, and education.[315] PBP and France, in partnership with the SPC, are currently contributing to the PHWP (2023-2031), which supports Pacific Islands and Timor-Leste to build their national humanitarian warehousing capability.[316] Two additional efforts are supporting PICTs' fisheries and ocean-based livelihoods in the face of ocean warming. To support sustainable management of marine ecosystems, including tuna fisheries, the PBP committed to provide at least US$22 million to support Pacific communities' ownership of an ocean and fisheries research vessel, which will provide research for addressing climate change impacts on Pacific oceans and fisheries. To address the threat of illegal, unreported, and unregulated fishing, the PBP have committed to working with PICTs, the Pacific Islands Forum Fisheries Agency, and other regional organizations to coordinate the fight against these illicit fishing activities and to conduct maritime domain awareness.[317]

Women's International Network on Disaster Risk Reduction

The WIN DRR is a network of women professionals working in DRR. The stated goals of the network are to empower women leaders in DRR and enhance women's role in DRR decision-making across the Asia-Pacific region. The WIN DRR focuses on building a base of evidence and knowledge regarding best practices and implementation, delivering professional development opportunities, recognizing women leaders in the sector, and supporting institutional change to include women in DRR careers.[318] Australia, in partnership with the UNDRR Office for Asia and the Pacific, is a key supporter.[319]

Agreements and Memberships

Australia is a member of various organizations and a signatory of various agreements that relate to DRR and climate change. Australia is a member or financial backer of key funders of DRR and climate change action. It is a member of the PIF and SPC and works closely with other organizations under the Council of Regional Organisations of the Pacific (CROP). Finally, Australia is a member of the UN and of its system agencies and funds that address disaster management and climate change.

Council of Regional Organisations of the Pacific

Cooperation and collaboration among Pacific regional organizations is promoted through the CROP. Established in 1988 by PIF Leaders, CROP comprises nine organizations: PIF, Forum Fisheries Agency, Pacific Aviation Safety Office, Pacific Power Association, Pacific Islands Development Program, the SPC, SPREP, Pacific Tourism Organisation, and the University of

the South Pacific.[320] Of note for humanitarian assistance, DM, and climate change are the PIF, SPC, and SPREP, and Australia is a member of all three.

Pacific Islands Forum

The PIF is the principal political grouping of the Pacific Islands region; the PIF Secretariat is based in Fiji. Australia is a member alongside Cook Islands, Fiji, French Polynesia, FSM, Kiribati, Marshall Islands, Nauru, New Caledonia, New Zealand, Niue, Palau, PNG, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu. Tokelau and Wallis and Futuna are associate members. Australia is a key financial contributor to the Secretariat budget.[321]

Given the suffering that the environmental impacts of climate change can inflict on the SIDS of the region, the PIF seeks to increase regional cooperation to address sea level rise, coastal erosion, water security, and development setbacks brought on by the increasing frequency and intensity of disasters. In the 2016 Pohnpei Statement, the PIF Leaders emphasized "the importance of immediate, significant and coordinated practical action to address climate change and disaster risk management, guided by the Framework for Resilient Development in the Pacific (FRDP)." The FRDP (2017-2030) is a regional multi-sector strategy intended to enable more people to be involved and have shared ownership of and accountability within DRR and climate change mitigation and adaptation agendas.[322] Under the 2018 Boe Declaration on Regional Security, Foreign Leaders of the PIF members reaffirmed that "climate change remains the single greatest threat to the livelihoods, security and wellbeing of the peoples of the Pacific and our commitment to progress the implementation of the Paris Agreement." The subsequent Boe Declaration Action Plan highlighted the importance of "improving the coordination and effectiveness of humanitarian assistance and disaster response" to bolster human security.[323]

The key overarching climate change strategy of PIF is the 2050 Strategy for the Blue Pacific Continent. The 2050 Strategy sets out the region's approach to collectively work together to achieve long-term vision and aspirations through seven key thematic areas. Each thematic area is guided by its own "2050 ambition," which serves as an agreed-upon long-term objective. It also encompasses 10 Leaders' Commitments and various strategic pathways to guide the region's trajectory.[324]

Among PIF's activities related to resourcing and economic development, the Pacific Resilience Facility (PRF) is intended to support PIF member-states' proactive action to help vulnerable communities exposed to climate change and disaster risk better prepare and resolve challenges related to these global issues. The PRF is fashioned to deliver small, grant-based projects with funds that can be distributed quickly through national governments to bolster progress toward the 2050 Strategy and the FRDP. The PRF can finance two types of community projects: 1) climate adaptation and disaster preparedness or early disaster response; and 2) community resilience or projects related to the Sustainable Development Goals (SDG) to address systemic risk – e.g., non-infrastructure programs to build community capacity, education, awareness, data analytics, governance mechanisms, or public financing management.[325] As a PIF member, Australia was involved in the discussions to develop the PRF and gave technical advice and support to the PRF design.[326] More recently, in December 2023, Australia announced that it would contribute the first AU$100 million (US$66.7 million) to the PRF.[327]

Pacific Community

The SPC delivers technical assistance, policy advice, training, and research services for the region. Australia is a member alongside American Samoa, Cook Islands, Fiji, France, French Polynesia, FSM, Guam, Kiribati, Marshall Islands, Nauru, New Caledonia, New Zealand, Niue, Northern Mariana Islands, Palau, PNG, Pitcairn Islands, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, the United States, Vanuatu, and Wallis and Futuna. Its program areas include sustainable development, natural

resource and environmental management, and human and social development.[328] SPC's Geoscience, Energy, and Maritime Division maintains the Disaster and Community Resilience Programme (DCRP), which develops, implements, and supports coordination of innovative applied science and technical action to respond to drive partnerships for action. DCRP undertakes targeted work in DRR initiatives by supporting PICTs to integrate action on DRM, climate change adaptation, natural resource management, and increased access to water and sanitation. The DCRP is the mandated regional agency supporting efforts in WASH for Pacific SIDS and DRM for the region.[329]

SPC is accredited to the Green Climate Fund (GCF) and Adaptation Fund to support members ability to access and manage climate financing. In addition, the Community is organized across regional centers of excellence and sub-regional offices that undertake national, regional, and international engagements and conduct country, integrated, and sectoral programs. The SPC Strategic Plan 2022-2031 – Key Focus Area 1: Resilience and Climate Action does the following:

- Recognizes the climate crisis as the greatest challenge to the region
- Sets a year 2031 goal of thriving Pacific peoples armed with information for decision making and resources for low-carbon, climate-resilient development
- Advocates Pacific-led pathways to integrate data and indigenous knowledge to inform policymakers, managers, and responders[330]

The Pacific Islands Emergency Management Alliance (PIEMA) initiative (2023-2028) is supported by Australia and New Zealand and managed by SPC. The goal is to create best-practice emergency response across the region and thereby increase resilience with more coordinated DM and climate change action. The initiative implements activities that support the regional Pacific agenda by working with emergency management agencies to build collaboration, strengthen communication, and increase the effectiveness of disaster responses, under the lead of NDMOs. Members include the NDMOs of 14 countries, the Pacific Islands Chiefs of Police Conference, and the Pacific Islands Fire and Emergency Services Association. SPC provides secretariat and coordination support for PIEMA.[331]

Secretariat of the Pacific Regional Environment Programme

SPREP provides assistance to members with the goal of protecting and improving the Pacific environment and ensuring sustainable development for present and future generations. Australia provides a significant portion of SPREP's core funding as well as additional program funding.[332] SPREP is a key organization for climate action in the Pacific. It works closely with its members, as well as with partners, donors, and local communities to deliver on environmental management and sustainable development in the region. SPREP focuses on four priority areas:

- Biodiversity and ecosystem management
- Waste management and pollution control
- Climate change resilience
- Environmental monitoring and governance[333]

FRANZ Arrangements

The FRANZ Arrangement – aka, the Joint Statement on Disaster Relief Cooperation in the South Pacific – was signed by France, Australia, and New Zealand in December 1992. It is an agreement among the three countries to coordinate disaster reconnaissance and relief assistance in the Pacific upon a request from a partner. The Arrangement is civilian led; the lead agencies are the French Ministry of Foreign Affairs and International Development, Australia's DFAT, and New Zealand's MFAT. They are supported by militaries in a system that ensures FRANZ players adhere to the principles of sovereignty and affected-state leadership, and the FRANZ countries coordinate with other stakeholders during a disaster response.[334] During the response to the January 2022 HTHH eruption and tsunami, FRANZ partners were

among the most robust military responders; France chaired,[335] and the ADF Headquarters Joint Operations Command was the host of the International Coordination Cell that included defense personnel from the FRANZ countries, Fiji, Japan, Tonga, the UK, and the U.S.[336] During the response to TCs Kevin and Judy, which struck Vanuatu in early 2023, the three FRANZ signatories coordinated among themselves in a military cell chaired by New Zealand.[337] At the 30th anniversary of the arrangement, the three signatories committed to investing in local preparedness initiatives in the face of climate change-influenced hazards in the partner states. These initiatives emphasize local health response capacity, eco-friendly humanitarianism, sharing lessons learned, engaging Pacific partners in their priorities, and supporting emergency planning and training.[338] The chair of the arrangement rotates among the three signatory countries, and, during responses, the points of contact for FRANZ action are the respective FRANZ high commissioners/ambassadors in the affected state.[339]

Pacific Resilience Partnership

The Pacific Resilience Partnership (PRP) brings together PICTs, national and sub-national governments, communities, citizens, non-government and civil society organizations, private sector entities, and sub-regional, regional, and global partners.[340] Established in 2017, the PRP is a set of governance arrangements to support implementation of the FRDP by using existing mechanisms and directly involving decisionmakers. The PIF Officials Committee and SPC and SPREP Governing Councils direct PRP action and respond to PRP reports. The PRP includes:

- Pacific Resilience Meeting – biennial meeting to bring all stakeholders together to ensure visibility of Pacific-led actions[341]
- PRP Taskforce – operationalizes PRP arrangements and meets several times each year; includes representatives of five countries and territories (one each from Polynesia, Melanesia, Micronesia, the Pacific Territories, and Australia/New Zealand), five civil society or private sector representatives, and five representatives of regional organizations and development partners (one each from development partners, multilateral development banks, regional organizations, the UN system, and academia)[342]
- PRP Taskforce Support Unit – provides leadership by convening and coordinating political dialogue and delivering technical expertise in DRR and climate change; includes the PIF Secretariat, SPREP, and SPC[343]
- PRP Technical Working Groups – established to respond to specific needs for action and implementation of the FRDP; open to all countries, territories, CROP agencies, and stakeholders; past working group topics have covered risk governance, disaster risk financing, displacement, localization, information and knowledge management, water security, carbon pricing, and resilient infrastructure and housing, among other topics.[344]

Framework for Resilient Development in the Pacific

The FRDP is a voluntary non-political framework that supports coordination and action on issues related to climate change and DRM.[345] The FRDP recognizes the clear overlap between climate change adaptation and DRR and was the world's first integrated regional framework to build resilience to climate change and disasters. The FRDP advocates for an integrated approach to addressing climate change and DRM in two ways:

- Integrated actions to address climate change and disasters, whenever possible (i.e., where there are similar tools and resources required to monitor, analyze and address climate and disaster risks). An integrated approach can reduce duplication and optimize use of limited resources and sharing of technical expertise
- More effective mainstreaming of action to address climate change and disaster risks into development planning including policy making, planning, financing, programming,

and implementation, which includes building resilience into governance structures and processes, partnerships, communications, and financing.[346]

The FDRP is implemented through the PRP Taskforce, whose membership includes member states, civil society and private sector representatives, regional organizations, and development partners. FDRP is closely aligned to the 2030 Agenda.[347]

Pacific Response Group

The PRG, endorsed at the SPDMM on 3 October 2024, reflects continuing growth in the Pacific humanitarian response architecture. The PRG is a regional grouping of defense services; it is available to assist with HADR to strengthen Pacific-led regional response capabilities, consistent with the PIF's 2050 Strategy. The PRG features, but is not limited to, a small, rapidly deployable forward planning element – the Pacific Special Advisory Team (PSAT). The PSAT includes military personnel from Australia, Fiji, France, New Zealand, PNG, and Tonga, with an Australian Commander. The PSAT can deploy upon a request from an affected state within the PIF area of operations; it will deploy to provide specialist military advice to civilian authorities and scope potential tasks for follow-on military personnel to undertake. The scope and size of the PRG may mature in future years, subject to further consideration by the Australian Government and in consultation with partners across the region.[348]

Regional Consultative Group (RCG) on Humanitarian Civil-Military Coordination for Asia and the Pacific

The RCG formed in 2014 to carry forward the outcomes of the APC-MADRO (2005-2010), including the APC-MADRO Guidelines on the use of foreign military assets during disaster response operations. The RCG brings together stakeholders from across the humanitarian sector, including local, national, military, and international players. The RCG's three tasks are to:

- Discuss response preparedness planning with a focus on coordination of operational planning between civilian and military actors
- Facilitate exchange of information and innovative ideas to enable well-coordinated and needs-based effective disaster response for a broad range of humanitarian emergency operations
- Strengthen linkages with other relevant platforms with an emphasis on the relationship with regional organizations and the Global Consultative Group on Humanitarian Civil-Military Coordination.

The RCG is convened by a co-secretariat, made up of UN OCHA's Regional Office for Asia and the Pacific, the ACMC, and the CFE-DM. Participants include states, armed forces representatives, regional organizations, academic institutions and think tanks, NGOs and civil society, UN agencies, members of the International Red Cross and Red Crescent Movement, donors, and the private sector. Leadership is made up of a co-chair arrangement with OCHA and one member-state each holding a chair; member-states rotate as the chair of the RCG for two-year periods. Under Timor-Leste as chair, the RCG held its ninth session in Dili, Timor-Leste, in December 2023, and at the session, Fiji agreed to take the chair for the 2025-2026 cycle.

Among the RCG's key efforts is to build a community of practice for civil-military coordination in HADR across the Indo-Pacific. What has emerged is a view that the coordination and cooperation frameworks that are developing are highly dependent on context. Of note is that national militaries and police forces are first responders across the region as part of whole-of-government management processes and based on the current status of many member-states, which continue to build the legal and procedural underpinnings for civil-military coordination.[349]

United Nations

As a member-state of the UN and a donor country, Australia delivers financial resources to key development, emergency, and other UN system agencies and programs. The WFP is Australia's largest single humanitarian partner, with their relationship governed by a Strategic Partnership Framework that covers improving food security and addressing issues of protection, gender equality, and disability inclusion during WFP operations. Australia delivers both flexible and operation-specific funding to WFP to meet humanitarian needs around the world.[350] Australia's relationship with the UNHCR is also governed by a Strategic Partnership Framework (2022-2026) that outlines shared objectives and acknowledges a focus on protecting vulnerable displaced persons, promoting durable solutions, providing humanitarian programs, strengthening protection, and promoting resilience. Annually, Australia channels more than AU$50 million (US$33.4 million) to UNHCR for both flexible and program-specific operations.[351] A specific initiative of the UNFPA for which Australia delivers funding is the Regional Prepositioning Initiative that provides crisis-affected females with essential hygiene supplies and other emergency reproductive and sexual health resources.[352]

Australia does contribute to UN peacekeeping missions; as of September 2024, ADF personnel were deployed to areas of the Middle East and to South Sudan.[353] The ADF's Operation Aslan contributes to the UN Mission in South Sudan (UNMISS), which is mandated to undertake protection of civilians, monitoring and investigating human rights violations, and creation of conditions to enable delivery of humanitarian assistance.[354] As of 31 August 2024, Australia was contributing 14 personnel to UNMISS; they included one expert on mission and 13 staff officers.[355] For the nearly 20,000 peacekeepers who make up UNMISS, one of the key pillars of the operation is to ensure that humanitarian aid – food, clean water, shelter, and healthcare – reaches people in need across South Sudan and to provide a safe and supportive environment so that displaced people can return to their homes and communities to live safely and with dignity. Another pillar is protection of civilians whereby peacekeepers actively patrol to deter violence and provide a protective presence, to maintain safety and security for people living within UNMISS Protection of Civilians sites, to deter and prevent sexual and gender-based violence, and to support efforts to prevent, mitigate, and resolve intercommunal conflict.[356]

Sendai Framework for Disaster Risk Reduction 2015-2030

The Sendai Framework is part of the global 2030 Agenda, which also includes the Paris Agreement and the SDGs. Australia, as a UN member-state, agreed to the Sendai Framework, which now guides the country's approach to DRR at home and overseas. Within Australia, the NEMA is the lead agency for meeting the Sendai goals while international DRR action is taken via overseas development assistance programming. The 2022 mid-term review of progress toward Sendai found that the world is not on track to meet the desired outcomes of the Framework. In response, in 2023, Australia and Indonesia co-facilitated negotiations on a political declaration on international recommitment to full implementation of the Sendai Framework. Key contributions by Australia toward DRR within the context of Sendai include:

- Ensuring women and girls, people living with disabilities, young people, the elderly, indigenous peoples, and individuals of all communities are involved in decision making on risk-informed development and DRR
- Working to ensure essential infrastructure is climate and disaster resilient, including through support to the CDRI
- Strengthening disaster risk financing mechanisms and integrating inclusive anticipatory action into policy, financial, and operating systems, including through multilateral humanitarian partnerships such as the AHP's Disaster READY
- Connecting high quality climate and geo-hazard data with decision-making for

resilient development
- Contributing to global pooled funding mechanisms, such as the UN's CERF and the IFRC's Disaster Relief Emergency Fund
- Supporting science, technology, and indigenous knowledge to ensure hazard mapping, modelling, climate projections, forecasting, and multi-hazard early warning systems inform locally-led DRR planning, preparation, response, and recovery.[357]

UN Framework Convention on Climate Change

The UN Framework Convention on Climate Change (UNFCCC) was signed by 154 states at the UN Conference on Environment and Development, informally known as the Earth Summit, held in Rio de Janeiro, Brazil, in 1992. The UNFCCC now has near universal membership (198 Parties) including Australia. The UNFCCC sets out a framework for international cooperation to combat climate change by limiting average global temperature increases and coping with the impacts of climate change. The Kyoto Protocol was signed in 1997 and ran from 2005 to 2020; it was the first measure to implement the UNFCCC. The Paris Agreement, which was signed in 2015 and entered into force in 2016, supersedes the Kyoto Protocol.[358] Australia is a signatory of the UNFCCC and participates in the Conferences of the Parties (COP) held under the Convention. At COP28 in the United Arab Emirates in 2023, Australia announced a contribution of AU$50 million (US$33.4 million) to the GCF, which it also re-joined at the COP28 event. Australia's focus at the COP and overall under UNFCCC commitments is to build its clean energy industry into a world-class contributor of renewable energy research, technology, and execution.[359] In its 2022 updated National Determined Contributions (NDC) under the UNFCCC, Australia committed to reducing greenhouse gas (GHG) emissions to 43% of 2005 levels by 2030.[360]

Green Climate Fund

The world's largest, multilateral climate fund, the GCF is a financing entity under the UNFCCC. It targets support toward developing countries to ensure those countries have the financing necessary to carry out projects to reduce GHG emissions and respond to the changing climate. Australia is a financial contributor to the GCF.[361]

Global Environmental Facility

The Global Environmental Facility (GEF) is a funding mechanism under five conventions – the Convention on Biological Diversity, the UNFCCC, the Stockholm Convention on Persistent Organic Pollutants, the UN Convention to Combat Desertification, and the Minamata Convention on Mercury. Based on these conventions, the GEF sets operational guidelines for the projects it funds.[362] Australia is a contributor to the GEF and sits on the GEF Council. The GEF funds biodiversity protection, nature restoration, pollution reduction, and other climate change response programs across developing countries.[363]

Women's Resilience to Disasters

Australia works with UN Women's WRD program to grow WRD activities and communities of practice across Fiji, Kiribati, Solomon Islands, and Vanuatu.[364] The program brings financing, knowledge production and sharing through the WRD knowledge hub, and access to experts and practitioners. The key objectives of WRD are to ensure participating countries adopt gender-responsive decision-making and governance systems and to enable action to build the resilience of women and girls.[365] Each country sets its own priorities under the requirement that WRD programming uphold the principals of localization and local ownership. Nonetheless, one of the two main targeted outcomes is "action," under which women and girls are better prepared to withstand hazards, recover from disasters, and build resilience for future events. These outcomes require that early warning systems, financial and other services, and livelihoods elements be addressed.[366]

NATIONAL FRAMEWORK

Australia is exposed to multiple hazards, many of which are being exacerbated by climate change. As a huge, modern economy, however, the country has resources to dedicate to both DRR and DRM and to climate change adaptation and mitigation. Moreover, it has the capacity to support neighboring countries and developing states with their disaster resilience and climate change action goals. Thus, Australia maintains policies and plans that reflect the interconnectedness of hazards and climate change, and it has robust DRR and adaptation frameworks alongside its disaster response capacity.

Country Overview

Australia is a large, sparsely populated country, with just 3.5 people per square kilometer (km^2; 9 people per square mile).[367] A Commonwealth with a representative system of federal and state governments, it ranks in the top 15 economies in the world by Gross Domestic Product (GDP)[368] and has a globalized, modern economy. Life expectancy at birth has risen to more than 83 years overall;[369] however, there are significant differences between people living in large cities and people living in more remote areas and especially stark gaps for Aboriginal and Torres Strait Islander Australians, who generally have less access to health and other community services compared to non-indigenous Australians.[370] Similarly, although 95% of Australians have access to digitized communications,[371] significant gaps remain in ensuring Aboriginal and Torres Strait Islander Australians and residents of remote areas are connected.[372] As the country expects to confront climate change-influenced hazards, its massive, populous cities and less populous remote areas are all preparing to adapt economic activity, infrastructure, and processes to meet these challenges.

People and Government

Australia has a federal form of government, with a national Commonwealth government, six individual state governments – New South Wales (NSW), Victoria, Queensland, South Australia, Western Australia, and Tasmania – each with a constitution, and two internal territories – Northern Territory and the Australian Capital Territory (ACT) – each with self-governing status. The federal authorities govern the external territories of Norfolk Island (Pacific Ocean), the Cocos (Keeling) Islands (Indian Ocean), Christmas Island (Indian Ocean), Ashmore and Cartier Islands (Indian Ocean / Timor Sea), the Coral Sea Islands (Coral Sea), and Heard Island and McDonald Islands (Southern Indian Ocean). The Commonwealth also claims the Australian Antarctic Territory, which is an area larger than Australia itself.[373] The Commonwealth is a realm of the British monarchy, and King Charles III is the chief of state, represented by a Governor-General. The Commonwealth government is run by a Prime Minister who is head of government and oversees a Cabinet with members selected from Members of Parliament. Parliament is bicameral, with a 76-seat Senate and a 151-seat House of Representatives.[374]

The 2021 census exercise counted 25,418,009 full-time residents of Australia. Females just outnumber males at 50.7% versus 49.3%, and the median age of all Australians stood at 38 years of age. Elder adults (75 years and older) made up 7.5% of the population, and younger Australians (24 years and younger) made up 30.2%. By state, from largest population to smallest, Australians live in NSW: 8,072,163; Victoria: 6,503,491; Queensland: 5,156,138; Western Australia: 2,660,026; South Australia: 1,781,516; Tasmania: 557,571; ACT: 454,499; and Northern Territory: 232,605.[375]

Australia has no official language,[376] and English is the most common first language. Mandarin is the next most common first language with 685,274 people using Mandarin at

home; Mandarin is followed by Arabic (367,159 people), Vietnamese (320,758 people), Cantonese (295,281 people), and Punjabi (239,033 people). The 2021 census also found that 812,728 people identified as Aboriginal (91.4%), Torres Strait Islander (4.2%), or both Aboriginal and Torres Strait Islander (4.4%); this number shows an increase of more than 25% over five years, with Aboriginal and Torres Strait Islander people now representing 3.2% of the Australian population. Moreover, there were 167 Aboriginal and Torres Strait Islander languages used at home by 76,978 Aboriginal and Torres Strait Islander peoples.[377]

Geography and Climate

Australia covers an entire continent plus several island groups. The mainland extends nearly 4,000 km (2,500 miles) from west to east and nearly 3,200 km (2,000 miles) from north to south. To the south, Australia's territory extends an additional 500 km (310 miles) across the island of Tasmania.[378] The land area is 7,741,220 km^2 (2,988,901 square miles). Australia shares no land borders with other countries but has 25,760 km (16,006 miles) of coastline.[379] Australia is separated from Indonesia to the northwest by the Timor and Arafura Seas, from PNG to the northeast by the Coral Sea and the Torres Strait, from New Zealand to the southeast by the Tasman Sea, and from Antarctica in the far south by the Indian and Southern Oceans.[380] Figure 10 shows a map of the country.[381]

The central portion of the continent is a depression with a plateau to the west. Nearly the entire coast is a mixture of hills and plains; the exception to this coastal character is the southern coast, where plains stretch to the sea. The eastern coastal plain is anywhere from 30 to 300 km (20 to 200 miles) in width and is separated from the central depression by the Great Dividing Range escarpment, home to the highest point in the country, Mount Kosciuszko (2,228 m; 7,310 feet).[382]

Australia's climate is highly variable across geography, season, and year. Nonetheless, it is broadly arid and hot; some two-thirds of the country receives an average annual precipitation of less than 500 millimeters (mm; 20 inches), and the remaining one-third receives less than 250 mm (10 inches) of precipitation. Only approximately 10% of the continent receives more than 1,000 mm (40 inches) of precipitation on average each year.[383] Monsoon winds from the north, the Madden-Julian Oscillation, the El Niño Southern Oscillation (ENSO), various trade winds, troughs, tropical depressions, and the Sub-Tropical Ridge are just some of the influences on the continent's climate.[384] To take just one of these influences, under "neutral" ENSO conditions, the ocean surface north and northeast of Australia is typically 28-30°C (82-86°F), and this warm area of the Pacific Ocean (compared to the cooler eastern Pacific) is a source for convection and is associated with cloudiness and rainfall. During a La Niña



Figure 10: Map of Australia

phase of ENSO, stronger trade winds increase the temperature of waters north of Australia, which then produces more clouds and rainfall, and eastern, central, and northern parts of the country see a wetter wet season. In an El Niño year, trade winds weaken, and warmer surface water builds up in the central Pacific. Cloudiness and rainfall north of Australia are suppressed, and eastern and northern Australia receive below average winter–spring rainfall.[385] Given the size of the country and the variety of climate zones present, broadly, the average temperature in summer (December to March) is 29°C (84°F), and the average winter (June to August) temperature is 13°C (55°F). The northern areas of the continent are tropical and experience a wet and a dry season; the east coast is sub-tropical, the central region is desert, the western region is dry Mediterranean, and the southern coasts are temperate.[386] Figure 11 graphs the average monthly minimum, mean, and maximum temperatures and precipitation for Australia for the period 1991-2020.[387]

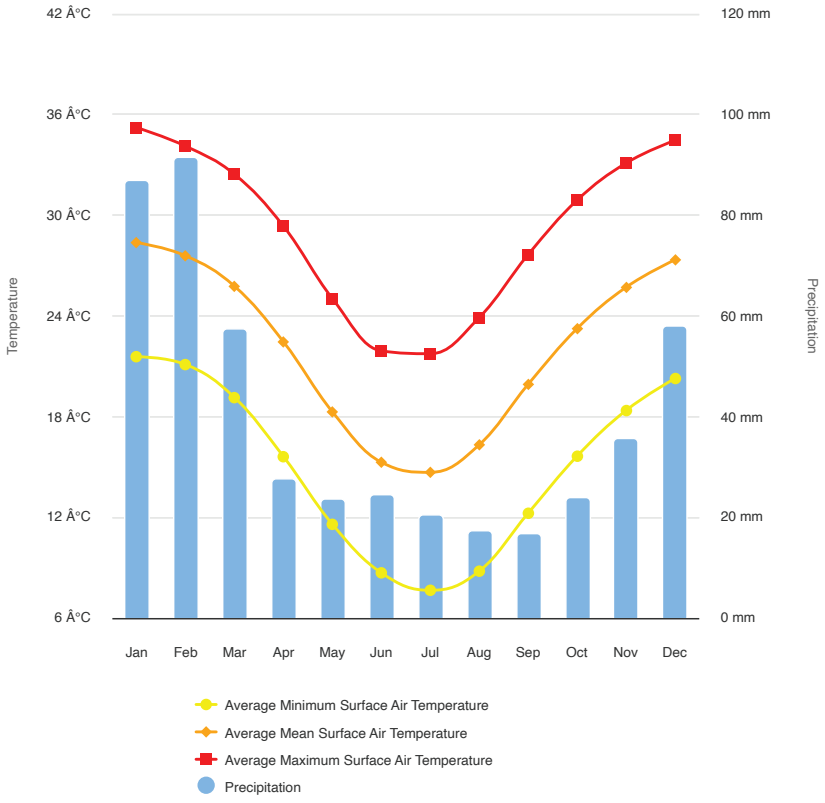


Figure 11: Average Monthly Temperature and Precipitation, Australia (1991-2020)

Economy and Infrastructure

Australia has an open, market-oriented, diversified, and globalized economy. Historically, agriculture – wool, wheat, beef, lamb, dairy, etc. – was the key contributor to export revenues and the backbone of local activity, but the second half of the 20th century saw development in manufacturing, mining, and services. A subsequent decline in manufacturing has seen the country become ever more connected to the world economy, especially to other Asia-Pacific manufacturing giants and European, Asian, and American financial markets.[388]

According to the Commonwealth Department of Agriculture, agriculture accounts for 13.6% of goods and services exports, 2.7% of GDP, and 2.2% of employment (2022–2023).[389] As of 2024, the minerals sector accounted for approximately 8% of GDP, and Australia is the world's largest exporter of black coal, iron ore, alumina, lead, and zinc, and it is the second largest exporter of uranium. Half of the country's 340 mines are in Western Australia.[390] The Reserve Bank of Australia reports that, in 2024, manufacturing accounts for 5.7% of GDP and 7.4% of exports.[391] The Department of Employment and Workplace Relations reported that, in 2023, the manufacturing sectors that employed the most Australians were bakery products, meat products, furniture, and beverages. Manufacturing employed 881,000 workers in May 2023, but the manufacturing workforce tends to be older (over 43 years of age) and male (72% of manufacturing workers are men).[392] In 2021, services accounted for some 80% of GDP and 90% of employment.[393] Growth in services has been in education, finance, government, insurance, communications, health and welfare, property, legal services, tourism, and recreation.[394]

The World Bank reports that Australia has reached 100% of

the population with electric power, although some remote areas are off-grid.[395] In 2021-2022, the DCCEEW reported that total electricity generation in Australia had reached 272 terawatt-hours. Fossil fuels contributed 68% of total electricity generation; coal (47%), gas (19%), and oil (2%) dominated the energy mix. Renewables contributed 32% of total electricity generation in 2022; solar (14%), wind (11%), and hydro (6%) each made up significant shares.[396] Hydroelectric generation is concentrated in Tasmania, where the economy has been built around hydropower.[397] Electricity is generated in each region and traded across regions via high-voltage transmission lines; distributors then deliver electricity to homes and businesses on lower voltage lines. The National Electricity Market covers five regions, all in the east and including Tasmania, and the Market covers some 80% of Australia's electricity consumption. Western Australia and the Northern Territory use their own electricity systems and separate regulatory arrangements.[398]

Upwards of 94% of Australians are connected to a main water supply via some 300 local water utilities. In addition, approximately 85% of the population has access to more than 700 community sewage treatment plants. Nearly half of these plants are based on biological filters, 170 are lagoons, and 45 are based on primary treatment.[399] As with the reach of electric power, Australians in more than 400 remote communities lack access to quality drinking water. In a 2022 study, researchers at the Australian National University found that at least 25,245 people across 99 locations with populations of fewer than 1,000 people had water services that did not comply with the health guidelines. Some 40% of all locations with reported health-based non-compliances were remote indigenous communities, a finding in contrast to Australia's 2022 SDG progress report, which stated that 100% of Australians have universal and equitable access to safe and affordable drinking water. Researchers underscore that water quality is impacted by a combination of aging infrastructure, climate change-related factors – drought and flood – and human activity – unsustainable irrigation and industrial pollution.[400]

Modern road networks radiate from ports and state capitals. In 2022, there were some 427,000 km (265,325 miles) of paved roads throughout the country. There are 32,756 km (20,353 miles) of railway across the country, and road and rail have roughly equal shares of internal freight movement although road massively outstrips rail for passenger transport by a ratio of approximately 15:1. Figures 12 and 13 show maps of Australia's National Road network and railways, respectively.[401]

The main ports are located on the east coast, the most important being Sydney Harbour / Port Botany for mixed freight. It is followed by Port Hedland (specializing in bulk iron ore), Melbourne, Fremantle, Newcastle, Brisbane, Hay Point, Port Walcott, Gladstone, Port Kembla, and Port Adelaide.[402] In 2022–2023, 8.6 million twenty-foot equivalent units moved through the five principal container ports – Melbourne, Port Botany, Brisbane, Adelaide, and Fremantle.[403] Figure 14 shows the country's principal ports and their major commodities handled.[404]

The main national and international airport is Sydney Kingsford Smith, which saw 35.6 million passengers transit the facility in 2022-2023;[405] Melbourne's Tullamarine airport is the second busiest. There are many smaller airports serving other state capitals, Canberra, provincial centers, resorts, and mining developments.[406] Figure 15 shows the locations of Australia's busiest airports.[407]

Australia's telecommunications sector was highly centralized until the late 20th century; full competition in the sector ensued from 1997. The industry is overseen by the Minister for Communications, who wields significant regulatory authority, with the ability to impose conditions on telecommunications providers.[408] As of 2022, there were 6.4 million fixed telephone lines (24 per 100 inhabitants) and more than 28 million mobile telephone subscriptions (107 per 100 inhabitants).[409] Meanwhile, as of 2024, internet penetration stood at approximately 95%,



Figure 12: Australia's National Road Network

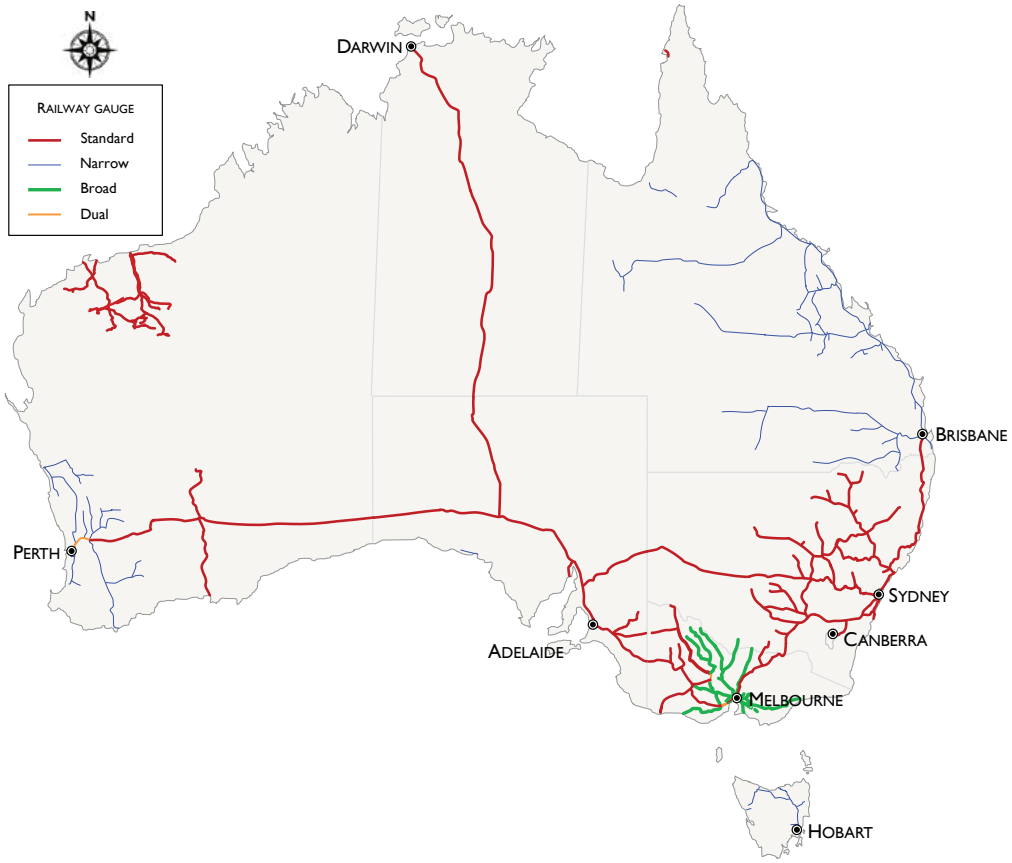


Figure 13: Australia's Rail Network, with Gauges



Figure 14: Australia's Principal Ports and Commodities Handled

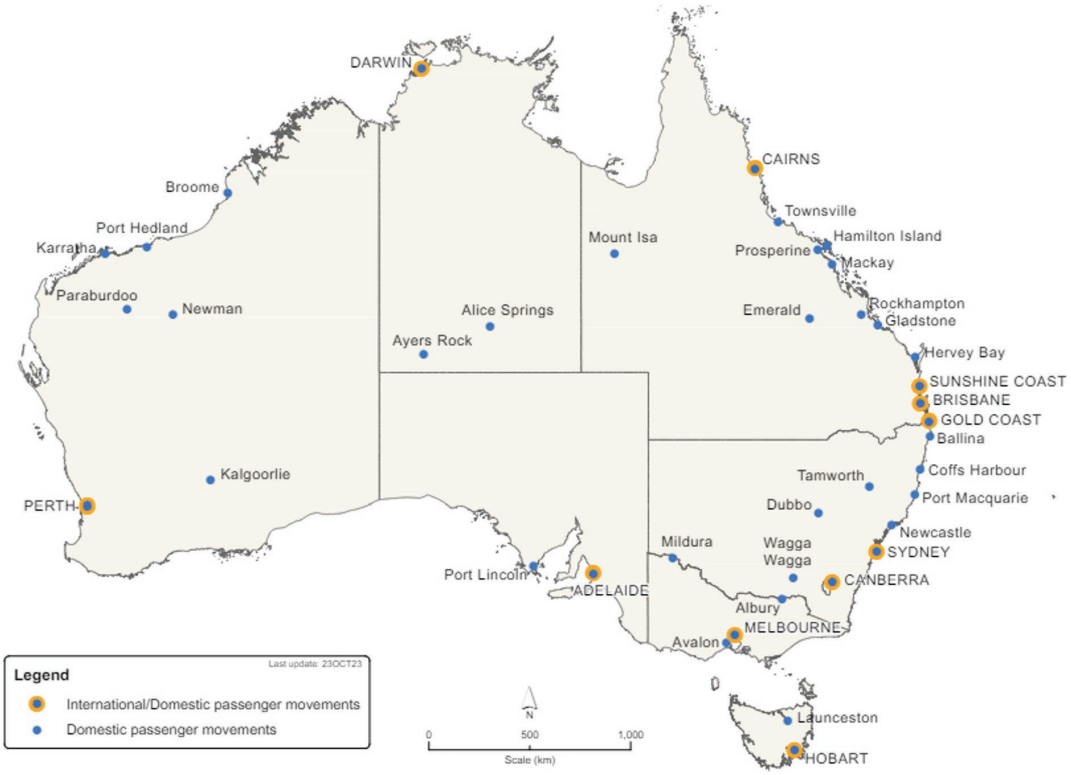


Figure 15: Australia's Top 40 Airports, by Passenger Numbers

with nearly 25 million Australian residents using the internet. Moreover, some 82.5% of Australian internet users utilize one or more social media platforms. Data published by Ookla – the global broadband speed test – indicate that, in 2024, the median mobile internet connection speed was 93.91 megabits per second, and the median fixed internet connection speed was 54.41 megabits per second.[410] The National Broadband Network initiative has been rolling out fixed, wireless, and satellite broadband nationally; as of 2024, nearly the whole continent has been reached by one of these technologies, as shown in Figure 16.[411]

Australia hosts landing points for more than 20 submarine communications cables including the SeaMeWe-3 optical telecommunications submarine cable with links to Asia, the Middle East, and Europe; the INDIGO-Central; INDIGO West; ASC; North West Cable System; Australia-Papua New Guinea cable; CSCS; PPC-1; Gondwana-1; SCCN; Hawaiki; TGA; Basslink; Bass Strait-1; Bass Strait-2; JGA-S, with links to other Australian cities, New Zealand, many countries in southeast Asia, the U.S., and Europe; H2 Cable; AJC; Telstra Endeavor; and Southern Cross NEXT, with links to Japan, Hong Kong, other Pacific Ocean countries, and the U.S.[412]

Disaster Overview

Australia is exposed to bushfires, drought, earthquakes, flooding, heatwaves, landslides, and storms. Among the most deadly and devastating events have been bushfires, floods, heatwaves, and cyclones. Meanwhile, climate change is creating less predictable and more extreme weather patterns that will influence hazards that already loom over the country and will shift the way Australia's people and humanitarian responders can operate at home and overseas. Among key issues are warming sea surface temperatures and coastal erosion.

Hazards

Bushfire

Fire is an intrinsic part of the Australian landscape as many native plant species have evolved to require fire to regenerate. However, fast-moving and smoldering bushfires have also caused significant loss of human and animal

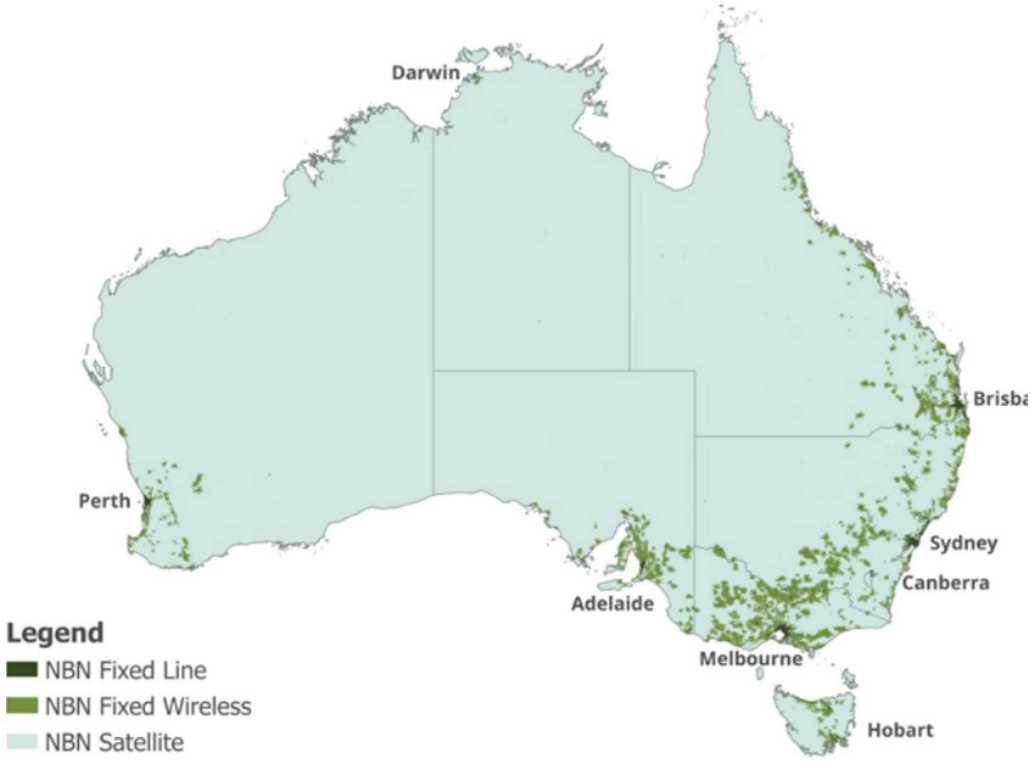


Figure 16: National Broadband Network Reach (2024)

life alongside massive property and ecosystem damage. Given the characteristics of the continent's seasonal patterns, fire danger shifts around the country during the year. Southern Australia is generally at higher risk in summer and autumn, while the Northern Territory, NSW, and southern Queensland are at higher risk in winter and spring. While the Northern Territory and northern areas of Western Australia and Queensland have seen some of the largest fires in terms of land area burnt, fires near cities are commonly more costly even if smaller.[413] Among the 10 most destructive and deadly disasters in Australian history was the 2019-2020 bushfire season, during which 120 people were killed, 1,317 people were hospitalized, 300 homes were destroyed, 1.5 million hectares of public and private land burned, countless animals were injured and killed, and damage cost estimates topped AU$18.6 million (US$12.4 million). This "Black Summer" impacted communities across southern Australia.[414]

Bushfires can ignite due to both human and natural triggers. Lightning is the main natural source of ignition and accounts for half of all bushfires. Human – intentional or accidental – causes account for nearly all other remaining fires and tend to have a greater impact on society than lightning-lit fires as human-lit fires tend to occur closer to inhabited and built-up areas. Rather than trying to halt bushfires entirely, Australia's communities and authorities attempt to mitigate their consequences for society and the economy by trying to reduce the impact on vulnerable areas. These efforts include clearing potential bushfire fuel from around habitations and infrastructure and taking care not to start intentional fires when periods of below-average rainfall mean that fuel on the landscape could catch fire swiftly and in an uncontrolled fashion.[415] The Australian Climate Service (ACS) notes that climate change is likely to lead to extended heatwaves and drought, two catalysts of bushfire.[416]

Diseases

The Australian Government's Department of Health and Aged Care monitors incidence rates of diseases with epidemic or pandemic potential as part of its overall communicable disease surveillance programming. The federal and state governments work together to address sudden upticks in reported cases of diseases, and the National Incident Centre can be activated if an outbreak is assessed as reaching the threshold of a national emergency. Emergency response plans exist for certain communicable diseases – e.g., COVID-19, influenza, and polio – as well as for chemical, biological, radiological, and nuclear (CBRN) incidents, which may include the intentional release of smallpox or anthrax, among other substances or microbes.[417] As of March 2024, the list of nationally notifiable diseases includes anthrax, Australian bat lyssavirus infection, avian influenza in humans, Barmah Forest virus infection, botulism, brucellosis, campylobacteriosis, chickenpox, Chikungunya, Chlamydia, cholera, COVID-19, Creutzfeldt–Jakob disease, cryptosporidiosis, dengue, diphtheria, donovanosis, Flavivirus (including Zika), gonococcal infection, Group A streptococcal disease, hemolytic uremic syndrome, haemophilus influenzae type b, Hepatitis A-E, HIV, influenza, Japanese encephalitis, legionellosis, leprosy, leptospirosis, listeriosis, lyssavirus infection, Malaria, measles, meningococcal disease, Middle East respiratory syndrome (MERS), Mpox, mumps, Murray Valley encephalitis virus infection, Paratyphoid fever, pertussis, plague, pneumococcal disease, polio, psittacosis, Q fever, rabies, respiratory syncytial virus (RSV), Ross River virus infection, rotavirus infection, rubella, salmonellosis, severe acute respiratory syndrome (SARS), Shiga toxin-producing Escherichia coli, shigellosis, shingles, smallpox, syphilis, tetanus, tuberculosis, tularemia, typhoid fever, varicella zoster infection, viral hemorrhagic fever, West Nile virus infection, and yellow fever.[418]

There is growing concern over the ways that climate change will affect the spread of key diseases. As of 2009, Ross River virus disease was already the most common and widespread mosquito-borne infection in Australia, but with

shifts in rainfall, temperature, and tides, there is the potential for the virus and its vector to see greater opportunity to spread. Other diseases may benefit from either more or less rainfall or from greater or lesser cloud cover that impacts ultraviolet light saturation. There is significant concern that more Australians will be at higher risk of dengue infection, especially across northern Australia as climates shift. Moreover, with receptive mosquito species present in northern Australia, endemic transmission of malaria is a potential future challenge.[419]

Drought

Australia is the world's driest permanently inhabited continent.[420] Most regions of the continent experience seasonal drought as part of normal cycles, but intense, protracted droughts also occur. There is a causal link between El Niño and drought in Australia; protracted El Niño episodes lead to warmer sea surface temperatures in the central western Pacific Ocean and, therefore, to greater atmospheric convection in the central equatorial Pacific, and this convection, in turn, leads to suppressed rainfall across eastern Australia. As climate change warms the central equatorial Pacific separately from El Niño events, Australia is projected to see more frequent, protracted drought.[421]

Earthquake and Tsunami

The Australian Plate is colliding with the Pacific Plate to Australia's north and east and the Eurasian Plate to the northwest in motion that generates compressive stress in the interior of the Australian continent. This stress is slowly building up across the plate, and the sudden release of this stress occurs when rocks underground break and move along a fault, causing an earthquake. Earthquakes can occur anywhere across the continent, and an average of 100 earthquakes of magnitude 3.0 or greater are recorded in Australia each year. Earthquakes above magnitude 5.0, such as the destructive 1989 Newcastle earthquake, occur on average every 1-2 years. About every 10 years Australia experiences a potentially damaging earthquake of magnitude 6.0 or greater. In 1988, Australia experienced its strongest earthquake in recorded history; it was an estimated 6.6-magnitude event at the Northern Territory's Tennant Creek, a sparsely populated area. A 6.5-magnitude quake in 1968 was felt over most of southern Western Australia and caused extensive damage. These two earthquakes and nine others are recorded as having produced surface rupture, forming fault scarps. Over 350 fault scarps are mapped across Australia, with the majority thought to relate to large pre-historic earthquakes.[422]

There is plentiful evidence that Australia has been impacted by pre-historic tsunamis; historic, recorded tsunamis have generally been noted only in tide gauge data with no impact on the shore, although they have caused marine environmental damage. Exposure to tsunami hazard is very low on southern coasts and moderate along the west coast, which is somewhat exposed to tsunami generated by subduction zones in Indonesia. The largest run-up of tsunami waves onto land was 7.9 m (25.9 feet) at Steep Point, Western Australia, after the July 2006 Java tsunami, and the largest reported offshore wave height was 6 m (19.7 feet) near Cape Leveque, Western Australia, after the August 1977 Sunda tsunami.[423]

Flood

Australia is exposed to several types of flooding – riverine, storm surge, tsunami, and flash. In fact, flooding is Australia's second most significant natural hazard in terms of human fatalities; floods accounted for 20% of natural hazard deaths between 1900 and 2022.[424] Riverine flooding occurs in low-lying areas adjacent to streams and rivers. The Great Dividing Range – or Eastern Highlands or East Australian Cordillera – extends along the length of eastern Australia and separates longer, slower, westerly-flowing rivers from shorter, faster, easterly-flowing coastal rivers. In the extensive flat inland region west of the mountains, floods may spread over thousands of square kilometers and last weeks or months, but there is often a long-range forecast that allows potentially

impacted communities to prepare. In mountains and coastal regions, flooding happens – and resolves – more rapidly and may allow almost no warning. In some cases, natural blockages at river mouths can cause localized flooding of estuaries and coastal lake systems. Flash floods result from short, intense bursts of rainfall that overwhelm drainage systems; these floods tend to be unpredictable and, because they tend to occur in more built-up areas, dangerous and damaging. Almost every part of Australia is exposed to some level of flood risk.[425] Climate change is expected to influence flooding hazard in the following ways: 1) more heavy or extreme rainfall events; 2) more intense cyclones; 3) increase coastal flooding as sea levels rise.[426]

Heatwave

Severe and extreme heatwaves have claimed more lives than any other natural hazard in Australia. Heatwaves pose health risks to vulnerable people, especially the elderly and very young, and they can affect transport and energy infrastructure upon which people rely to access services and health care. The ACS defines a heatwave as unusually high maximum and minimum temperatures that persist for at least three days at a specific location. Heatwaves occur when high-pressure systems transport hot air towards a specific location. Heat can persist if the system is slow-moving or remains stationary for several days. El Niño, drought conditions, urban heat island effects, and background climate change can all exacerbate extreme temperatures. Heatwaves are most likely in summer months, but warm spells in colder months can also occur and have especially deleterious effects on agricultural productivity.[427] As of 2024, Australia's climate has warmed by an average of 1.51°C (2.7°F) since national records began in 1910.[428] Warming has been observed across the country and in all months. The year 2019 saw more than triple the number of extremely warm days in any of the years prior to 2000. The ACS notes this increasing trend across all locations and projects that the coming decades will bring further increases in heatwave frequency, intensity, and duration.[429]

Landslide

Landslides do occur in Australia, and they damage or destroy buildings, roads, railways, pipelines, and crops. Nonetheless, landslides tend to be concentrated in coastal areas and the Great Dividing Range (east coast mountains), the Strzelecki and Otway Ranges of Victoria, the Mt. Lofty Range near Adelaide, and the Tamar Valley and northwest coast of Tasmania.[430] They can be caused by seismic activity or when rain saturates ground that is on a slope and is not anchored by vegetation. Soil, rocks, and debris can all make up parts of a landslide that slip for anywhere from a few centimeters to kilometers, depending on the underlying topography and makeup of the surface layer of earth. Exposure to landslide hazard is broadly determined by location related to a slope, and damage from landslide can be extensive if the slide impacts infrastructure or built-up areas or if watercourses are clogged by debris that leads to flooding.[431]

Storm

Storms are the most common hazard events in Australia. They bring high winds and heavy rains and cause coastal erosion linked to storm surge, which is a dome of water raised by winds and atmospheric pressure to 2-5 m (6.6-16.4 feet) higher than normal tide and then driven onshore by the storm. Many storms also bring hail. If storms bring high winds but no rain, they can contribute to bushfires. Severe thunderstorms account for a majority of damaging natural hazard events and are most common along the east coast – central Queensland to central NSW. Meanwhile, tropical cyclones are most common in Western Australia and northeastern Queensland. The official tropical cyclone season runs from 1 November through 30 April, with most cyclones occurring between December and April. On average, about 10 tropical cyclones develop over Australian waters each year and six make landfall on the continent. Storm-related tornados are most common in southwestern and eastern regions.[432] In recent decades, the annual number of tropical cyclones in the Australasian region has fallen, and the Australian Institute for

Disaster Resilience (AIDR) notes that fewer east coast lows are likely to occur each year as climate change impacts cyclone formation. Nonetheless, AIDR warns that those lows and cyclones that do occur could be more damaging due to rising sea levels and heavier rains as warmer air holds more moisture and can deliver greater amounts of precipitation in shorter periods of time.[433]

Volcano

There is some volcanic hazard in Australia although there are no active volcanoes within the main body of the country. There are two active volcanoes, Heard Island and the McDonald Islands in the Australian Antarctic Territory, 4,000 km (2,485 miles) southwest of Perth, Western Australia. Southeastern Australia is home to the geological region, the Newer Volcanics Province, which is an area of 400 small volcanoes and vents that have been dormant for 5,000 years. The other active volcanoes nearest Australia are in New Zealand, Vanuatu, Solomon Islands, PNG, and Indonesia. These volcanoes do pose a threat to the entire region as they can emit ash clouds that disrupt air travel.[434]

Country Risk Profile

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

Disaster Risk = (Hazard × Vulnerability) / Capacity[435]

Taken from the UNDRR glossary, definitions will help clarify this formula:

- Capacity - The combination of strengths, attributes, and resources available within an organization, community, or society to manage and reduce disaster risks and strengthen resilience.
- Disaster risk - The potential loss of life, injury, or destroyed or damaged assets, which could occur to a system, society, or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability, and capacity.
- Hazard - A process, phenomenon, or human activity that may cause loss of life, injury, or other health impacts, property damage, social and economic disruption, or environmental degradation.
- Vulnerability - The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of an individual, a community, assets, or systems to the impacts of hazards.[436]

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

INFORM is a collaboration of the Inter-Agency Standing Committee (IASC) Reference Group on Risk, Early Warning, and Preparedness with the European Commission. It is a multi-stakeholder forum for developing shared, quantitative analysis relevant to humanitarian crises and disasters. The Joint Research Center of the European Commission is the scientific lead.[437] The INFORM Risk Index measures the risk of humanitarian crises and disasters in 191 countries. The INFORM model is based on the standard dimensions of risk: Hazards and Exposure, Vulnerability, and Lack of Coping Capacity. The first dimension measures the natural and human hazards that pose the risk. The second and third dimensions cover population factors that can mitigate against or exacerbate the risk. The Vulnerability dimension considers the strength of individuals and households relative to a crisis while the Lack of

Coping Capacity dimension considers factors of institutional strength.[438]

The INFORM model is split into different levels to provide a quick overview of the underlying factors leading to humanitarian risk. INFORM gives each country a risk score of 1-10 (1 being the lowest and 10 the highest) for each of the dimensions, categories, and components of risk, as well as an overall risk score.[439] The higher the score the more at risk a country is. In the 2025 INFORM Risk Index, Australia had an overall risk score of 2.2/10, which INFORM categorizes as the "low" risk class and lands Australia as the 154th most at-risk country of 191 countries in the Index. The Hazards and Exposure dimension score takes into account a combination of both natural and human hazards, and Australia rated 2.6/10 or 86th of 191 countries. The Vulnerability dimension score was 2.1/10 or 166th of 191, and the Lack of Coping Capacity dimension score was 2.0/10 or 164th of 191. Physical exposure to Coastal Flooding at 6.2/10, was the greatest threat in the Hazards and Exposure dimension, with Uprooted People measuring at 5.9/10 for the Vulnerability dimension, and Physical Infrastructure rated at 3.0/10 in the Lack of Coping Capacity dimension. Figure 17 shows the INFORM Risk Country Profile for Australia for 2025.[440]

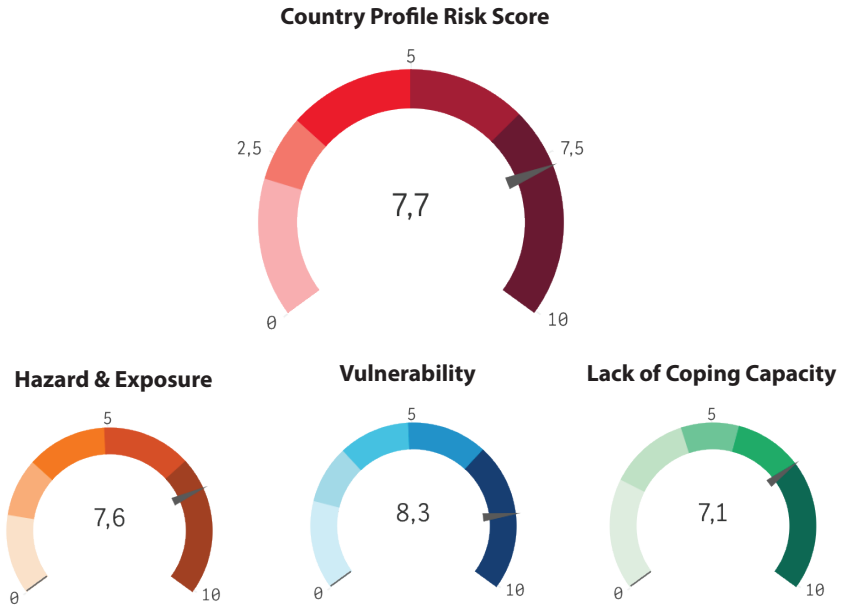


Figure 17: INFORM Risk Dashboard for Australia (2025)

Climate Change

On-going modeling of Australia's past and present climates is building a picture of long-term climate change alongside significant natural variability. Changes in weather and climate extremes appear to be happening at an increased pace and, therefore, are having greater impacts on lives and livelihoods.

In the 2024 State of the Climate report, the BoM and CSIRO discussed various climate trends and projections. Australia's climate has warmed since national records began in 1910, with most warming occurring since 1950. This shift has impacts on human health, ecosystems, and infrastructure. The frequency of extremely cold days and nights has declined across Australia, and parts of southeast and southwest Australia have seen significant cool season drying. Under normal circumstances, Australian rainfall is highly variable and is strongly influenced by ENSO, the Indian Ocean Dipole, and the Southern Annular Mode. Still, long-term trends show less abundant rain in the south and more abundant rain in the north while snowfall accumulation has also fallen in temperate, alpine regions of the country.[441]

Simulations from climate models suggest that increased GHG levels in the atmosphere lead to fewer low-pressure systems and a stronger subtropical ridge alongside an increase in the intensity of heavy rainfall, including from thunderstorms. In consonance with these modeling observations, southern Australia, which receives much of its rainfall during the cooler months of the year from low-pressure systems and cold fronts, has, during recent decades, seen fewer of these systems. There has also been an increase in the number of high-pressure systems over southern Australia, which sees dry, clear weather and little rainfall.[442]

Table 1 details some of the climate change-influenced phenomena that Australia faces as well as trends, projections, and potential impacts of these hazards, from the 2024 State of the Climate report and other sources.[443]

When applied to national political, economic, social, and other systems, the hazards that are impacted by climate change also increase the risks the country already faces. The National Climate Risk Assessment "first pass" prioritization report identified 56 nationally significant climate risks and prioritized 11 of them based on their severity, actionability for adaptation response, scope, and coverage across national systems – e.g., defense, trade, First Nations, health, etc. The 11 priority risks to be subjected to further analysis in the "second pass" Risk Assessment process are:

Phenomenon	Trend	Projection	Impacts
Bushfires	Forest Fire Danger Index suggests increase in frequency of dangerous fire weather days in the south and east and during spring and summer; La Niña years are associated with a lower number of days with high Index values	Increase in number of fire weather days; longer fire season in southern and eastern regions; more available fire fuel due to swift plant growth during rains and swift drying afterward	Extreme bushfires can generate thunderstorms within smoke plumes and can lead to extremely dangerous fire conditions and new fires generated from lightning strikes produced within plumes
Flooding	Flash floods happen across the country; low-lying areas adjacent to rivers suffer from riverine flooding; flatter regions can suffer flooding that lasts several weeks	Extreme rainfall will increase as east coast low-pressure systems and tropical cyclones become fewer in number but more extreme in strength	Flooding tends to isolate towns, create major disruptions to road and rail links, and cause human and economic losses
Cyclones	Cyclone activity varies from year to year; the number of cyclones generally declines with El Niño and increases with La Niña; a downward trend in the number of tropical cyclones has been observed since 1982	Fewer cyclones but increased strength of storms that do form	Intense tropical cyclones bring high winds, storm surge, extreme rainfall, and flooding; forced evacuations can follow along with damage to infrastructure and industry
Drought	Long-term declines in rainfall and drier, hotter conditions; since 2000, the southeast has seen a 50% decline in riverine streamflow	Continued drying in the southwest during winter and spring; longer periods of drought on average in the southern and eastern regions	A decline in soil moisture caused by increased water loss from plants and soil can result in crop failure
Rainfall / Snow	Decline of 15-20% in southwest rainfall since 1970, and 10% decrease in the southeast since the 1990s; increase in rainfall across northern Australia since the 1970s; decrease in snow depth and cover in alpine regions since 1950s; 10% increase in short-duration (hourly) rainfall events	Declining trend in rainfall across southern and eastern regions; shift to more high-pressure systems, fewer low-pressure systems, and a reduction in the number of cold fronts that produce rainfall; more frequent short-duration, extreme rainfall events; less snow in alpine regions	Extreme rainfall events are often associated with flash flooding; urban environments will experience flash flooding during heavy downpours
Temperature	Average rise of 1.47°C (2.5°F) since 1910; increase in number of extreme daily heat events (temperatures over 39°C / 102°F); very high monthly maximums occurred more than 11% of the time in 2007–2021, compared to 2% of the time in 1960–1989; frequency of extreme cold declined	Continued warming, with more extremely hot days and fewer extremely cool days; interior areas expected to see greater warming than will coastal areas	Extreme heat has caused more deaths in Australia than any other natural hazard and has major impacts on ecosystems and infrastructure
Sea Conditions	Sea level extremes are more frequent; rises significantly higher than the global average recorded off the northern and southeastern coasts; surface temperature rise of 1.05°C (1.89°F) since 1900; increased frequency of extreme heat events; 30% rise in acidity since 1880s and higher rate of acidification	Further sea level rise; projected annual extreme sea level events by 2100 under lower-emissions scenarios and by 2050 for higher-emissions scenarios; continued warming and acidification; more frequent and extreme marine heat waves	Damaged marine ecosystems (kelp forests and coral reefs); more frequent coastal inundation and consequent coastal erosion; saltwater intrusion into groundwater

Table 1: Climate Change-Influenced Phenomena and Impacts, Australia

- Defense and national security - Risks to domestic disaster response and recovery assistance due to competition between the need to respond to multiple hazard events alongside national security contingencies, and the emergence of concurrent pressures and overwhelmed Government capacity
- Health and social support - Risks to health and well-being from slow onset and extreme climate impacts
- Infrastructure and built environment - Risks to critical infrastructure that impact access to essential services
- Natural environment - Risks to aquatic and terrestrial ecosystem conditions and functions or collapse, including through species loss and extinction
- Primary industries and food - Risks to primary industries due to decreased productivity, quality, and profitability, and an increase in biosecurity pressures
- Regional and remote communities - Risks to regional, remote, and First Nations communities that are supported by natural environments and ecosystem services
- Cross-system – Communities and settlements - Risks to communities from legacy-and-future planning and decision-making that increases the vulnerability of settlements
- Cross-system – Economy, trade, and finance - Risks to the real economy from acute and chronic climate change impacts, including from climate-related financial system shocks or volatility
- Cross-system – Governance - Risk to adaptation from maladaptation and inaction from governance structures not fit to address changing climate risks
- Cross-system – Supply chains - Risks to supply and service chains from climate change impacts that disrupt goods, services, labor, capital, and trade
- Cross-system – Water security - Risks to water security that underpin community resilience, natural environments, water-dependent industries, and cultural heritage[444]

Disaster Management, Relief, and Recovery Arrangements

Australia's domestic DM plans, policies, agreements, and strategies reflect a whole-of-government approach. The country maintains close collaboration between civil and military entities to respond to domestic hazard events.[445] Under 2020 legislation, emergencies of national significance may trigger a declaration of national emergency by the Governor-General, based on advice from the Prime Minister. In case of a domestic crisis that requires requests for or triggers offers of international assistance, the Interim Australian Government Reception of International Assistance Plan (AUSRIAPLAN) articulates the responsibilities and processes on how the Australian Government can facilitate and expedite international non-financial assistance into Australia or its external territories.[446] In case the Department of Defence receives offers of foreign military assistance, the Australian Government will accept or decline, and the ADF will coordinate any accepted foreign military support.[447]

Responding to natural disasters in disaster-affected communities is primarily the responsibility of state and territory governments. The Department of the Prime Minister and Cabinet is responsible for maintaining and updating the AGCMF, which underpins other crisis plans. The latest AGCMF was released in September 2024.[448] During a national emergency, state and territory governments manage emergency responses for their jurisdictions. A state or territory government may seek federal assistance when jurisdictional capacity has been exhausted, and they may request non-financial assistance from the federal government under the Australian Government Disaster Response Plan (COMDISPLAN).[449] At the federal level, the AGCMF lays out Cabinet Ministers who will be responsible for various types of hazard events, as illustrated in Table 2. The roles of senior officials and Australian Government agencies are also outlined. The Ministers responsible for

Communications and Defence have supporting roles across several hazards.[450]

The NEMA was formed in 2022 to combine the efforts of the former Emergency Management Australia and the National Recovery and Resilience Agency.[451] The NEMA is under the direction of the Minister for Emergency Management, a portfolio under the Department of Home Affairs.[452] The NEMA is led by a Coordinator-General.[453] it provides oversight and guidance as well as funding programs and initiatives that help communities to prepare, respond, and recover, working with communities, industry, and NGOs to share lessons learned, providing national leadership on policy development and strategy, and providing round-the-clock all-hazards monitoring and operational coordination for domestic and international emergencies.[454]

Beyond emergency management, the NEMA is also the Australian Government lead for DRR. Since 2020, the federal, state, and territory governments have overseen a five-year, AU$261 million (US$175 million) DRR Package aligned to the National Disaster Risk Reduction Framework. Nearly 40% of the financial commitment to the DRR Package is earmarked to support the states and territories in reducing disaster risk through the National Partnership Agreement on DRR, which is linked to implementation plans for each state and territory.[455]

The NEMA operates through the NSR and AGCMF. The NSR was previously known as the Australian Government Crisis Coordination Centre. The NSR is a 24-hour crisis management coordination facility that conducts all-hazards monitoring and decision support, and it delivers situational awareness to state and territory emergency centers;[456] all government agencies with a stake are expected to contribute to the National Joint Common Operating Picture, which is maintained in the NSR. In addition, states and territories may deploy liaison officers to the NSR in Canberra to facilitate coordination, collaboration, and communication.[457] The NSR's international monitoring focuses on hazards that may affect Australia or Australians, and it was involved in the Thailand youth soccer team cave rescue (2018), repatriation of Australians from Afghanistan (2021), various aspects of the global COVID-19 response (2020-2022), and other actions.[458] The NSR also coordinates physical government emergency assistance and manages the National Security Hotline.[459]

During an emergency, the AGCMF calls for the government to use the National Coordination Mechanism (NCM), which facilitates whole-of-government coordination in response and recovery.[460] The NCM brings together agencies of the federal, state, and territory governments along with industry and private sector stakeholders to coordinate, communicate, and collaborate. Meeting attendance can be limited to Australian Government agencies or expanded to NGOs and industry, as required.

Cabinet Department	Hazard or Emergency
Foreign Affairs	International crises
Home Affairs	Domestic security (e.g., terrorism) or other incident with no clear lead
Home Affairs	Domestic terrorism, maritime terrorism within Australian Maritime Domain
Emergency Management	Domestic natural disaster
Agriculture	Domestic plant or animal biosecurity crisis
Health	Domestic public health or human biosecurity crisis
Energy	Domestic energy supply crisis
Resources	Offshore petroleum facility in Commonwealth waters
Transport	Maritime, aviation, road, or rail incident within Australia, the Australian exclusive economic zone, or the Australian Search and Rescue Zone
Emergency Management	Space events
Cyber Security	Cyber incident

Table 2: Ministerial Responsibilities, by Hazard Type

The NCM operationalizes the AGCMF and takes a sector-based approach via collaborative fora (sector meetings) to address the specific impacts of a national crisis. The NCM mechanism is facilitated by the NEMA to ensure rapid problem definition and shared situational awareness, conduct integrated and coherent planning, and identify escalation triggers, actions, and arrangements for implementation, governance, and communication.[461] The NEMA oversees the list of organizations potentially invited to participate in the NCM, depending on the nature of the emergency.[462] Figure 18 shows the NCM.[463]

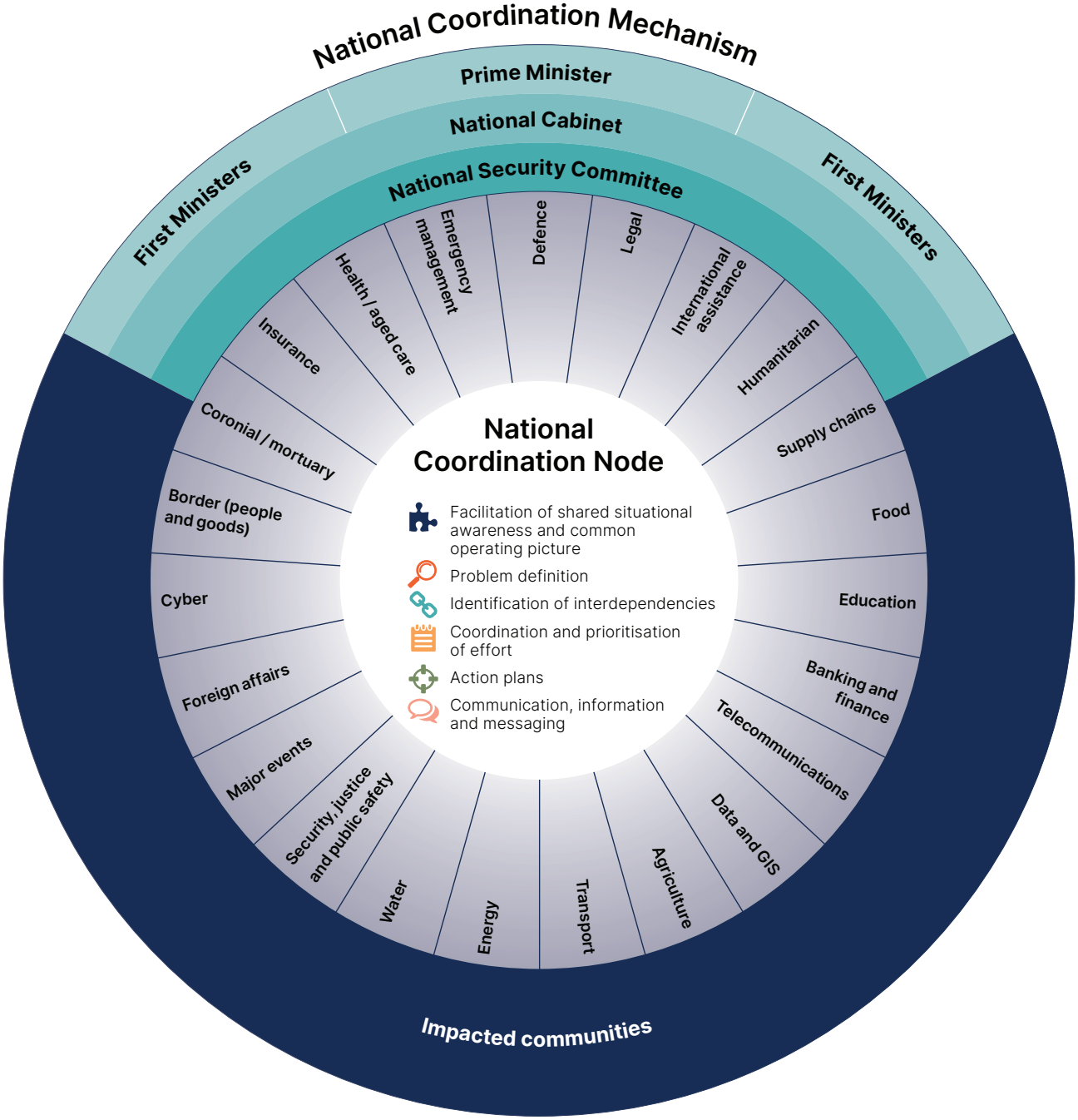


Figure 18: Australia's National Coordination Mechanism

Under the rubric of Defence Assistance to the Civil Community (DACC), ADF may support a NEMA-led domestic response when civilian resources are insufficient or overwhelmed. In such a case, states and territories seek federal assistance, and this assistance can include Defence assets, resources, and personnel.[464] The type of support provided in emergencies includes planning, accommodation and repatriation, asset protection, transportation, general engineering, logistics, airlift, aerial survey, aerial tanker basing, road clearance, evacuations, clean up, sandbagging, door knocking, and assistance with search and rescue. There are six categories:

- DACC 1 – localized, short-term emergency responses
- DACC 2 – significant crisis response or relief assistance
- DACC 3 – significant recovery assistance
- DACC 4 – local, small-scale, non-emergency support
- DACC 5 – general, significant, non-emergency support
- DACC 6 – support to law enforcement (no use of force)

Requests for local, time-sensitive, emergency Defence assistance where life, persons, animals, or property are threatened, can be made directly to a local ADF Commander. For large-scale or long-term emergency Defence assistance, a request for federal, non-financial assistance is to be made by authorized state or territory officials to the NEMA.[465]

The DACC Policy provides the arrangements by which Defence makes decisions regarding the provision of assistance to the civil community while maintaining broader ADF readiness. The Policy states that, if Defence approves a DACC operation, the Commander will appoint a Joint Task Force, subordinate Joint Task Group, or DACC Commander based on the anticipated scope, scale, complexity, and duration of the operation. Defence personnel involved in DACC remain under command of the ADF.[466] The DACC Manual details the arrangements and specific processes by which Defence provides and coordinates DACC. Under NEMA activation of the COMDISPLAN, DACC 2 and 3 support may be considered. In such cases, when the Chief of the Defence Force appoints a Commander for emergency DACC, that Commander reinforces the lead role of the NEMA and maintains leadership engagement with state and territory emergency management leadership in consultation with the NEMA, including via liaisons in emergency operations centers. Meanwhile, for routine relationships, the Senior ADF Officer in a state or territory represents their base or installation on Local Emergency Management Committees.[467]

The Australian Army can assist with accommodation and repatriation, asset protection, engineering, logistics, aerial survey, equipment and personnel airlift, search and rescue, evacuations, and door-knocking awareness campaigns.[468] RAAF contributions to humanitarian action or emergency response are focused on search and rescue, aeromedical evacuation, critical medical care, engineering, and logistics.[469] The RAAF uses three types of aircraft that are purpose-built for transporting bulky cargo; they include the C-17A Globemaster (70-ton capacity), the C-130J Hercules (19-ton capacity), and the C-27J Spartan (5-ton capacity),[470] all of which can be transformed into mobile hospitals for transport of critically ill patients. The C-17A Globemaster, in particular, has integrated oxygen and electrical connections to reduce the need to carry extra oxygen tanks and power supplies.[471] Finally, the RAAF can provide mobile communications, including air traffic control from established bases or remote locations.[472] Navy personnel and resources generally can be called upon by the Australian Maritime Safety Authority to assist in response to a stricken vessel or injured mariner, and Navy vessels and personnel provide additional capacity for foreign humanitarian action.[473]

Additional bodies working in the DM space are the national science agencies – Geoscience Australia, CSIRO, and the BoM – as well as the Department of Health's National Incident Centre, the AIDR, and the ACMC.

The National Incident Centre (NIC) is the emergency response office of the Department of Health and Aged Care; it is located in the Department's Canberra offices and hosts staff or liaisons from the Departments of Home Affairs, Defence, and Foreign Affairs and Trade, as well as from the Prime Minister's Office and state and territorial health authorities.[474] The NIC is the national focal point for health coordination for all-hazards incidents of national significance,[475] and it coordinates the national response to a health emergency or threat that originates either within Australia or elsewhere in the world. The NIC also provides coordination between Australian and international health authorities and is Australia's International Health Regulation Focal Point. Key activities include distributing personal protective equipment from the national stockpile, publishing health information for the public, and providing information to states and territories to support their health responses. The NIC may be activated separately from other types of emergency management arrangements; it is activated by the Department's Chief Medical Officer and is intended to respond to communicable disease outbreaks; CBRN incidents; mass casualties that result from an earthquake or flood; or any other emergency requiring deployment of Australian medical personnel. When activated, the NIC:

- Hosts emergency meetings of the Australian Health Protection Principal Committee (AHPPC) and other expert health committees
- Provides technical advice to committees and government
- Gathers information to help inform decision making
- Coordinates distribution of the National Medical Stockpile
- Keeps the community informed with health-related news updates
- Carries out health aspects of Australian Government disaster plans
- Coordinates medical response teams
- Monitors and, where possible, supports laboratory capacity and capability to test for emerging communicable diseases
- Liaises with emergency management sectors in other government agencies across Australia
- Provides outcomes, situation reports, and ministerial briefings
- Conducts risk assessments and evaluations of national capacity and capability
- Collaborates with other agencies on border health issues
- Anticipates next steps and develops information resources to assist with planning and decision making.[476]

The AIDR was founded in 2015 to build a network of experts and practitioners to inform policy and application.[477] It enhances disaster resilience through leadership, professional development, and knowledge sharing. It works with government, community, research, education, and the private sector to share extensive knowledge and experience in Australia and countries assisted by Australia.[478] AIDR's Australian Disaster Resilience Knowledge Hub is an open-source platform that supports and informs policy, planning, decision-making, and contemporary good practice. It links national guidelines with research and fosters collaboration among leading agencies and organizations.[479]

CSIRO is the national science agency that seeks to shore up national resilience. It brings together experts in social, economic, environmental, and built systems along with natural hazards, weather, and impacts of a changing climate. This network allows CSIRO to deliver research and tools to assist in understanding risk and overcoming obstacles to mitigating that risk. It works with and for communities, government, and the private sector to apply this knowledge and these tools to build adaptation approaches.[480]

Geoscience Australia supports risk mitigation by developing understanding of natural hazards and community exposure, provides authoritative, independent information and advice to the Government and other stakeholders, maintains preparedness, response, and recovery systems,

and contributes to Australia's overseas development program by supporting emergency managers' ability to prepare for and respond to disaster events. Key activities include providing satellite information to emergency managers and the general public and developing and disseminating datasets and tools to model potential impacts. Among Geoscience Australia's tools are the Digital Earth Australia Hotspots website, which provides situational awareness for active bushfires,[481] the Australian Flood Risk Information Portal,[482] and a national network of 150 seismic detection stations that send data to a central processing facility in Canberra where the data are integrated with additional data from global seismic networks. As part of the Joint Australian Tsunami Warning Centre (JATWC) in partnership with the BoM, Geoscience Australia seismologists are also responsible for analyzing and reporting on earthquakes with the potential to generate a tsunami.[483]

The ACMC engages with government departments and agencies, NGOs, and international partners, including the UN, to improve the outcomes of civil-military-police crisis responses to conflict and disasters in the Asia-Pacific and elsewhere. The ACMC's portfolio responsibility resides with the Minister for Defence, and it is responsible for the management of whole-of-government lessons learned from civil-military-police coordination in conflicts and natural disasters overseas.[484] Most of the ACMC's work involves building preparedness among government, militaries, and civil society to respond. They deliver lessons learned, planning assistance, policy advice, training support, subject matter expertise, and best practices identification. Moreover, they help agencies and organizations that may be called upon for a response to build a network of colleagues and partners who also work in the field as part of an effort to ensure that responders are all communicating with each other.[485]

Civil Society

Australian Red Cross

As auxiliary to government, the ARC has a duty to consider any request from government to supplement public humanitarian services. Founded in 1914 as the Australian Branch of the British Red Cross Society upon outbreak of World War I, the ARC helps Australians through disasters, emergencies, and other challenges.[486] The ARC is a member of the IFRC and, therefore, of a network of 191 National Societies globally.[487] The chapter has more than 20,000 volunteers and provides Australians with preparedness resources, including the Emergency Redi workshops, a Get Prepared app, and the RediCommunities series of community-led workshops aimed at strengthening community resilience and preparing for disasters.[488] In addition to its work at home, the ARC receives Australian Government funding to enable National Societies in other countries to lead disaster responses in their own countries. Over the course of 2019-2024, the Australian Government delivered more than AU$90 million (US$60 million) to the ARC for humanitarian action, which included support for COVID-19 action by National Red Cross and Red Crescent Societies in the Pacific, Bangladesh, Indonesia, and Malaysia, post-cyclone and -flood work with national DM organizations in Fiji, Vanuatu, Mongolia, and Timor-Leste, support for conflict-affected communities in the Middle East and Ukraine, and support for food security in Africa. Additional preparedness work that stems from the ARC relationship with the Australian Government includes pre-positioning funding and supplies ahead of a disaster, climate change mitigation and adaptation efforts, and supporting the development of more ecologically friendly supply chains.[489]

Disaster Relief Australia

Disaster Relief Australia (DRA) is a national non-profit that supports disaster response and recovery operations across the country. DRA was founded to ensure that ADF veterans could continue to perform public service alongside emergency response experts and professionals and other volunteers. It operates across recovery and local infrastructure support services

by helping build and reconstruct resilience infrastructure, and its "Big Map" project is a DRR program that helps communities identify hazards and reduce or mitigate risks related to them. Some one-third of DRA's funding comes in the form of grant aid directed by the NEMA.[490] It operates via 4,000 volunteers organized into 10 disaster relief teams throughout Australia. In June 2024, DRA opened its National Operations Centre in Brisbane, Queensland, to ensure that it had a command and coordination hub to serve all 10 national teams. The Centre not only is a communication center, logistics hub, and training facility but also connects to the NSR to coordinate with national government responders during major responses.[491]

Early Warning Systems

The Australian Warning System is the national system to manage information and warnings for multiple hazards – e.g., bushfire, flood, and cyclone.[492] Although each state or territory is responsible for publicizing alerts for its own jurisdiction, they are all working toward utilizing uniform symbols and instructions in hopes that standardized information will be more useful for the public and more likely to elicit the appropriate action.[493] The System uses three levels of alert:

- Advice (yellow) – an incident is on-going; there is no immediate danger, but the situation could change
- Watch and Act (orange) – increased threat level; conditions are changing, and people receiving this message need to take action to protect themselves
- Emergency Warning (red) – danger is present; act now to avoid life-threatening conditions

In addition to these levels, the System utilizes a set of icons, shown in Figure 19. They indicate the level of warning – i.e., advice, watch, or warning – as well as the specific hazard, and they are to be accompanied by a location and action statement – e.g., evacuate immediately or seek shelter now.[494]

An additional tool is "Emergency Alert," Australia's national telephone warning system, which is used by emergency services to send voice messages to landlines and text messages to mobile lines that are active in areas affected by likely or actual emergencies. It appears on caller identification as +61 444 444 444.[495] Federal authorities manage the Trusted Information Sharing Network and Communications Sector Group as a mechanism for telecommunications and other companies to share experiences and preparedness plans for managing public communications and information during an emergency.[496]

The BoM is Australia's national weather, climate, and water information and advisory agency. It is an executive agency that, most recently, has operated within the portfolio of the DCCEEW.[497] BoM warning products cover drought, floods, fires, storms, tsunami, and tropical cyclones. The BoM also undertakes research into scientific and environmental issues in support of its operations and services.[498] It provides quarterly national and regional weather forecasts that, along with

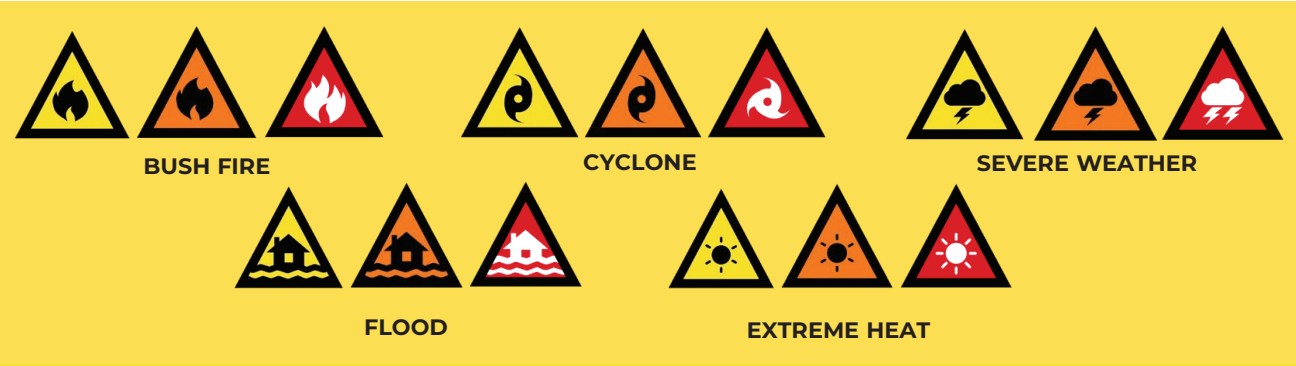


Figure 19: Icons for the Australian Warning System

the annual forecast from the Bushfire and Natural Hazards Cooperative Research Centre, provides government authorities with a product that focuses on tropical cyclone and bushfire potential for the upcoming season.[499] To achieve its mission, the BoM maintains:

- 69 weather radars
- 720 automatic weather stations
- 13 wind profilers
- 38 upper air balloon stations
- 5,600 hydrological monitoring stations (some operated by partners)
- 3,100 volunteer rainfall observers
- 41 sea level stations
- 43 wave buoys (some operated by partners)
- 54 drifting meteorological buoys
- 6 ozone monitoring sites
- 13 terrestrial solar radiation monitors
- 21 space weather observation stations
- 30 satellites, operated by international partners, to which the BoM has access.[500]

The BoM's service area encompasses the entirety of Australian territory and the surrounding oceans and seas. Additional reach comes from BoM's Volcanic Ash Advisory Centre (VAAC), which covers volcanically active regions of Indonesia, PNG, and the southern Philippines.[501] The VAAC is in Darwin, Northern Territories, and is one of nine VAACs worldwide that form the International Airways Volcano Watch network. They provide the aviation industry advice about location and movement of potentially hazardous volcanic ash from volcanoes in their areas of responsibility.[502]

The JATWC provides threat information to national tsunami warning centers regionally.[503] The JATWC is operated by the BoM and Geoscience Australia to ensure that Australia has an independent capability to detect, monitor, verify, and warn the community of tsunamis in the region and possible threats to Australian coastal locations and offshore territories. The two agencies combine their ability to monitor seismic activity and sea level to provide a 24-hour-a-day, 7-day-a-week tsunami monitoring and analysis capacity. The JATWC objective is to provide emergency managers with a minimum of 90-minutes warning of a likely tsunami impact on mainland Australia. Geoscience Australia does the work of detecting potentially tsunamigenic earthquakes in the Indian, Pacific, and Southern Oceans, and it advises the BoM of this potential within 15 minutes. The BoM then uses its monitoring equipment and computer modeling capacity to confirm the existence of a tsunami and estimate its likely intensity at the Australian coast. The BoM issues the relevant tsunami warnings and bulletins, as required. Tsunami bulletin and warning distribution lists are maintained at each of the BoM's State and Territory Regional Forecasting Centres.[504] The Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS), a subsidiary body of the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (IOC-UNESCO), became fully operational in 2013 with JATWC, along with Tsunami Service Providers in India and Indonesia, providing tsunami advisory services for the Indian Ocean region.[505] These Tsunami Service Providers provide threat information to national tsunami warning centers of other Indian Ocean countries to help them determine the level of threat and warnings they will issue for their communities. JATWC also delivers sea level and seismic information to the Pacific Tsunami Warning Center in Honolulu, Hawai'i.[506]

Australia's tropical cyclone season runs from 1 November to 30 April, although cyclonic storms can happen at other times of the year. The BoM keeps a 24-hour watch on developing cyclones in the region, provides a tropical cyclone forecast for the seven days ahead, delivers seasonal outlooks for Australia and the South Pacific, and issues watches and warnings when a cyclone is expected to affect Australia's coasts or territories.[507] An international network of Regional Specialised Meteorological Centres and Tropical Cyclone Warning Centres monitors and warns about tropical cyclones globally, coordinated by the World Meteorological

Organization (WMO). The BoM's region covers the coastal waters and land areas of Australia, incorporating its islands.[508]

The BoM is the accountable authority for the ACS, which provides data, intelligence, and advice on climate risks and impacts to support and inform decision-making. ACS is a partnership among the BoM, CSIRO, the Australian Bureau of Statistics, and Geoscience Australia. CSIRO provides climate observations and modeling, resilience, adaptation and transformation science, and practice to the ACS. The goal of ACS is to improve national climate and natural hazard risk knowledge, monitor Australian climate and disaster risks, trends, and changes, and build capability for climate and hazard risks decision-making.[509]

Climate Change

The DCCEEW is the federal agency tasked with protecting Australia's natural environment and heritage sites, helping respond to climate change, and managing water and energy resources. It was established in 2022 to deliver on government climate change and energy agenda items. Among other tasks, the DCCEEW drives climate action and investment in technologies that lower emissions and provides data and analysis on climate, energy, and the environment;[510] it administers Australian Government projects that aid developing countries' climate change actions and generally supports climate change action regionally.[511] It is a regulatory agent that enforces laws relating to protection of the environment and biodiversity, use of pollutants and hazardous substances, offshore GHG storage, and other issues.[512]

Agencies and bodies under the DCCEEW are:

- The Australian Energy Regulator, which regulates wholesale and retail energy markets and energy networks
- The Australian Institute of Marine Science, Australia's tropical marine research agency
- The Australian Renewable Energy Agency, which works to accelerate Australia's shift to affordable and reliable renewable energy
- The BoM, the national weather, climate, and water agency
- The Clean Energy Finance Corporation, which mobilizes capital investment in renewable energy, low-emission technology, and energy efficiency projects
- The Clean Energy Regulator, responsible for accelerating carbon abatement
- The Climate Change Authority, which provides independent, expert advice to the government on climate change policy
- And various other bodies that facilitate the development of national responses to agriculture, water, and environment issues, help to inform policy, programs, and activities, and advise the minister.

Under the DCCEEW, the Energy and Climate Change Ministerial Council brings together the Minister for Energy and Climate Change with relevant ministers from each Australian state and territory and from New Zealand to work together on issues and reforms in the energy and climate change sectors.[513]

The Climate Change Authority advises the government on Australia's climate change policies and future emissions reduction targets.[514] Founded by statute in 2011, the Authority is an independent body under DCCEEW that provides the government advice on the preparation of the Annual Climate Change Statement to Parliament and on GHG emissions reduction targets. Second, it undertakes reviews and makes recommendations on emissions reductions funding and GHG and energy reporting. Finally, it conducts and commissions its own independent research and analysis.[515]

National Disaster Laws, Frameworks, and Plans

National Emergency Declaration (NED) Act, 2020 – The NED framework is intended to address only the most significant and grave events – i.e., emergencies that cause or are likely to cause nationally significant harm. The Governor-General may, on the advice of the

Prime Minister, declare a national emergency. The NED Act takes an all-hazards approach, and the Prime Minister retains responsibility for advising the Governor-General in relation to all crisis types. Where a NED is contemplated or is in force, the Deputy Coordinator-General for Emergency Management and Response within the NEMA, the Department of Home Affairs, and other senior officials responsible for managing relevant hazards will work with the Department of the Prime Minister and Cabinet to make recommendations to the Prime Minister on making, extending, varying, or revoking a NED pursuant to the legal and consultation thresholds of the NED Act.[516]

Defence Act 1903 – Part IIIAAA of the Defence Act lays out the statutory process for Defence Force Aid to the Civil Authority 'Call Out' of the ADF to protect Commonwealth interests or states and territories where there is a possibility of use of force. The Defence Policy Guide provides a framework for use of this authority by detailing thresholds for call out and guidelines for requesting ADF support. The decision to call out the ADF is normally made by the Governor-General on the advice of the Cabinet. Separately, the Department of Defence can assist civilian agencies where there is no contemplated use of force through DACC. The DACC Policy and the DACC Manual are underlying support frameworks. Section 28 of the Defence Act addresses Reserve Call Out and provides Defence access to additional human resources beyond the permanent forces and those Reservists who have volunteered. It is an in-extremis mechanism, which legally compels Reserve personnel to render services related to civil aid, humanitarian assistance, medical or civil emergency, or natural disaster relief.[517]

National Strategy for Disaster Resilience – Established in 2011, the National Strategy acknowledged the increasing severity and regularity of disasters and the need for a coordinated, cooperative national effort to enhance capacity to withstand and recover from emergencies and disasters. The National Strategy described disaster resilience as the collective responsibility of all levels of government, businesses, the non-government sector and individuals.[518]

***Interim* Australian Government Reception of International Assistance Plan (AUSRIAPLAN)** – The Interim AUSRIAPLAN seeks to articulate the responsibilities and processes on how the Australian Government can facilitate and expedite international non-financial assistance into Australia and its external territories.[519]

Australian Government Disaster Response Plan (COMDISPLAN) – COMDISPLAN details the disaster response from the Australian Government in response to requests for assistance from state and territory governments.[520] COMDISPLAN consists of three phases: STANDBY, ACTIVATED, and DEACTIVATED. STANDBY is the default status, under which monitoring, planning, and training and exercising occur. Where an event or disaster is imminent or has occurred, the NEMA activates COMDISPLAN and triggers the following actions:

- NSR advises appropriate stakeholders via email that COMDISPLAN has been ACTIVATED
- An Australian Government Crisis Coordination Team may stand up
- Request/s for assistance received by the Australian Government are approved by the Minister responsible for Emergency Management
- NSR provides task requests to the Australian Government agency providing the assistance
- Jurisdictions/agencies in conjunction with the NSR will cooperatively undertake approved tasks
- Jurisdiction/agency situation updates are provided to the NSR on an agreed basis
- NSR provides stakeholders with regular situational awareness.

Once an event has concluded, the NEMA deactivates COMDISPLAN. Resources are returned to the parent agent, and NSR advises stakeholders via email of COMDISPLAN

DEACTIVATION. COMDISPLAN reverts to STANDBY phase.[521]

National Disaster Risk Reduction Framework and National Action Plans – The National Disaster Risk Reduction Framework (NDRRF) is the national implementation of the Sendai Framework. It was released in April 2019 and endorsed by all Australian federal, state, and territory governments in March 2020. It sets out the national foundations for reducing existing risk, minimizing new risk, and delivering better climate and disaster risk information. It has four priorities that closely resemble three of the four work areas of the Sendai Framework; the NDRRF's priorities are to understand disaster risk, make accountable decisions, enhance investment, and build governance, ownership, and responsibility. The NDRRF, which was co-designed by government and non-government stakeholders, is operationalized through National Action Plans.[522] The Second National Action Plan (2023) was developed in consultation with industry, academia, NGOs, communities, and agencies of the local, state, territory, and federal governments. The Action Plan reflects what communities say is needed and considers the existing and future opportunities for DRR.[523] Although separately developed and maintained, the country's first ever National Adaptation Plan and National Climate Risk Assessment, both under development as of 2024, will complement the NDRRF as they promote resilient development.[524] Under the 2020-2024 National Partnership Agreement on DRR, the Australian Government committed funding to support states and territories to develop their own implementation and action plans to meet their own needs regarding Sendai; these plans include:

- Western Australia Implementation Plan 2020 for the NDRRF
- Tasmanian Disaster Resilience Strategy 2020-2025
- Queensland Strategy for Disaster Resilience and its implementation plan Resilient Queensland
- South Australia's Disaster Resilience Strategy 2019-2024
- Victorian Preparedness Framework[525]
- New South Wales State Disaster Mitigation Plan 2024-2026[526]
- Northern Territory Emergency Management Council Strategic Plan 2020-2023[527]

Climate Change

Climate Change Act 2022 – This Act enshrined in law an emissions reduction target of 43% below 2005 levels by 2030 and "net zero" by 2050. It requires the DCCEEW to deliver an Annual Climate Change Statement to Parliament to review progress made on GHG emissions reduction targets and consider the impacts of climate change policies on rural and remote communities; the Statement also is intended to deliver an update on risks to Australia from climate change impacts. The Climate Change Act also requires the Climate Change Authority to provide independent advice to the Minister for Climate Change and Energy relating to the Annual Statement.[528]

Australia's current climate change strategies include:

- Net Zero 2050 plan, as outlined in the 2022 Annual Climate Statement to Parliament and consistent with the recommendations of the Climate Change Authority
- The Powering Australia plan, focused on creating jobs, reducing pressure on energy bills, and reducing emissions by boosting renewable energy
- Emissions reduction incentives for business, industry, and consumers; these incentives include the Emissions Reduction Fund, Climate Active Carbon Neutral Standard certification, and the Renewable Energy Target scheme.[529]

The Roles and Responsibilities for Climate Change Adaptation in Australia 2012 outlined the responsibilities of each level of government to plan and implement adaptation activities. At the time, the underlying philosophy was that private parties would be responsible for managing risks to private assets and incomes while governments would primarily be responsible for managing

risks to public goods and assets, including the natural environment, and government service delivery on behalf of the community, and that government would create an institutional, market, and regulatory environment to support and promote private adaptation. Under the Roles and Responsibilities, the federal authorities take a leadership role by:

- Providing national science and information, such as national and regional climate projections, climate change science, and national adaptation research
- Managing Commonwealth assets and programs, to include defense facilities, some national parks and reserves, community health facilities, and emergency management assets
- Providing leadership on national adaptation reform to allow adaptation based on local conditions, in collaboration with states and territories and in consideration of the needs of vulnerable communities
- Maintaining a strong, flexible economy and a well-targeted social safety net.

Under the 2012 Roles and Responsibilities, the focus for state and territory governments was on ensuring appropriate regulatory and market frameworks and encouraging climate resilience and adaptive capacity. Local governments are responsible for a broad range of services, the administration of a range of Commonwealth, state, and territory legislation, and the management of a substantial number of assets and infrastructure, including assets and infrastructure of local, regional, state, and national significance. Local governments' role is to advocate upward the needs of local and regional communities, to communicate directly with communities, and to respond appropriately and in a timely manner to local changes.[530]

The National Climate Resilience and Adaptation Strategy 2021–2025 outlines how the Australian Government will fulfil the 2012 Roles and Responsibilities. The Strategy operates across the natural, built, social, and economic domains to drive adaptation that is informed by the best available science and information, delivered through partnerships and investments, and guided by effective governance and coordination. The Strategy's objectives focus on driving investment and action, improving climate information and services, and assessing progress and improving over time. The Strategy supports Australia's ongoing adaptation commitments and actions under the Paris Agreement even as it recognizes that adaptation goes hand-in-hand with action to reduce emissions, laid out in Australia's Long Term Emissions Reduction Plan.[531]

Nationally Determined Contributions – Australia submitted an updated NDC to the UNFCCC secretariat in 2022. The NDC saw Australia commit to reducing GHG emissions by 43% below 2005 levels by 2030 and reaffirm its target to achieve net zero emissions by 2050 in addition to implementing investments in clean energy sectors.[532] The NDC commits Australian Government agencies – excepting defense and security agencies – to reduce emissions to net zero by 2030.[533]

In its 2023 Annual Progress Advice to the DCCEEW, the Climate Change Authority noted that Australia is not on track to meet the 2030 GHG emissions reduction target despite its robust policy agenda.[534] This advice found its way into the 2023 Climate Change Statement from DCCEEW to Parliament with the DCCEEW concurring that Australia needs to decrease emissions at a faster rate, but the Department also noted that legal and financial changes to the Australian Government's promotion of emissions-reducing action will take time to play out. The largest sectors targeted across the board by DCCEEW are electricity and transport. The Statement also underscored that the country was still working to develop its first National Adaptation Plan (NAP) and complete its first National Climate Risk Assessment; meanwhile, the Department of Defence is working on a plan to accelerate that Department's transition to clean energy with a target for completion of the plan in 2025.[535]

National Climate Adaptation and Risk

Program – The two key products expected from the two-year program (budget years 2023 and 2024) are the NAP and the Climate Risk Assessment. The objective of this investment is to ensure that both products deliver a baseline of current climate risks and new and emerging risks to inform Australia's national prioritization for climate action, allow for monitoring of adaptation progress over time, and guide investment across all levels of government, communities, and industry.[536] In March 2024, the DCCEEW released a "first pass" of the Assessment, which identified a list of nationally significant risks and a subset of these risks as priorities. The "second pass" Assessment, which was underway as of mid-2024, is expected to deliver an in-depth analysis of the priority risks. When the final Assessment is delivered, it will allow Australia's climate change policymakers, action practitioners, and communities to share an understanding of the top climate change-related risks they confront and to build shared priorities for adaptation in the NAP. Moreover, the Assessment will provide a framework for follow-on and continuous risk assessment. The NAP that results from the Program process is expected to construct a national pathway that involves all Australians.[537] A NAP – Issues Paper was also published in March 2024 to elicit community feedback on draft vision and objectives statements as well as on governance and monitoring and evaluation arrangements.[538] Once completed, the NAP will supersede the National Climate Resilience and Adaptation Strategy 2021-2025.[539] As of the March 2024 NAP – Issues Paper publication, states and territories also had a mix of strategies and plans for climate change action; they included:

- New South Wales – The NSW Climate Change Adaptation Strategy (2022) provides a framework to strengthen and expand adaptation action. It calls for a climate change risk and opportunity assessment and adaptation action plan to be completed at least every five years along with a reevaluation of the strategy to measure progress toward the resilience objective in the NSW Climate Change Policy Framework. In addition, the NSW Climate Change (Net Zero Future) Act of 2023 set an adaptation objective.
- Victoria – Building Victoria's Climate Resilience (2022) summarized the state's plan to adapt and build resilience to under the Victoria's Climate Change Strategy (2022). There are also Adaptation Action Plans for seven systems (Built Environment, Education and Training, Health and Human Services, Natural Environment, Primary Production, Transport, and Water Cycle), and these Plans are part of a five-year statutory cycle of climate science reporting, state-wide strategy setting, and adaptation action planning under the Victoria Climate Change Act of 2017. The Victoria Government also released Regional Climate Change Adaptation Strategies – one for each of the six regions of the State – to focus on place-based, community-led climate change adaptation.
- Queensland – The Queensland Climate Action Plan 2020–2030 sets the pathway to achieve climate targets and implement the Queensland Climate Adaptation Strategy 2017–2030, which provides a framework to ensure Queensland becomes more climate resilient and manages the risks associated with a changing climate. The Queensland Government is developing a framework for monitoring, evaluation, and review for the Queensland Climate Action Plan, and it released seven industry-led sector adaptation plans (Agriculture, Biodiversity and Ecosystems, Built Environment and Infrastructure, Emergency Management, Human Health and Wellbeing, Tourism, and Small and Medium Enterprise).
- South Australia – Two documents form the basis for South Australia's climate change action – i.e., South Australia: Responding to Climate Change (2022) and South Australian Climate Change Actions. Together, they include a range of actions to support communities, industries, businesses, and the environment to build resilience and adapt

to climate change by managing risk and harnessing opportunity.

- Western Australia – The Western Australia Climate Adaptation Strategy (2023) delivers priority actions to ensure that communities and the economy are resilient to risks. The Western Australia Government will develop a framework for monitoring, evaluation, and reporting to track implementation progress. A new Western Australia Climate Change Bill (2023) delivered the requirements for future adaptation planning, strategies, and sector-oriented plans.
- Tasmania – The Tasmania Climate Change (State Action) Act of 2008 was updated in 2022, and specified deliverables in the updated law led to the development of the Tasmania Climate Change Action Plan 2023–2025, which detailed the government's plan for action on climate change as well as other strategic policy commitments and programs. A statewide climate change risk assessment and sectoral plans are under development.
- Northern Territory – The "Climate Change Response: Towards 2050" was released in 2020 and provides a policy framework that will enable the Northern Territory to strategically manage climate change risks and opportunities. The 2020 Three-Year Action Plan supports work toward the objectives of Climate Change Response: Towards 2050 and includes the publications of a climate change adaptation and resilience framework. Concurrently, the Northern Territory Government is also conducting a whole-of-territory climate risk assessment process to inform the development of a Northern Territory climate change adaptation action plan.
- Australian Capital Territory – The ACT Climate Change Strategy 2019–2025 outlines the steps the ACT Government is taking to build resilience to climate change impacts and achieve net zero emissions by 2045. "Living Infrastructure Plan: Cooling the City" focuses on how Canberra can be climate-wise and use nature in the city to mitigate the impact of the urban heat island effect. A Whole-of-Government Adaptation Framework has been developed to provide a high-level step-by-step guide on how ACT Directorates and agencies can identify climate risk and build adaptation plans.[540]

CONCLUSION

Australia is a key player in international and regional humanitarian response, DRM and DRR, climate change action, and other aspects of the whole disaster management cycle. In 2023, Australia was the 8th biggest donor of unearmarked funds to UN OCHA with over US$6.2 million alongside more than US$20 million for country-based pooled funds.[541] Moreover, in 2023, Australia announced a contribution of AU$50 million (US$33.4 million) to the GCF as part of its engagement with UNFCCC mechanisms.[542] This funding comes in addition to support to other UN agencies and direct funding to partner governments and private actors. Australia supports the delivery of technical advice, relief supplies, and advocacy on behalf of international organizations, multilateral funds, and regional and national stakeholders. In addition to this financial support for and interaction with international players, Australian government and civil society players are involved directly in humanitarian assistance and disaster management.

Australia's direct response capabilities encompass the deployment of personnel with specialized humanitarian expertise, the provision of life-saving relief supplies, and logistical support. Of note, recently, Australia responded to the May 2024 landslide in PNG, where ADF utilized RAAF tactical transport aircraft to move palletized relief supplies to remote areas. In 2023, after TCs Judy and Kevin struck Vanuatu, Australia activated its Deployable Power Restoration Capability, which, in turn, enabled the resumption of aid flights, and ADF launched Operation Vanuatu Assist, which delivered tons of humanitarian supplies. Other recent actions have seen Australian search-and-rescue professionals participate in earthquake response in Syria and Türkiye, military and civilian agencies deliver aid to Tonga after the HTHH eruption and tsunami, and the AUSMAT provide medical specialists and logisticians to various partners during the COVID-19 pandemic. Australia also maintains a humanitarian supply and logistics capacity via which it can respond to regional emergencies.

Bilateral and multilateral DRM engagement tends to focus on the Pacific Islands and Southeast Asia, and Australia is particularly active in supporting disaster management and climate change action in Indonesia, PNG, Philippines, and the Pacific Islands through scientific and technical agencies – e.g., Geoscience Australia, CSIRO, and the BoM. While Australia's DFAT has the lead for the country's international humanitarian and disaster management activities, this system also interacts with the domestic all-hazards preparedness, as laid out in the AGCMF. This system is regularly tested as Australia is exposed to deadly bushfires as well as to drought, earthquakes, flooding, heatwaves, landslides, and storms, all of which are being exacerbated by the effects of climate change, which can be expected to shift the way Australia's people and humanitarian responders operate both at home and overseas.

Australia's commitment to interaction with international disaster management, humanitarian, and climate change action frameworks and groups makes it a critical partner for the U.S. Not only do DFAT's aid and development agencies work with USAID, but U.S. military and ADF personnel regularly interact in training for HADR operations. Military exercises involve both Australian and U.S. military and civilian staff to ensure that, in an emergency, responders already have a baseline of understanding about various stakeholders' capabilities, strengths, and needs. As climate change continues to impact the broader Indo-Pacific region, the ability of Australia and the U.S. to cooperate and collaborate to mobilize resources and respond effectively and efficiently to disasters will be an important element in building regional resilience.

APPENDICES

Information Sharing

Understanding how to overcome the information challenges that civilian and military agencies experience during a typical disaster response mission is important. Sharing information is critical since no single responding entity, NGO, international governmental organization, assisting country government, or the host government can be the source of all the required information.[543] Collaboration, information sharing, and networking have been the backbone of successful disaster response and preparation. Disseminating information not only to those in-country and threatened by disaster, but also to those responding to assist in the emergency has been crucial to timely, efficient, and effective disaster response. There are many resources, stakeholders, and components to consider before, during, and after a natural disaster. This section will discuss country-specific, humanitarian, regional, government, and U.S. DoD information sources.

Australia Information Sources

Australian Institute for Disaster Resilience

The AIDR's Australian Disaster Resilience Knowledge Hub (the 'Knowledge Hub') is a national, open-source platform that supports and informs policy, planning, decision making, and contemporary good practice in disaster resilience. It seeks to foster collaboration by making available information on historic Australian disasters alongside current and emerging themes in the resilience sector. The AIDR develops and maintains the Knowledge Hub. AIDR is supported by the Department of Home Affairs, the Australian and New Zealand National Council for Fire, Emergency Services and Land Management, the ARC, and the Bushfire and Natural Hazards Cooperative Research Centre.[544]

Australian Institute for Disaster Resilience
Level 1, 340 Albert St
East Melbourne
Victoria 3002
Tel: 03 9418 5200
Facebook: AIDRnews
X: @AIDR_News
Website: *https://knowledge.aidr.org.au/*

National Emergency Management Agency

The NEMA website maintains information on domestic hazards, response plans, and monitoring and evaluation of programs. There is a map feature to understand hazards and disasters that have occurred across the country as well as resources for Australians in need of support after a disaster event.

National Emergency Management Agency
GPO Box 133, Canberra City ACT 2601
Email: contact@nema.gov.au
Facebook/Instagram/X: NEMAGovAu
Website: *https://nema.gov.au/#/*

Bureau of Meteorology

The BoM delivers warning products for drought, floods, fires, storms, tsunami, and tropical cyclones. It is also the parent agency for the ACS, which provides data, intelligence, and advice on hazards and climate risks to support and inform decision-making.

Bureau of Meteorology
700 Collins Street, Docklands, Brisbane QLD 4001
Tel: 03 9669 4000
Facebook/Instagram: bureauofmeteorology
X: @BOM_au
Website: *http://www.bom.gov.au/*

BoM's State and Territory Offices
Australian Capital Territory - 02 6232 3580
New South Wales - 02 9296 1555
Northern Territory - 08 8920 3800
Queensland - 07 3239 8700

South Australia - 08 8366 2600
Tasmania / Antarctica - 03 6221 2000
Victoria - 03 9669 4956
Western Australia - 08 9263 2222

Australian Climate Service
GPO Box 2334 Canberra ACT 2600
Tel: 02 6232 3504
Email: *ge_acs@bom.gov.au*
Website: *https://www.acs.gov.au/*

Australian Red Cross

The ARC website includes information on on-going operations as well as resources for Australians and migrants in need of assistance.

Australian Red Cross
23-47 Villiers Street, North Melbourne, VIC 3051
Tel: 61 3 9345 1800
Email: natinfo@redcross.org.au
Facebook: AustralianRedCross
Instagram: redcrossau
X: @RedCrossAU
Website: *http://www.redcross.org.au/*

Humanitarian Information Sources

United Nations Office for the Coordination of Humanitarian Affairs (OCHA) Regional Office for Asia and the Pacific (ROAP)

UN OCHA's ROAP seeks to optimize the speed, volume, and quality of humanitarian assistance and coordinates emergency preparedness and response throughout the region in support of national governments across the greater Asia-Pacific region. ROAP covers 41 countries with whom it partners for coordinated and effective international responses to emergency situations.

Website: *https://www.unocha.org/roap*
For OCHA situation reports, click on "Subscribe" button on bottom of page.
X: @OCHAAsiaPac

UN OCHA Office of the Pacific Islands

Based in Fiji, OCHA's Office of the Pacific Islands mobilizes and coordinates humanitarian action in partnership with national and international actors. Office of the Pacific Islands personnel can provide support in information management, reporting, mapping, media and communications, assessments, humanitarian financing, and inter-cluster coordination. The Office covers 14 countries and coordinates the Pacific Humanitarian Team.

Web: *https://www.unocha.org/pacific*
For OCHA situation reports, click on "Subscribe" button on top of page.
X: @UNOCHA_Pacific

ReliefWeb

ReliefWeb is a service of UN OCHA that consolidates information and analysis from organizations, countries, and disasters for the humanitarian community.

A subsection of ReliefWeb is ReliefWeb Response (RW Response). It aggregates operational content from other humanitarian action platforms to provide an authoritative source of information. The goal is to ensure that humanitarians can share, find, and re-use critical information quickly and efficiently.

Website: *https://reliefweb.int/*
RW Response: *https://response.reliefweb.int/*

PreventionWeb

PreventionWeb is provided by UNDRR to consolidate disaster risk reduction information into an online, easy to understand platform.

Website: *https://www.preventionweb.net/*

International Federation of Red Cross and Red Crescent Societies

IFRC is the world's largest humanitarian organization, comprised of 191 National Societies, including the ARC, a secretariat in Geneva, Switzerland, and over 60 delegations around the world. The IFRC carries out relief operations to assist victims of disasters and combines this with development work

to strengthen the capacities of the National Societies. IFRC's work focuses on four core areas: promoting humanitarian values, disaster response, disaster preparedness, and health and community care.[545]

Website: *https://media.ifrc.org/ifrc* and *https://go.ifrc.org/*

International Committee of the Red Cross (ICRC)

ICRC is an impartial, neutral, and independent organization whose exclusively humanitarian mission is to protect the lives and dignity of victims of armed conflict and other situations of violence and to provide them with assistance. It also works to prevent suffering by promoting and strengthening humanitarian law and universal humanitarian principles.[546]

Website: *https://www.icrc.org/en*
Facebook: @ICRC
X: @ICRC

Global Disaster Alert and Coordination System (GDACS)

GDACS is a cooperation framework among the UN, the European Commission, and disaster managers worldwide to improve alerts, information exchange, and coordination in the first phase after major sudden-onset disasters.

Website: *https://www.gdacs.org/alerts/*

Virtual OSOCC

The Virtual OSOCC is a real-time online coordination tool for disaster response professionals from urban search and rescue teams, national authorities, and regional and international organizations.

Website: *https://vosocc.unocha.org/*
The latest alerts can be found here: *https://www.gdacs.org/Alerts/default.aspx*
To subscribe: *https://www.gdacs.org/About/contactus.aspx*

Humanitarian Country Teams (HCT)

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

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

Humanitarian Data Exchange (HDX)

HDX is an open platform for sharing data across crises and organizations. Launched in 2014 with the goal of centralizing humanitarian data for easy access and analysis, HDX is managed by OCHA's Center for Humanitarian Data in The Hague.

Website: *https://data.humdata.org/*

Regional Information Sources

AHA Centre

Australia was the first Dialogue Partner of ASEAN, and it is part of the ARF. Under the ASEAN Secretariat, ASEAN's HADR activities integrate Dialogue Partners and the ARF. The AHA Centre sits at the hub of coordination for a disaster response by linking ASEAN bodies, member-states' national DM organizations, UN agencies, members of the International Red Cross and Red Crescent Movement, NGOs, and partner governments, including Australia. Situation updates, flash updates, and weekly disaster updates on disasters in ASEAN member-states (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam) are available on the AHA Centre website.

The AHA Centre

Graha BNPB, 13th floor Jl. Raya Pramuka Kav. 38
East Jakarta 13120 Indonesia
Tel : +62 21 21012278
E-mail : *info@ahacentre.org*
Website: *https://ahacentre.org*
X: @AHACentre
Instagram: ahacentre

The ASEAN Disaster Information Net (ADINet) is the AHA Centre's information repository for hazards and historic disasters in the region. It is open to the public and accepts public input, which is then verified and updated by AHA Centre staff. The portal retains information from the date it became operational in 2012.

Website: *https://adinet.ahacentre.org/*

Changi Regional HADR Coordination Centre (RHCC)

Singapore's Changi Naval Base hosts the Changi Regional HADR Coordination Centre, which launched in September 2014 to support the military of a disaster- affected state in coordinating assistance with assisting foreign militaries. It aims to provide open, inclusive, and flexible platforms that allow both regional and extra-regional militaries to work together effectively in a multinational disaster response. Changi RHCC manages the OPERA CIS web portal to broadcast the updated situation status of multinational military disaster responses to minimize duplication and gaps in the provision of foreign military assistance. All ASEAN member-states have representation in the Changi RHCC, and Australian military stakeholders have worked with the Changi RHCC both in emergencies and during exercises. The ACMC participates in Changi RHCC exercises.

Website: *https://www.changirhcc.org/*
To subscribe to RHCC Weekly and Spot Reports, email: *Changi_RHCC@defence.gov.sg*

Pacific Humanitarian Team

The Pacific Humanitarian Team is a specialized HCT that covers the 14 PICTs that the UN OCHA Office of the Pacific Islands also covers. The Pacific Humanitarian Team is a network of humanitarian organizations that work together to assist the governments, public, and NGOs of PICTs to prepare for and respond to disasters. The Pacific Humanitarian Team is organized through nine regional clusters to support national coordination mechanisms, including regional working groups.

Website: *https://response.reliefweb.int/pacific-region/pacific-humanitarian-team-pht*

Pacific Disaster Net

Pacific Disaster Net is an online platform for DRM and climate change documents, reports, alerts, data, projects, and professionals for the Pacific region. The platform is an ongoing live service provided by the SPC, UNDP, UNDRR, and IFRC.

Web: *http://www.pacificdisaster.net/main*

U.S. Government Sources

U.S. Agency for International Development

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

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

USAID produces a monthly "USAID Newsletter," available digitally: *https://www.usaid.gov/news-information/newsletter*. More information and updates from USAID are available on Facebook (@USAID), Instagram (@uasid), Twitter (@usaid), and YouTube (USaidVideo).

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

USAID's Bureau for Humanitarian Assistance

USAID/BHA provides timely and extensive reporting on foreign disaster events and response efforts. Regular products for an internal U.S. Government audience, including the DoD, include alerts and situation reports, which are available via email mailing lists. Information products for public use, such as Fact Sheets and Program Maps, are available on USAID.gov (*https://www.usaid.gov/humanitarian-assistance*) and posted on social media. To learn more about USAID's work in different countries, visit *https://www.usaid.gov/humanitarian-assistance/where-we-work.*

Pacific Disaster Center (PDC)

PDC has trademarked an early warning and decision support system called DisasterAWARE®. DisasterAWARE® is primarily for DM practitioners and senior decision makers. It supports DRR and best practices throughout all phases of DM from early warning to multi-hazard monitoring. It has a collection of scientifically verified, geospatial, data and modeling tools to assess hazard risks and impacts. A restricted version of DisasterAWARE is the EMOPS (Emergency Operations) system, which is specifically for the DM community, including government agencies and humanitarian assistance organizations serving at local, state, federal, and regional levels.[547]

PDC also provides a public version, Disaster Alert, which offers open access to a world map documenting 18 hazard types.[548] Disaster Alert also has a free, early-warning app to receive customizable, maps-based, visual alerts regarding active hazards. The app offers a global notification system covering natural and man-made hazards. It is available on both iPhone and Android.[549]

Website: *https://www.pdc.org/* and *https://www.pdc.org/disasteraware/*
Emergency Operations (EMOPS) system (request account): *https://disasteraware.pdc.org*

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

DKI-APCSS is a U.S. DoD institute that addresses regional and global security issues by inviting military and civilian representatives of the U.S. and Asia-Pacific nations to its program of executive education and workshops.

Website: *https://dkiapcss.edu/*

The Center for Excellence in Disaster Management and Humanitarian Assistance

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

Website: *https://www.cfe-dmha.org/*
Disaster Management Reference Handbooks are available for download at: *https://www.cfe-dmha.org/Publications/Disaster-Management-Reference-Handbooks*
Civil-Military Coordination in Foreign Disaster Relief Missions: Best Practices for Information Sharing is available here: *https://www.cfe-dmha.org/Publications/Best-Practices-Pamphlets*

Acronyms and Abbreviations

°	degree(s) – of temperature (Celsius [C] or Fahrenheit [F]) or of latitude and longitude (North [N], South [S], East [E], and West [W])
$	dollar(s) – Australian (AU) or U.S.
AADMER	ASEAN Agreement on Disaster Management and Emergency Response
ACDM	ASEAN Committee on Disaster Management
ACE	Agile Combat Employment
ACMC	Australian Civil-Military Centre
ACS	Australian Climate Service
ACT	Australian Capital Territory
ADF	Australian Defence Forces
AFAC	National Council for Fire and Emergency Services
AFP	Australian Federal Police
AGCMF	Australian Government Crisis Management Framework
AHA Centre	ASEAN Coordinating Centre for Humanitarian Assistance on disaster management
AHP	Australian Humanitarian Partnership
AHPPC	Australian Health Protection Principal Committee
AIDR	Australian Institute for Disaster Resilience
ANZEMC	Australia-New Zealand Emergency Management Committee
APC-MADRO	Asia-Pacific Conferences on Military Assistance to Disaster Relief Operations
ARC	Australian Red Cross
ARF	ASEAN Regional Forum
ASEAN	Association of Southeast Asian Nations
AUKUS	Australia, United Kingdom, United States (security partnership)
AUSASSISTPLAN	Australian Government Overseas Disaster Assistance Plan
AUSMAT	Australian Medical Assistance Team
BASARNAS	National Search and Rescue Agency (of Indonesia)
BHA	Bureau for Humanitarian Assistance (of USAID)
BK	BALIKATAN (exercise)
BNPB	National Disaster Management Authority (of Indonesia)
BoM	Bureau of Meteorology
CBRN	chemical, biological, radiological, and nuclear
CDRI	Coalition for Disaster Resilient Infrastructure
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CERF	Central Emergency Response Fund
CFE-DM	Center for Excellence in Disaster Management and Humanitarian Assistance
CN	COPE NORTH (exercise)
COMDISPLAN	Australian Government Disaster Response Plan
COP	Conference of the Parties

COSPPac	Climate and Oceans Support Program in the Pacific
COVID-19	Coronavirus Disease 2019
CR	CROCODILE RESPONSE (exercise)
CROP	Council of Regional Organisations of the Pacific
CRT	Crisis Response Team
CS	CROIX DU SUD (exercise)
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CSO	civil society organization
CTF	Combined Task Force
DACC	Defence Assistance to the Civil Community
DART	Disaster Assistance Response Team
DCCEEW	Department of Climate Change, Energy, Environment, and Water
DCRP	Disaster and Community Resilience Programme
DFAT	Department of Foreign Affairs and Trade
DM	disaster management
DoD	Department of Defense (of the U.S.)
DRM	disaster risk management
DRR	disaster risk reduction
DVI	Disaster Victim Identification
EAS	East Asia Summit
EMA	Emergency Management Australia (now NEMA)
ENSO	El Niño Southern Oscillation
FANC	French Armed Forces in New Caledonia
FASF	French Armée de l'Air et de l'Espace
FRANZ	France, Australia, New Zealand (Arrangement)
FRDP	Framework for Resilient Development in the Pacific
FSM	Federated States of Micronesia
FTX	field training exercise
GBV	gender-based violence
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GFDRR	Global Facility for Disaster Reduction and Recovery
GHG	greenhouse gas
GPS	Gender, Peace and Security
HADR	humanitarian assistance and disaster relief
HCA	humanitarian civic assistance
HHEM	Hawaii Healthcare Emergency Management
HLC	Humanitarian Logistics Capacity
IASC	Inter-Agency Standing Committee

IDETF	Inter-Departmental Emergency Taskforce
IFRC	International Federation of Red Cross and Red Crescent Societies
INSARAG	International Urban Search and Rescue Advisory Group
INTERPOL	International Criminal Police Organization
JACC	Joint Agency Coordination Centre
JASDF	Japan Air Self-Defense Forces
JATWC	Joint Australian Tsunami Warning Centre
JMSDF	Japan Maritime Self-Defense Force
km/km^2	kilometer(s) / square kilometer(s)
LR	LONGREACH (exercise)
m / m^2	meter(s) / square meter(s)
MFAT	Ministry of Foreign Affairs and Trade (of New Zealand)
mm	millimeter(s)
MoU	Memorandum of Understanding
MRF-D	U.S. Marine Rotational Force – Darwin
NAP	National Adaptation Plan OR National Action Plan
NCM	National Coordination Mechanism
NDC	National Determined Contributions
NDMO	national disaster management office
NDRRF	National Disaster Risk Reduction Framework
NED	National Emergency Declaration
NEMA	National Emergency Management Agency
NGO	non-government organization
NIC	National Incident Centre
NSR	National Situation Room
NSW	New South Wales
OCHA	Office for the Coordination of Humanitarian Affairs (of the UN)
PACAF	U.S. Air Force Pacific
PBP	Partners in the Blue Pacific
PHWP	Pacific Humanitarian Warehousing Program
PICT	Pacific Island Countries and Territories
PIEMA	Pacific Islands Emergency Management Alliance
PIF	Pacific Islands Forum
PMGO	Port Moresby Geophysical Observatory
PMI	Indonesian Red Cross
PMSP	Pacific Maritime Security Program
PNG	Papua New Guinea
PNGDF	Papua New Guinea Defence Force
PRF	Pacific Resilience Facility
PRP	Pacific Resilience Partnership

PSLGN	Pacific Sea Level and Geodetic Monitoring
RAAF	Royal Australian Air Force
RCG	Regional Consultative Group on Humanitarian Civil-Military Coordination for Asia and the Pacific
RFMF	Republic of Fiji Military Forces
RIMPAC	Rim of the Pacific (exercise)
RVO	Rabaul Volcano Observatory
SDG	Sustainable Development Goals
SHIELD	Strengthening Institutions and Empowering Localities against Disasters and Climate Change
SIAP SIAGA	Australia-Indonesia Partnership on Disaster Risk Management
SIDS	small island developing state
SOP	Standard Operating Procedure
SPC	Pacific Community
SPDMM	South Pacific Defence Ministers Meeting
SPREP	Secretariat of the Pacific Regional Environment Programme
TC	Tropical Cyclone
TNI	Armed Forces of Indonesia
U.S.	United States
UK	United Kingdom
UN	United Nations
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Reduction
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commission for Refugees
UNHRD	United Nations Humanitarian Relief Depot
UNMISS	United Nations Mission in South Sudan
UNSCR	United Nations Security Council Resolution
USAID	United States Agency for International Development
USAR	urban search and rescue
USGS	United States Geological Survey
VAAC	Volcanic Ash Advisory Centre
WASH	water, sanitation, and hygiene
WFP	World Food Programme
WHO	World Health Organization
WINDRR	Women's International Network on Disaster Risk Reduction
WMO	World Meteorological Organization
WPS	Women, Peace and Security
WRD	Women's Resilience to Disasters

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Center for Excellence in Disaster Management & Humanitarian Assistance
456 Hornet Avenue, Building 76, Joint Base Pearl Harbor - Hickam, Hawaii 96860-3503
Telephone: 808.472.0518 | DSN: 315.472.0518
https://www.cfe-dmha.org
@cfedmha