



Australian  
National  
University

Submission:

Inquiry into Australia's response to the  
priorities of Pacific Island countries and  
the Pacific region

ANU Institute for Climate, Energy & Disaster  
Solutions

*This submission is the collated perspective of independent researchers that work at The Australian National University. The views and opinions expressed in this submission reflect those of the authors and contributors.*

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5 July 2024

Hon Shayne Neumann MP  
Committee Chair  
Joint Standing Committee on Foreign Affairs, Defence and Trade  
PO Box 6021  
Parliament House  
Canberra ACT 2600

**Re: Australia's response to the priorities of Pacific Island countries  
and the Pacific region**

Dear Hon Shayne Neumann MP,

Please find enclosed a submission by the ANU Institute for Climate, Energy and Disaster Solutions (ICEDS) to the Inquiry into Australia's response to the priorities of Pacific Island countries and the Pacific region.

Based in the ACT, ICEDS connects industry, governments and communities with climate, energy & disaster-risk research from the Australian National University (ANU). Our goal is to advance innovative solutions to address climate change, energy system transitions and disasters. We facilitate integrated research, teaching and policy engagement across disciplines.

Our submission also complimented the submission made by the ANU Department of Pacific Affairs, the leading international centre for applied research on the Pacific.

The enclosed submission contains contributions from experts in transformational adaptation, pacific studies, food systems, climate science and disaster solutions.

Our network of ANU researchers will gladly offer further consultation.

Sincerely,



Professor Mark Howden  
Director, Institute for Climate, Energy and Disaster Solutions

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# Executive Summary

The Institute for Climate, Energy and Disaster Solutions (ICEDS) appreciates the opportunity to contribute to the Inquiry into Australia's response to the priorities of Pacific Island countries and the Pacific region. This submission evaluates Australia's climate support and initiatives for mitigating climate change and assisting Pacific nations in adaptation, as well as its role in supporting Pacific nations during disasters and emergencies. Additionally, it identifies opportunities for enhanced and deeper Australia-Pacific climate engagement.

Australia has a shared history, culture and geography with the Pacific which underscores our commitment and responsibility to working with the Pacific in responding to the effects of climate change impacts. As a member of the Pacific Islands Forum, Australia has a shared responsibility to the Blue Pacific where all have agreed that "climate change remains the single greatest threat to the livelihoods, security and wellbeing of the peoples of the Pacific." On the international level, Australia has also committed to progress the implementation of the Paris Agreement.

The 2015 Paris Agreement aims to limit global temperature rise to well below 2°C, with efforts for 1.5°C. However, current projections indicate a rise of 2.5-2.9°C this century. The Pacific advocates for a 1.5°C limit to reduce catastrophic risks to Pacific communities. Currently, at 1.2°C of warming on a decadal basis but noting the past 2 months are 1.63°C warmer, the Pacific already experiences severe climate-related events such as king tide inundation, sea-level rise, cyclones, marine heatwaves and drought. If emissions continue unchecked, irreversible damage will increase, also putting immense pressure on development partners like Australia.

Pacific nations, contributing less than 0.03% of global emissions, are disproportionately affected by climate change. They face significant threats to their livelihoods and sovereignty due to climate impacts driven by emissions from other countries. Urgent action from countries like Australia, who identify as a member of the 'Pacific family,' is essential.

The primary risks to Pacific nations include water and food insecurity, reduced health and well-being, loss of cultural cohesion and biodiversity, economic decline and the potential inhabitability of islands. Hence, climate action should be central to Australia's response to the Pacific. There is a strong expectation by Pacific nations that Australia must align its emissions reduction efforts with its Pacific commitments and take significant steps toward them.

## *This submission recommends that:*

1. Urgent climate action be central to Australia's engagement and response to the priorities of Pacific Island countries and the Pacific region.
2. The effectiveness of all other efforts in the region could be assessed in the context of rapidly growing climate-related risk.
3. Australia can accelerate domestic and exported emissions reduction to improve the relationship between Australia and Pacific nations and the efficacy of Australia's other development investment in the region.
4. The Australian government could:
  - a. integrate climate change and disasters in existing migration programmes as a criterion for granting visas.
  - b. research the humanitarian impacts of international human mobility on Pacific Islanders remaining behind.
  - c. establish a programme or institution on climate/disaster preparation that disseminates information and trains new migrants.
5. Adaptation projects could:
  - a. take a principled approach to maximise effectiveness and reduce chances of having perverse or unintended impacts.

- b. address priority areas articulated by Pacific nations.
  - c. continually ramp up the quality and quantity of climate finance, which will enable key priority areas to be better addressed.
  - d. consider the context of projected warming, as the efficacy of many adaptation actions reduces with a warming climate.
6. Australia's response to disasters and emergencies in the Pacific can prioritise long-term, locally led resilience building, valuing traditional knowledge and with equitable and culturally appropriate interventions.
7. The Australian Government can strengthen their response to climate change in the Pacific by:
- a. foregrounding First Nations and Pacific Islander voices in the design and delivery of COP31
  - b. continue supporting the Pacific with IPCC engagement
  - c. developing executive education programs that can fill a needs gap for upskilling in climate, energy and disasters

## Climate Change: Current and Future States

Pacific Island nations are on the frontlines of climate change while being amongst the least responsible for causing it, contributing less than 0.03% of total historical emissions.<sup>1</sup> It is important for this fact to be central to discussions as it highlights the gross injustice faced by the Pacific, whereby their livelihoods and sovereignty are being undermined and threatened by climate impacts driven by emissions generated by other countries. Addressing this requires proportional action from countries like Australia who are partly responsible for climate change, who can provide support to dealing with impacts from it and who identify as a member of the 'Pacific family'.

The global community have committed to acting on climate change through the 2015 Paris Agreement, with the overarching goal to hold "the increase in the global average temperature to well below 2°C above pre-industrial levels" and pursue efforts "to limit the temperature increase to 1.5°C above pre-industrial levels."<sup>2</sup>

Despite this, we are currently on track for a global average temperature rise of 2.5-2.9°C above pre-industrial levels this century.<sup>3</sup> 2023 was the warmest year on record, with the global average near-surface temperature 1.45°C above pre-industrial levels. The past 12 months have averaged 1.63°C above pre-industrial levels.

The Pacific have been advocating for keeping climate-induced temperature rise to a **maximum** of 1.5°C.<sup>4</sup> While the Paris Agreement states 2°C warming as the limit for global warming, Pacific nations continue to push for 1.5°C as the target to strive for, highlighted in the Pacific-led campaign '1.5°C to stay alive'.<sup>5</sup> This is because we know that every increment of warming increases impacts and risks and this has particularly damaging effects for those on the frontlines of climate change, including Pacific nations. Pacific nations have rallied around the call for limiting warming to 1.5°C as this offers the best chance of avoiding the worst climate impacts, including the existential risk to habitability in low-lying atoll nations like Kiribati and Tuvalu.<sup>6</sup>

Although the threat to survival on the islands is often framed as the most prominent risk, there are numerous, complex and significant risks to Pacific nations that have and will continue to emerge in a warming climate. The Intergovernmental Panel on Climate Change (IPCC) found that

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<sup>1</sup> ESCAP (2022)

<sup>2</sup> UNFCCC (2016)

<sup>3</sup> UNEP (2023)

<sup>4</sup> SPREP (2023)

<sup>5</sup> SPREP (2016)

<sup>6</sup> IPCC (2018)

climate change risks and impacts are “becoming increasingly complex and more difficult to manage. Furthermore, multiple climate hazards will occur simultaneously and multiple climatic and non-climatic risks will interact.”<sup>7</sup>

*Recommendation One: Urgent climate action should be central to Australia's response to the priorities of Pacific Island countries and the Pacific region.*

At the current temperature rise of 1.2°C, the Pacific are already experiencing severe climate-related events including king tide inundation, sea-level rise, back-to-back cyclones, crop productivity losses, marine heatwaves and drought, with many occurring earlier than what has been predicted by modelling.<sup>8</sup> If the key driver of the climate crisis (greenhouse gas emissions) is not addressed, irreversible loss and damages will continue to be felt in the Pacific and there will be immense pressure on traditional aid donors like Australia to be continually responding to climate-induced extreme events and impacts, including large humanitarian and disaster relief actions.

Key risks to Pacific nations include<sup>9</sup>:

- Water insecurity
- Food insecurity
- Reduced human health and well-being
- Loss of cultural cohesion
- Loss of marine and coastal biodiversity and fishery productivity
- Economic decline and livelihood losses
- Reduced habitability of islands
- Submergence of reef islands
- Loss of terrestrial, diversity and ecosystem services
- Loss of exclusive economic zone (EEZ) rights linked to land sovereignty in the case of sea-level rise submerging islands<sup>10</sup>

*Recommendation Two: The effectiveness of all other efforts in the region should be assessed in the context of climate risk.*

## Mitigation

### Australian Government Responsibility for Mitigation

The IPCC have found that human activities have unequivocally caused global warming and this has primarily occurred through the combustion of fossil fuels.<sup>11</sup> In their latest assessment, the IPCC found that the remaining carbon budget to limit warming to 1.5°C was 80% used and will be completely exceeded by the GHG emissions generated from existing fossil fuel infrastructure alone.<sup>12</sup> This does not include fossil fuel projects still in the pipeline, those approved since 2020 or emissions since 2020, putting the carbon budget at serious risk of being exhausted in the very near future.<sup>13</sup> Therefore, new fossil fuel projects undermine our ability to limit warming to 1.5°C. Furthermore, there are very few carbon capture and storage (CCS) technologies currently

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<sup>7</sup> IPCC (2023)

<sup>8</sup> IPCC (2022a)

<sup>9</sup> IPCC (2022a)

<sup>10</sup> Gordon (2021)

<sup>11</sup> IPCC (2023)

<sup>12</sup> IPCC (2022b)

<sup>13</sup> IPCC (2023); Lamboll et al (2023); Friedlingstein et al (2023)

deployed on large scales that can offset the emissions generated from fossil fuel projects.<sup>14</sup> The IPCC's most recent Mitigation of Climate Change Report shows that CCS technologies are amongst the most expensive and least effective means mitigating against climate change.<sup>15</sup>

Given the current emissions trajectory outlined earlier in this submission, there is a need to continually ramp up ambition on climate mitigation. Particularly, there is an urgent need for the Australian Government's response to dealing with its own emissions to align with its position as a member of the Pacific Islands Forum, a signatory to the Boe Declaration of 2018 and a nation that identifies as being part of the 'Pacific family'. Furthermore, a phase-out of fossil fuels continues to be demanded by Pacific nations, highlighted by the Fossil Fuel Non-Proliferation Treaty. This movement is spearheaded by Vanuatu and Tuvalu and has gained renewed interest and momentum. The treaty calls for a binding plan to end the expansion of new coal, oil and gas projects and a transition away from fossil fuels. For Australia, considering this treaty would not only demonstrate global leadership but also win favour in the Pacific where the governments of Fiji, Solomon Islands, Tonga, Niue, Timor-Leste, Palau, Samoa, Nauru, Republic of Marshall Islands, Vanuatu and Tuvalu have all called for endorsement of this treaty.

## Mitigation and International Diplomacy

Past inaction on climate change has had detrimental impacts on the relationship between Australia and Pacific Island Countries & Territories and there is a risk of future relationship strain if PICTs do not consider Australia to be acting ambitiously enough on this key regional issue. Particularly, a perceived lack of action on climate mitigation can undermine the Australian Governments' ability to receive widespread regional support for hosting COP31. For example, key civil society actors like the Pacific Elders Voice (comprising influential leaders from the region) have been critical of Australia's climate mitigation efforts, arguing that continuing approval and operation of fossil fuel projects contradict their commitment to the Pacific family and call for fellow Pacific Islanders to defer their support for Australia's COP31 bid until concrete action is seen.<sup>16</sup>

As a member of the Pacific Islands Forum, Australia has specific responsibilities to the Pacific to cut emissions in line with the aspirations of fellow Forum members. The Forum and Australia have agreed that climate change is the single greatest threat facing the Pacific.<sup>17</sup> The Forum has already stated that despite aspirations to achieve net-zero emissions by 2050, current global commitments fall short of the reductions needed to meet temperature goals and due to this, the Pacific faces existential threats from rising sea levels and intensified climate hazards.<sup>18</sup>

Forum Leaders have continuously called for greater ambition to limit global warming to 1.5°C. Australia's commitment to reducing its emissions will be continually scrutinised by Forum members in line with this goal. Forum leaders have already called on Australia to support the Port Villa Call for a Fossil Fuel Non-Proliferation Treaty. If Australia truly does "aspire" to meeting this priority of the Pacific, Australia should consider urgent actions such as moratorium on projects.<sup>19</sup> By doing so, Australia can help prevent the worst impacts of climate change and uphold its role as a responsible and welcomed member of the Forum.

*Recommendation Two: Accelerate Australia's domestic and exported emissions reduction to improve the relationship between Australia and Pacific nations and the efficacy of Australia's other development investments in the region.*

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<sup>14</sup> Rode et al (2023)

<sup>15</sup> IPCC (2022b)

<sup>16</sup> Pacific Elders Voice (2023)

<sup>17</sup> Boe Declaration (2018)

<sup>18</sup> Pacific Islands Forum (2024)

<sup>19</sup> ABC News (2023)

## Mitigation in the Pacific

Most Pacific Island states have a heavy reliance on imported fossil fuels for energy needs; the volatile fuel prices, supply chain disruptions and transport costs to isolated islands are prohibitive. Despite this context, Pacific governments have set ambitious renewable electricity goals to be attained in 2020 and 2030. Australia should be the partner of choice in the Pacific's goals for energy transition through research, technical and financial initiatives. It will be long term investment, but it is an investment that could be connected to the transition (and lessons) from remoted and rural Australia.

*Recommendation three: Australia could strategically partner with Pacific Island nations to support their ambitious renewable energy goals, leveraging its expertise and resources in sustainable energy system solutions.*

## Adaptation

Detrimental climate change impacts are becoming increasingly apparent across the Pacific, leaving little doubt about the need for urgent and effective adaptation. Adaptation is critical for responding to climate change, particularly as there is a level of climate-related impacts already 'locked-in' due to historical emissions. Pacific nations face many barriers to adaptation, including a lack of long-term and easy-to-access financial resources, capacity constraints and the need for upgraded technologies. Australia can support Pacific nations adaptation priorities as they are often heavily reliant on external funding, as articulated in their Nationally Determined Contributions and accompanying National Adaptation Plans. For example, the Marshall Islands targets are 100% conditional on external support.<sup>20</sup>

## Principles to guide adaptation projects

In a recent project, ICEDS evaluated ten Pacific Island adaptation projects funded by the Australian Government. Alongside this, the team undertook a literature review on evaluation of adaptation and good-practice adaptation finance. Given the context-specific nature of adaptation, clear investment principles can usefully help guide funding initiatives. The Australian Government can enhance project effectiveness and ensure the presence of social and environmental safeguards by adopting a principled approach to adaptation. Recommended principles for adoption are outlined below:

**Table 1: Proposed principles for adaptation<sup>21</sup>**

Principles	Description
<b>Locally-led adaptation</b>	The Australian Government is already embracing the concept of locally-led development. This approach ensures that communities directly involved in adaptation efforts are not merely consulted but are actively leading these projects. These communities possess unique social and environmental knowledge, making them best suited to understand what will work in their specific contexts. Additionally, local ownership of projects is crucial for their long-term sustainability.

<sup>20</sup> NDC Hub (2022)

<sup>21</sup> Modified from Global Commission on Adaptation 2021)



<b>Support subsidiarity – decision-making at the most local level possible</b>	Subsidiarity is making the locus of decision-making for adaptation, including finance, as local as appropriate. Responsibility and authority should sit primarily with local institutions and communities, with other tiers of government involved at the scale that suits their mandates and capabilities.
<b>Address structural inequalities and centre equity and justice</b>	<p>Adaptation initiatives should address structural causes of vulnerability. This means integrating approaches for addressing social, economic and political inequalities that are root causes of vulnerability.</p> <p>Effective long-term adaptation requires integrating considerations of equity and justice. Projects must be designed to benefit all populations, particularly vulnerable and marginalised communities, to be sustainable in the long run.<sup>22</sup></p>
<b>Support long-term predictable funding</b>	Support long-term development of local governance processes, capacity and institutions. Funding needs to be predictable, with long term commitments to stable programs. A lack of long-term funding can lead to maladaptation in projects, for example seawalls that do not have ongoing support for maintenance can lead to increased erosion, disrupt local ecosystems and end up not providing long-term protection against sea-level rise. <sup>23</sup>
<b>Invest into local capabilities</b>	Adaptation initiatives should enhance the capabilities of local people and institutions.
<b>Develop understanding of climate risk and uncertainty</b>	Adaptation decisions need to be informed by local, traditional, Indigenous, generational and scientific knowledges.
<b>Adopt flexible programming and learning</b>	Enable adaptive management to allow for and address the inherent uncertainty in adaptation. Encourage a culture of learning and improvement.
<b>Create transparency and accountability</b>	Processes of financing, designing and delivering programs need to meet high standards of probity, transparency and accountability.
<b>Collaborate on action and investment</b>	Collaboration across sectors to ensure that initiatives and funding sources are synergistic.
<b>Recognition and inclusion of different forms of knowledge</b>	<p>Adaptation programs can have stronger socio-cultural and environmental outcomes by incorporating traditional, local and Indigenous knowledges in project design and implementation.</p> <p>Traditional knowledge encompasses the practices, innovations and wisdom developed by Indigenous and local communities through centuries of interaction with their environment. It is developed from a deep tapestry of experience, transmitted orally from generation to generation. It is deeply embedded in a community's cultural heritage, including language, rituals and social norms. Traditional knowledge often takes a holistic view of the world by integrating all aspects of life, such as spirituality, social relationships and environmental stewardship<sup>24</sup>.</p>

<sup>22</sup> IPCC (2022a)

<sup>23</sup> IPCC (2022a)

<sup>24</sup> Berkes 2018

<b>Culturally and contextually appropriate:</b>	Culture plays a crucial role in adaptation efforts in the Pacific, where interpersonal relationships and social cohesion serve as vital safety nets. Given that culture is an integral part of Pacific society, adaptation projects must be culturally appropriate, taking into account aspects such as customary tenure, chief and local leadership systems and culturally respectful methods of engagement.

## Priority Areas in Adaptation

### Climate Finance

Despite a significant quantity of climate finance being mobilised in recent years, the Pacific are still experiencing a significant shortfall in finance for adaptation, mitigation and losses and damages.<sup>25</sup> Stronger investment in climate adaptation in the Pacific is needed now and investing early makes strong economic sense for Australia. As a traditional aid donor in the region, Australia will continue to be called upon to support Pacific nations in responding to future climate-related impacts. Investment on adaptation and mitigation actions now will reduce the resources Australia needs to provide as aid in the future. As an example of the cost-savings of early investment, UNEP estimates that globally every USD 1 billion invested in adaptation against coastal flooding leads to a USD 14 billion reduction in future economic damages.<sup>26</sup>

Mitigation strives to avert the extent of climate change, adaptation assists countries in dealing/coping with climate impact, whereas loss and damage acknowledges that significant impacts will persist regardless of mitigation and adaptation measures. Therefore, climate financing for 'loss and damage' should be separate from mitigation and adaptation funds. This framework and principle should be considered when designing climate financing for Pacific nations.

Agreement to establish a loss and damage fund was reached at COP27 in 2022, yet Australia still has not pledged any contributions into this fund.<sup>27</sup> Whilst Australia has committed funds to the Pacific Resilience Facility, current levels of commitments are negligible when compared to the scale of expected losses in the Pacific. In this way, loss and damage remains a key priority area for Pacific nations who have been pushing for the establishment of a meaningful fund for decades. The need for funding loss and damage becomes apparent when considering that there are limits to adaptation (explained more below) and a degree of climate-related impacts already 'locked-in' from greenhouse emissions to date.

While the details of the loss and damage fund are still being finalised, countries will need to be able to prove claimed losses and damages are attributable to climate change. Furthermore, the region will need to build loss and damage assessment capacity. Given this, Australia could support Pacific-led research now to collect data and conduct assessments that would support future attribution claims for when the fund becomes operational. However, it should be noted that there are many losses that cannot be accounted for in economic terms, such as loss of connection to ancestral land and inability for future generations to visit their homelands.

<sup>25</sup> UNDP (2021)

<sup>26</sup> UNEP (2023)

<sup>27</sup> Morton (2023)

## Climate Mobility

Climate change presents the single greatest threat to the security and prosperity of our Blue Pacific Continent. The world is no longer on track in keeping the global temperature rise below two degrees Celsius. This begs the question: if the global system isn't delivering – how can the Pacific prepare itself? Climate change transcends our borders and will continue to undermine our ability to grow food, access clean and fresh drinking water, and trigger the mass movement and relocation of our Pasifika peoples from their homes. The existential threats of climate change will affect our homes, our way of life, and our very survival. According to Pacific Security Outlook Report for 2023-2024<sup>28</sup>, all global climate indicators – greenhouse gases, temperature, ocean heat and acidification, and sea level rise – will continue to increase and challenge livelihoods, the blue economy, and put pressure on our resources – our food, water, and health systems which in turn induce conflict and unrest, and indeed erode the resilience of our vulnerable groups and governments.

Climate change will affect mobility trends and challenge our cultural and national sovereignty and regional stability. We need Australia's political commitment and leadership to inform proper management and preparation for the safe movement of Pacific peoples, and the development of protection mechanism to ensure safe, prosperous, and secure labour mobility and permanent migration programs.

While movement across the Pacific Region is often economically driven, climate change has the potential to shift the migration landscape significantly and drastically. Pacific islanders will leave their countries in droves seeking secure homes and livelihoods elsewhere. This requires without a doubt, proper policy discussions, preparation, and future-mapping. The Falepili Treaty between Australia and Tuvalu has raised queries and will continue to raise expectations of low-lying nations who also seek a similar pathway for climate adaptation. In the same vein, the Pacific Engagement Visa questions Australia's genuine Pacific diplomacy and climate leadership, especially as the visa quota numbers are not reflective of intentions to support low-lying nations, most vulnerable to sea level rise. What does this mean for Australia's Pacific Family concept? Is Australia building an inclusive mobility pathway that benefits everyone in the Pacific or only those countries that align to its diplomatic interest? Furthermore, is the region, including Australia, ready to a future defined by mass movement, forced relocation and displacement? There is no time more critical, than today, to address this looming crisis.

Human mobility has always been a traditional coping strategy in the Pacific. It allows Pacific households to withstand economic, political and climatic shocks. More specifically, safe, regular, and orderly mobility pathways enable them to improve their living standards, escape political instabilities, and build resilience to withstand climate adversities. At present, Australia has the following Pacific-specific international migration programmes:

[Pacific-Australia Labour Mobility Scheme](#), which recruits semi-skilled and low-skilled Pacific workers between 9 months to 3 years for the agricultural, horticultural, viticultural, meat works, hospitality and aged-care industries.

[Australia Awards Pacific Scholarships](#), which offers Pacific students an opportunity to obtain internationally recognised qualifications and serve their home countries following completion.

[Pacific Engagement Visa](#), which allows all Pacific Islanders to permanently reside in Australia and build diaspora communities.

Special Mobility Pathway under the [Australia-Tuvalu Falepili Union Treaty](#), which enables Tuvaluans to live, study and work in Australia.

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<sup>28</sup> PIFS & Pacific Fusion Centre (2024)

These programmes have provided several development benefits, including addressing labour shortages, elevating youth unemployment, establishing small businesses and investing in education. Importantly, they have contributed to national disaster response, recovery, and resilience-building efforts in Australia and the Pacific. For instance, Fijian seasonal workers assisted with emergency evacuation during the 2022 Lismore Floods<sup>29</sup> while others helped save trees, homes and irrigation infrastructure during the 2019 Bushfire that affected Northern New South Wales and Southern Queensland.<sup>30</sup> Samoans, Ni-Vanuatu and Fijians sent higher remittances to non-migrant relatives,<sup>31</sup> made monetary donations,<sup>32</sup> and sent in-kind relief<sup>33</sup> during the 2009 Upolu Tsunami, 2015 Tropical Cyclone Pam and 2021 Tropical Cyclones Yasa and Ana. Remittance-receiving families have invested in solar panels and strengthened house structures. In addition, remittances can be an alternative funding source for climate relocations, and the new skills may encourage crop and income diversification.<sup>34</sup>

Nevertheless, existing programmes have several shortcomings, adversely impacting their positive impact on climate resilience in the Pacific. First, climate change and disasters are not explicitly written into existing initiatives. Tuvaluans and I-Kiribati are highly susceptible to climate risks (e.g. coastal erosion, inundation of farms, and salinisation of freshwater lenses), inevitably affecting island habitability. Most people want to remain on their ancestral lands, but many engage in temporary labour and international upskilling schemes to accumulate resources (i.e., money and knowledge) for in-situ adaptation. Others choose to migrate permanently to protect future generations. The integration of environmental stressors as a criterion for granting visas will ensure their needs are met.

Second, the absence of able-bodied youths is affecting disaster response, recovery and resilience in the region.<sup>35</sup> During disasters, able-bodied youths perform first responder duties, including aiding the elderly, children, and persons with disabilities with evacuations. Following disasters, they assist with recovery efforts such as cleaning the debris and reconstructing damaged buildings. Existing migration programmes positively select the working-age population (i.e. 18-45-year-olds) in good health, depleting Pacific communities of their first responders. Little is known about the humanitarian impacts of cross-border human mobility thereby warranting further investigation.

Third, access to climate/disaster information/training for new migrants is limited. The Pacific diaspora, associations and churches assist them with integrating into Australian society but are over-capacity and sometimes overlook preparedness support. Pacific Islanders possess the expertise and are experienced in disaster response and recovery, specifically extreme weather events (i.e., tropical cyclones and flooding) and geophysical hazards (i.e., earthquakes and volcanic eruptions). However, they are new to bushfires and lack information on, for example, how to minimise its spread and prepare for evacuation. Hence, the government should set up a programme/institution focusing on climate/disaster preparation at the state level. It should provide information on Australia's environmental risks, support services, and eligibility criteria for accessing such services.

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<sup>29</sup> PALM Scheme (2023)

<sup>30</sup> Mangan (2019)

<sup>31</sup> Le De et al (2015)

<sup>32</sup> Kate (2021)

<sup>33</sup> Bailey & Shiu (2016)

<sup>34</sup> Dun et al (2023)

<sup>35</sup> Westbury (2022)

### *Recommendation Three: The Australian government could:*

- *Integrate climate change and disasters in existing migration programmes as a criterion for granting visas.*
- *Research the humanitarian impacts of international human mobility on Pacific Islanders remaining behind.*
- *Establish a programme or institution on climate/disaster preparation that disseminates information and trains new migrants.*

## Climate Resilient Food Systems

Food systems in the Pacific have highly vulnerable to climate change, taking into account both socio-economic and biophysical factors.

A significant portion of Pacific Island populations, such as 80% in Papua New Guinea, depend on agriculture for their livelihoods.<sup>36</sup> Coastal fisheries are also crucial, with 97% of the Pacific population (excluding PNG) relying on them as a primary protein source.<sup>37</sup> Climate change threatens these food systems through reduced fishery productivity, shifting fish distributions and compounding human pressures like overfishing and pollution. Additionally, diverse ecological and socio-cultural contexts influence farmers' needs and preferences, with factors such as gender, age, education and income further impacting how they are affected by climate change.<sup>38</sup>

Pacific Island Countries and Territories already face food security and nutrition challenges exacerbated by climate change, globalisation and supply chain disruptions. Climate hazards such as storms, extreme weather events, temperature changes, precipitation variations and sea-level rise consistently impact food systems. A study by ICEDS revealed that Pacific food systems were already experiencing many impacts of climate change including reduced crop growth, reduced fishery catch, loss of land, saltwater incursion and increased pests and diseases issues.<sup>39</sup> A holistic approach, integrating local and traditional knowledge with scientific insights, is critical for building climate-resilient food systems. For instance, ANU's ICEDS project in Papua New Guinea combines Western climate and agriculture knowledge with traditional practices to enhance food security through climate-smart agriculture, demonstrating the importance of a systems approach to adaptation.

## Water Security

Freshwater systems in Pacific nations are exposed to many diverse climate impacts and are among the most threatened on the planet.<sup>40</sup>

In Tonga and many other Pacific Island countries, traditional water sources and aquifers are increasingly strained, threatening both drinking water supplies and agricultural productivity. ICEDS received funding to deploy a state-of-the-art solar-driven desalination technology to pilot a sustainable solution to these urgent water security challenges and drought mitigation needs.

The desalination project addresses critical water security risks in the Pacific, where communities face severe freshwater shortages exacerbated by climate change and extreme weather events. By delivering clean, desalinated water for agriculture, the project enhances food security, supports local economies and builds capacity and resilience against climate impacts. Continued investment in innovative water management solutions is crucial to ensuring the Pacific region can

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<sup>36</sup> Trudinger et al (2023)

<sup>37</sup> Veitayaki (2021)

<sup>38</sup> Friedman et al (2022)

<sup>39</sup> Trudinger et al (2023)

<sup>40</sup> IPCC (2022a)

adapt to climate variability and secure reliable water sources. Demonstrating the viability and economic benefits of desalination for agriculture highlights the transformative potential of such technologies, emphasising the importance of sustained funding and support for these initiatives.

## Nature-based Solutions

Nature-based solutions (NbS) are a sustainable approach to protect, manage and restore ecosystems to address societal challenges and benefit people and nature.<sup>41</sup> NbS have proven to be effective adaptation measures in the Pacific, offering numerous benefits for both the environment and local communities.<sup>42</sup>

Projects like the Tanna Climate Change Adaptation Project in Vanuatu exemplify the positive outcomes of NbS, focusing on ecosystem-based approaches such as restoring degraded forests and enhancing agricultural practices.<sup>43</sup> These initiatives not only help to reduce the impacts of climate change but also contribute to biodiversity conservation and improve the resilience of local ecosystems. The Pacific Ecosystem-based Adaptation to Climate Change (PEBACC+) initiative, implemented across Fiji, Vanuatu, Solomon Islands, New Caledonia and Wallis and Futuna, further underscores the regional commitment to utilising nature-based strategies to address climate challenges. By integrating traditional knowledge with scientific approaches, these projects create sustainable solutions that are tailored to the unique environmental and cultural contexts of Pacific Island nations.

Moreover, NbS like Fiji's Ridge to Reef (R2R) project demonstrate the effectiveness of involving local communities in conservation and adaptation efforts. This multi-partnership project works to improve climate resilience and sustain livelihoods by engaging local communities in protecting and managing their natural resources. Such involvement not only empowers communities but also ensures the long-term success and sustainability of adaptation measures. NbS provide a cost-effective and socially inclusive approach to climate adaptation, delivering multiple co-benefits, including enhanced ecosystem services, improved food and water security and strengthened social cohesion. By prioritizing nature-based solutions, Pacific Island nations can build resilience against climate impacts while promoting sustainable development and environmental stewardship.

## Limits to Adaptation

While adaptation actions are certainly needed to deal with the fallout from climate change, there are 'limits to adaptation' which need to be accounted for. Limits to adaptation describe when efforts by various social actors to manage climate-related risks can only be effective up to a certain threshold.<sup>44</sup> Beyond this point, these risks become intolerable, resulting in significant and irreversible loss and damage.<sup>45</sup> Furthermore, the effectiveness of adaptation actions reduces with increased warming and the extent of residual risks increases, as do the chances of future unintended consequences.<sup>46</sup>

Limits to adaptation include 'soft limits' (i.e. where social, political or economic challenges hinder implementation) and 'hard limits' where no existing adaptation measures can effectively prevent

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<sup>41</sup> SPC (2023)

<sup>42</sup> SPREP (2023a)

<sup>43</sup> Clarke *et al.* (2019)

<sup>44</sup> Adger *et al.* (2009); Dow (2013)

<sup>45</sup> IPCC (2022a)

<sup>46</sup> IPCC (2022a)

losses and damages. Hard limits beginning at 1.5°C are projected for coastal communities reliant on nature-based coastal protection and for coral reefs.<sup>47</sup>

These limits to adaptation highlight why there is a crucial and urgent need for Australia to continually ramp up ambitious mitigation. At higher levels of warming, 'hard adaptation' limits will emerge, for example, atoll nations becoming uninhabitable due to sea level rise and lack of sufficient freshwater. Support from Australia can help to overcome 'soft limits to adaptation' through adaptation funding, technology transfer, upskilling and provision of education and research.

*Recommendation Four: Adaptation projects should:*

- a) be informed by the principles outlined in this section to maximise effectiveness and reduce chances of having perverse or unintended impacts.*
- b) address priority areas articulated by Pacific nations.*
- c) continually ramp up the quality and quantity climate finance, which will enable key priority areas to be addressed.*
- d) Provide capacity building support for loss and damage assessments*
- e) consider the context of projected warming, as the efficacy of adaptation actions reduces with a warming climate.*

## Disasters and Emergencies

### Climate-Induced Disasters

Pacific nations are among the most vulnerable in the world to natural hazards, exacerbated by climate change, facing frequent and severe events such as tropical cyclones, storm surges, flash flooding and changes in precipitation patterns.<sup>48</sup> Tropical cyclones are particularly destructive. In the South Pacific basin, tropical cyclones can form as far east as French Polynesia, with an annual average of nine tropical cyclones. Of these, approximately four cyclones per year reach severe intensity, classified as hurricane strength.<sup>49</sup> The number of tropical cyclones per season can vary significantly, with some seasons experiencing as many as sixteen.<sup>50</sup> These cyclones are being intensified by climate change and bring extremely strong winds, heavy rains and destructive storm surges, causing widespread damage to infrastructure, homes and agricultural land. For example, Cyclone Pam in 2015 and Cyclone Winston in 2016 resulted in significant destruction and economic losses.<sup>51</sup> In 2023, Pacific nations experienced back-to-back tropical cyclones, leaving communities with little time for recovery before disaster hit again. Over the coming 24 months, climate hazards are expected to worsen.<sup>52</sup> With increasing intensity of tropical cyclones (9 to 14 predicted for 2024) and the potential for drought and extreme rainfall in different areas, water and food security and agriculture will be impacted.<sup>53</sup>

Increased intensity and frequency of other extreme weather events, such as severe storms and flooding, compound issues of rising sea levels and further threaten the livelihoods and safety of Pacific people.<sup>54</sup> Given these risks, there is an urgent need for comprehensive and collaborative

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<sup>47</sup> IPCC (2022a)

<sup>48</sup> IPCC (2022a)

<sup>49</sup> Savin, C. *et al.* (2020)

<sup>50</sup> Savin, C. *et al.* (2020)

<sup>51</sup> Chandraet *al.* (2021)

<sup>52</sup> Pacific Islands Forum (2024)

<sup>53</sup> NIWA (2024)

<sup>54</sup> IPCC (2022a)

disaster response and recovery strategies in the Pacific, with Australia playing a crucial role. Australian military involvement can provide essential logistical support and rapid response capabilities during natural disasters, ensuring timely assistance to affected communities. However, coordinated disaster recovery and resilience efforts, supported by Australian aid, should focus on long-term and localised resilience building, infrastructure restoration and the empowerment of local communities.

## Agency and Localisation

Australian aid to the Pacific has become increasingly politicised, privatised and contested, resulting in a donor-driven system that often fails to empower Pacific communities or reduce aid dependency.<sup>55</sup> The aid is often controlled by large organisations and can be seen to serve Australian interests, marginalising local Pacific companies and communities.<sup>56</sup> This approach can undermine genuine development and strip recipients of agency. To address these issues, substantial policy changes are needed, including reflecting on the lived experiences of aid, supporting transformative initiatives outside the current aid system and insisting on long-term, locally-aligned development or rejecting ineffective aid altogether.

Furthermore, development approaches in Pacific Islands often prioritise external Eurocentric knowledge over local and traditional knowledge.<sup>57</sup> There is a need to shift towards decolonising, localising and empowering locally-led initiatives in aid and development.<sup>58</sup> For example, during the aftermath of Cyclone Pam in Vanuatu, the predominant distribution of easily transportable and storable food items like rice, noodles and canned tuna addressed immediate food security but often failed to align with local dietary preferences or support long-term nutritional goals.

True localisation requires more than just policy statements or procedural checkboxes; it demands a fundamental shift in how aid organisations operate. It requires genuinely valuing local knowledge, structuring and empowering communities to lead their recovery efforts, ensuring that disaster responses are effective, respectful and culturally appropriate.<sup>59</sup> This shift from "community-based" to "locally led" efforts requires strategies driven by communities themselves rather than merely situated within them.

## Inclusion

Disasters do not occur in isolation or randomly; they arise from intricate interactions among historical, social, economic, cultural and geographical contexts, each affecting individuals differently.<sup>60</sup> For instance, women are more likely to be vulnerable to hazards, not due to innate characteristics, but because of unequal power relations and structural inequalities. Understanding disasters requires comprehending the unique dynamics of hazards, exposure, vulnerability and adaptive capacity in a specific community.

Australia's support for Pacific nations during disasters and emergencies must begin with a clear understanding of who is vulnerable and why.<sup>61</sup> This includes identifying the hidden structures and mechanisms underlying vulnerability and recognising how risks are unevenly distributed among different social groups. Inclusivity and localisation of the Australian aid response are crucial to ensure that all affected groups are appropriately supported.<sup>62</sup>

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<sup>55</sup> Taylor & Middleby (2023)

<sup>56</sup> Taylor & Middleby, (2023)

<sup>57</sup> Meki & Tara. (2023)

<sup>58</sup> Meki & Tarai (2023)

<sup>59</sup> Westoby *et al.* (2020)

<sup>60</sup> Ballard *et al.* (2020)

<sup>61</sup> Pulwarty & Riebsame (1997)

<sup>62</sup> Poude. *et al.* (2023)



Gender, disability and identities are diverse with different needs and people in the Pacific associate them differently compared to the Australian context.<sup>63</sup> Western approaches to gender considerations in disaster contexts do not adequately reflect the experiences and needs of diverse gender minorities in non-Western environments.<sup>64</sup> Similar issues exist in areas like caste and ethnicity, highlighting the risks of homogenising all as equally vulnerable. These complex issues need to be addressed to make disaster efforts genuinely inclusive in the Pacific.

By considering these factors, Australia can provide more effective and equitable support to Pacific nations during disasters and emergencies, ensuring that aid efforts are truly beneficial and empowering for local communities. Enhanced understanding of vulnerability, policy reforms prioritising locally-led initiatives, valuing indigenous knowledge, developing culturally appropriate interventions and addressing the diverse needs of different social groups will collectively contribute to more resilient and empowered Pacific communities.

*Recommendation Five: Australia's response to disasters and emergencies in the Pacific should prioritise long-term, locally led resilience building, valuing traditional knowledge and equitable and culturally appropriate interventions.*

## Climate Security

Climate security refers to the intersection of climate change impacts and national or regional security challenges.<sup>65</sup> In the Pacific, climate security encompasses a broad range of human security issues, including the displacement of communities due to rising sea levels, the loss of livelihoods from declining fish stocks and increased competition over scarce resources such as fresh water and arable land.<sup>66</sup> Environmental and climate stressors can exacerbate existing social and economic vulnerabilities, leading to heightened tensions and potential conflicts within and between communities.

The Pacific Climate Security Assessment Guide highlights how extreme weather events, such as tropical cyclones and prolonged droughts, disrupt food and water supplies, damage infrastructure and strain government resources.<sup>67</sup> These disruptions can undermine political stability, fuel gender inequality and violence, drive migration and challenge the governance capacities of Pacific nations. In this way, climate change is considered the pre-eminent Pacific security challenge under the Boe Declaration, which Australia is a signatory to, emphasising its critical importance to regional peace.<sup>68</sup> Australia plays a key role in the regional security architecture by providing leadership, resources and support for collective security efforts.<sup>69</sup> Despite this political awareness and impetus, there is limited research and policy action that defines climate security.

Climate Security is an urgent political agenda that requires collaborative multi partners to define and implement simultaneously policy actions. One approach would be to explore how climate mitigation and adaptation should be considered as key tools in addressing security challenges in our region. Research centres and researchers in ANU have long term collaborations with national and regional organisations are in unique positions to convene and carry out dialogues, capacity

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<sup>63</sup> Pulwarty & Riebsame (1997)

<sup>64</sup> Oliver-Smith (2010)

<sup>65</sup> Pacific Islands Forum (2023)

<sup>66</sup> Carter (2020)

<sup>67</sup> Pacific Islands Forum (2023)

<sup>68</sup> Boe Declaration (2018)

<sup>69</sup> Wallis *et al.* (2022)

and capability training, research among Australian and Pacific national security and climate change communities of practice.

## Opportunities for Australia-Pacific Climate Engagement

### Pacific Led Climate Research

Pacific-led research and interdisciplinary initiatives play a vital role in empowering Pacific communities to address climate challenges. The Department of Pacific Affairs (DPA) and ICEDS at the Australian National University models this approach through their commitment to conducting research that is deeply rooted in the priorities and perspectives of Pacific communities. By integrating diverse academic disciplines and collaborating closely with local stakeholders, researchers ensure that research outcomes are relevant and beneficial to those directly impacted. This collaborative model not only enhances the capacity of Pacific communities to respond to climate change but also supports the preservation and promotion of local and traditional knowledge systems. Empowering local researchers and leaders through such interdisciplinary efforts is crucial for developing innovative, culturally appropriate climate and disaster solutions.

### COP31 and Australia-Pacific Climate Diplomacy

A global conference on climate change, requires the country's national university and its wide network to convene and frame a global goal or agenda on climate education and research. If Australia's bid is successful, COP31 presents a unique and significant opportunity to make collaborative and meaningful progress in mitigation, adaptation, finance loss and damage, and just transitions. The process for how COP31 is pursued will be a defining factor in both parties considering the conference to be a success. For this to happen, Australia will need to create unique diplomatic spaces and practices that work with the Pacific in making key decisions about the conference. This includes the Presidency work and thematic agenda, the physical layout of the blue and green zones, the appropriate and cultural-sensitive incorporation of Indigenous and Oceanic Diplomacy in the decision-making process of the conference to name a few. One suggestion is for there to be a co-presidency, with both an Australian Government president and a Pacific Islander president.

COP31 presents an opportunity for the Australian National University to showcase and leverage its climate expertise through the Institute for Climate, Energy & Disaster Solutions and its Pacific studies expertise through the Department of Pacific Affairs and the Pacific Institute. Projects such as the Pacific Climate Diplomacy for more than five years assisted in the strengthening of Pacific leaders and officials negotiating capacity in the UNFCCC. This project is not only embedded within Pacific climate negotiation processes, but also recognised and sought after by Australian ministers, officials and wider public to inform engagement with the Pacific. This has led to the natural evolution of the project as a 'research and education broker' to harness Australia-Pacific relations in climate negotiations, showcase collaborative initiatives from this region in UNFCCC platforms in the areas of adaptation, finance, local community and Indigenous peoples, gender, youth and climate justice, as well as dialogues at the Pacific regional level. Moreover, ANU has for many years convened and participated in various Australia, New Zealand and Pacific university networks in climate change research and education. Such climate university networks are essential in marshalling a global response and narrative needed for COP31.

## Executive Education

Pacific nations continue to actively and strategically prepare themselves to address ongoing challenges related to climate change, energy transitions and disasters. There is an urgent opportunity to provide executive education to the numerous practitioners and policymakers working on climate, energy and disaster solutions across Pacific Island Countries & Territories. To develop and implement appropriate responses and solutions, people need access to the most recent climate and ocean observations, meaningful and useable projections across systems of interest, information on practical climate adaptation and emission-reduction measures and innovations paired with traditional, local and place-based knowledge to inform their decision-making. Furthermore, education spaces can foster learning amongst participants as they facilitate the sharing of best practices and lessons learnt.

Key regional documents including the 2050 Strategy for the Blue Pacific Continent and the Framework for Resilient Development in the Pacific (FRDP) outline education as a key priority area for policymakers and practitioners, including in the fields of climate-related change, the energy transition and disaster management. Furthermore, anecdotal evidence suggests that there is a demand from professionals across the region to engage in higher education on these topics and to be recognised for this learning through credentials awarded by universities, for example through micro-credentials. This is a program idea the Australian Government may wish to consider funding. Furthermore, the Government may be interested in funding Master program scholarships Pacific Islander students with a view to complete by/during 2026 (COP31). These programs would support regional collaboration through climate literacy and research and build Pacific capacity in these respective areas.

Currently, there is no regionally coordinated climate change education program for professionals, presenting a significant opportunity for further funding by the Australian Government.

## Regional IPCC Collaboration

The Australian Government have previously supported Pacific nations engagement with the IPCC through an *IPCC Pacific engagement outreach* project and *Consultation on strengthening Pacific representation and engagement in the IPCC*. Both projects were coordinated through the ICEDS. Through this project our Institute consulted with almost 200 participants from across the region and heard resoundingly that there was an appetite to strengthen Pacific Islands engagement with the IPCC, but resourcing and support were barriers.

The Pacific Climate Change Centre (PCCC) were an instrumental partner in this project and have been funded by the Australian Government to carry part of this work forward. Specifically, PCCC will be acting as a secretariat to coordinate regional IPCC focal points and facilitate applications for articles to be included in reports and for various IPCC roles. PCCC have expressed to ICEDS that they would like to continue the momentum and build on existing work between our two organisations. They have requested ICEDS to play a key role in supporting continued IPCC Pacific outreach and engagement. However, the most recent project involving ICEDS was completed in mid-2023 and there has not been funding to continue this essential piece of work. This is an area the Australian Government may wish to consider funding, which could also form as a key channel for engagement around COP31.

*Recommendation Six: The Australian Government strengthen their response to climate change in the Pacific by:*

- a) working with First Nations and Pacific Island stakeholders (leaders, officials and universities) in the convening, design and delivery of COP31*
- b) continue supporting the Pacific with IPCC engagement*
- c) develop an Executive education program that can fill a needs gap for professional education in climate, energy and disasters*

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