



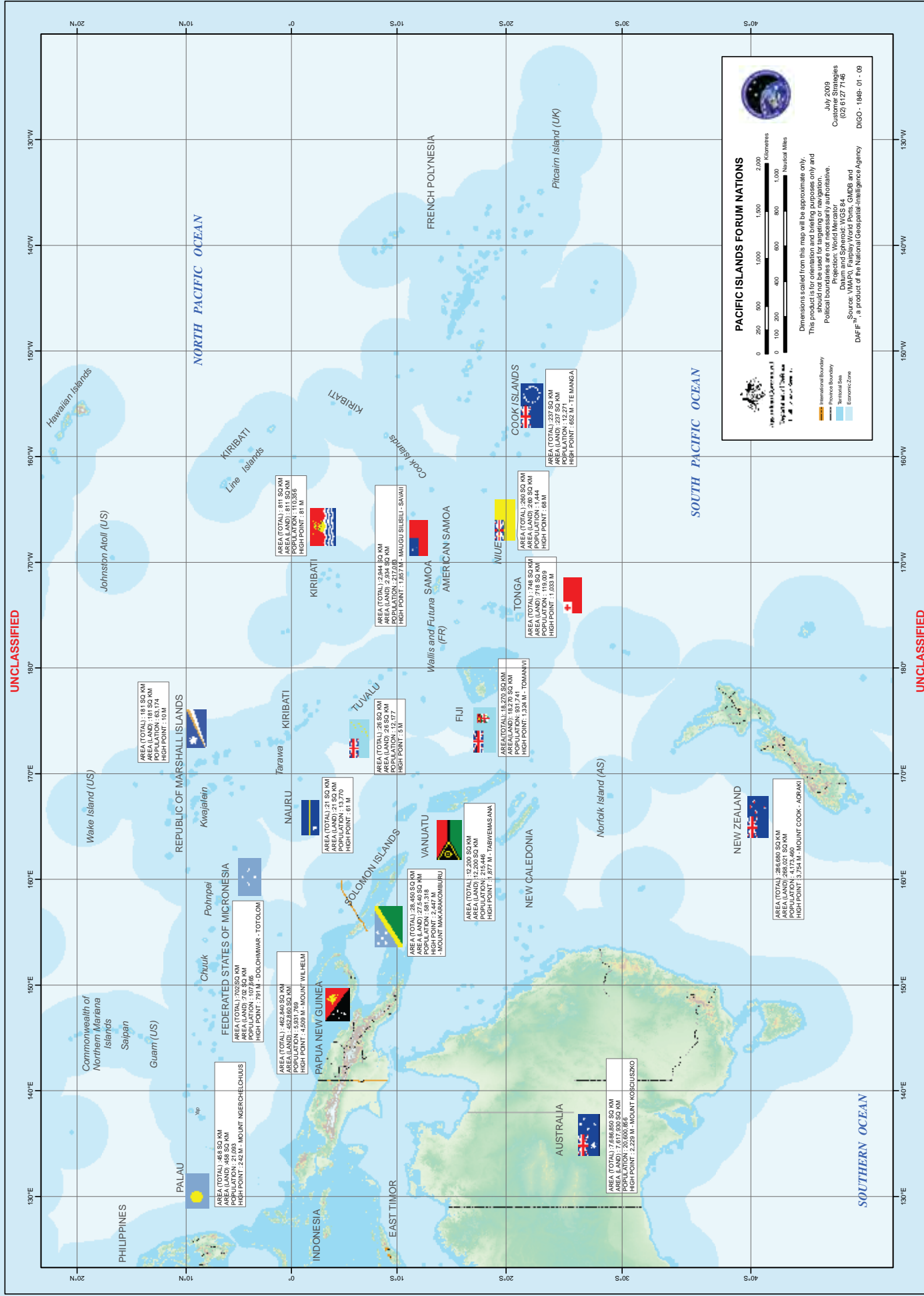
Australian Government

# Engaging our Pacific Neighbours on Climate Change: Australia's approach



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Units: Meters  
Scale: 1:100,000,000

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 - International Boundary (Yellow line)  
 - Territorial Boundary (Blue line)  
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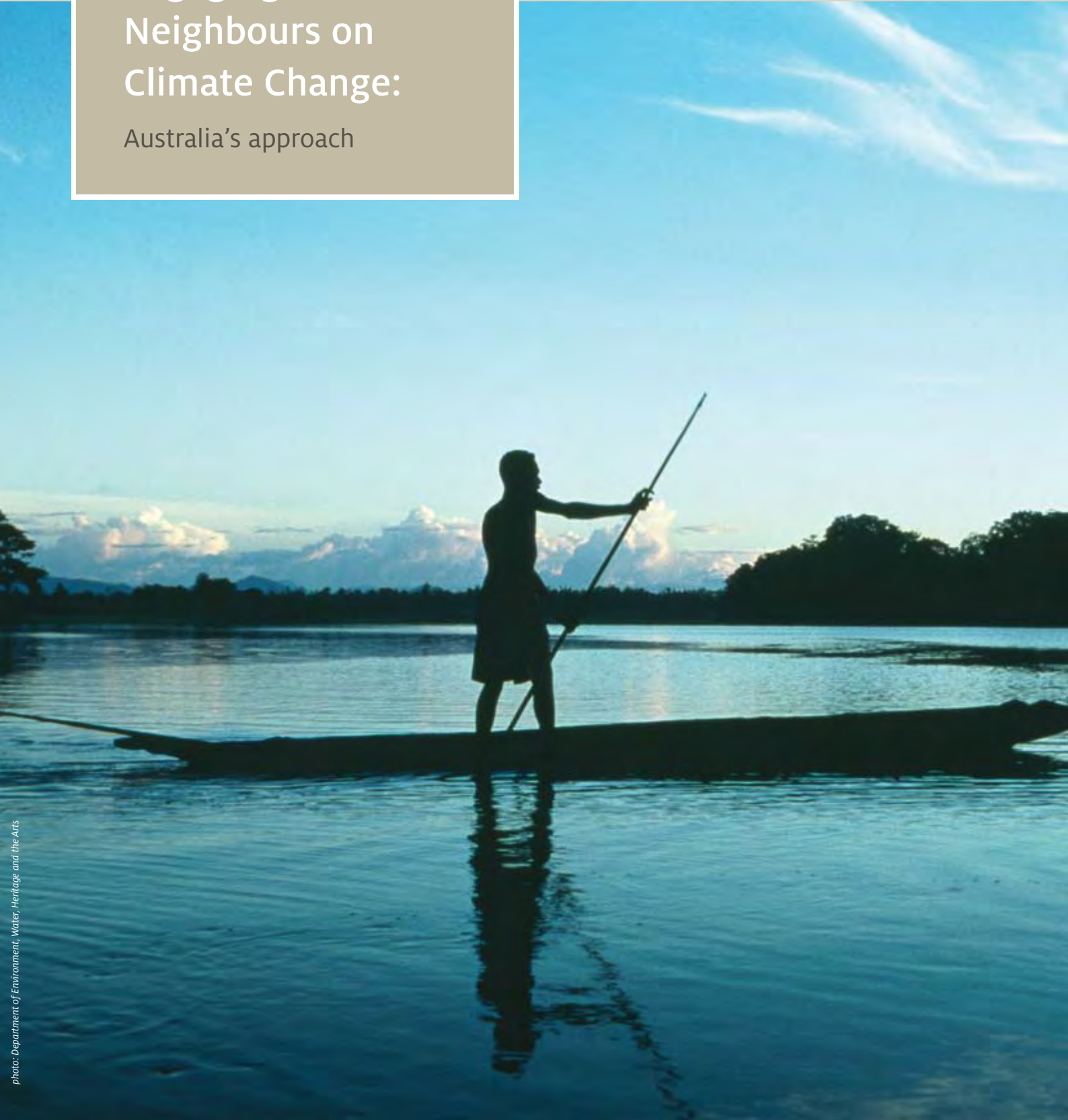
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**Australian Government**

# Engaging our Pacific Neighbours on Climate Change: Australia's approach



*Engaging our Pacific Neighbours on Climate Change:  
Australia's approach*

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photo: Department of Environment, Water, Heritage and the Arts

## Ministerial foreword



Pacific island countries have contributed little to the causes of climate change, but they are among the most vulnerable to its effects. Climate change threatens to undermine the prosperity and, in some cases, the viability of Pacific island countries. If the world fails to respond effectively to climate

change, significant additional stress will be placed on coastal communities, the security of water and food supplies, the health of Pacific island people and natural ecosystems. Vital industries such as fisheries, agriculture and tourism will be at risk.

The people of the Pacific have a long history of resilience in the face of often hostile climatic conditions, and Pacific nations and communities are now actively responding to the new challenges posed by climate change. Australia is committed to assisting our neighbours in the Pacific to realise their stated desire to stay in their countries by responding to these challenges.

Australia is working towards an effective global outcome on climate change that would require all major economies—including Australia—to play a full and fair role in reducing global emissions. Australia is also advocating substantially increased international support for adaptation in the most vulnerable developing countries. Australia and Pacific island countries have a mutual interest in achieving these goals. We also share a common interest in the enduring prosperity of the Pacific region and in ensuring that climate change does not undermine sustainable development.

Comprehensive engagement with the Pacific is a crucial pillar of Australia's foreign policy. We place a special value on our close historical, political, economic and community links with the Pacific island countries and their people. The Australian Government is cooperating closely with Pacific island countries to meet our shared challenges, including climate change, and to raise standards of living for people throughout the region.

This document guides Australia's climate change work with the Pacific to 2015 by articulating principles to inform future efforts, based on the Pacific region's stated priorities and Australia's capacity to assist. The analysis is underpinned by current climate science projections and the predicted impacts in the Pacific. The document also outlines how Australia's regional assistance is already building resilience to climate change.

Australia is committed to continue working in collaboration with Pacific island countries to respond to the challenges posed by climate change.

Senator the Hon Penny Wong  
Minister for Climate Change and Water







## Executive summary



Predicted changes to the climate in the Pacific region over the coming decades are expected to have significant implications for the livelihoods of Pacific island inhabitants. While contributing little to the greenhouse gas emissions driving climate change, Pacific island countries are particularly vulnerable to its impacts because of their geographical, social, institutional and economic characteristics. Key impacts include damage to coastal systems, settlements and infrastructure; undermining of recent economic progress; exacerbation of existing water and food security challenges; increasing threats to human health; and degradation of regional biodiversity.

Global mitigation efforts are a priority both for Australia and for Pacific island countries. In international climate change negotiations, Australia is advocating an ambitious global effort to stabilise greenhouse gases at 450 parts per million (ppm) carbon dioxide equivalent (CO<sub>2</sub>-e) or lower.

Pacific island countries are taking action at national, regional and international levels to address climate change. As set out in the *Pacific Islands Framework for Action on Climate Change 2006-2015*, building resilience to climate change is a key priority for Pacific island countries—particularly as some climate change impacts are already being felt. Australia is supporting greater resilience by advocating increased international support for adaptation in particularly vulnerable countries, such as those in the Pacific. This builds on Australia's current support for adaptation programs, through the A\$150 million International Climate Change Adaptation Initiative (ICCAI), which focuses primarily on Pacific island countries and East Timor.

Australian Government engagement with the Pacific on climate change to 2015 will be guided and informed by the following set of principles.

**a. An effective global solution to climate change:**

Australia will press for an ambitious global solution to climate change, that includes mitigation, adaptation and financing, and ensure that Pacific views are represented in international forums, by highlighting the challenges faced by the Pacific region due to climate change and by supporting organisations that articulate regional views.

**b. Support aligned with Pacific regional and national priorities:** Australia will recognise and support national and regional priorities and work in partnership to help achieve them.

**c. Pacific contribution to global emissions reductions:** Australia will support the Pacific island countries' stated priority to contribute to global greenhouse gas reductions.

**d. Long-term viability of Pacific island communities:** Australia will provide support for practical adaptation programs to increase resilience and reduce vulnerability in support of sustainable development.

**e. Capacity to deal with climate change:** Australia will assist Pacific island governments to build their institutional arrangements and skills to respond to and integrate climate change into development policy and planning.

**f. Information to facilitate decision making:** Australia will help meet the needs of policy makers by improving the quality of and access to accurate, localised and relevant data necessary for effective decision making.

**g. Improved use of resources:** Australia will contribute to better development coordination by supporting regional organisations that have a coordination role, taking an integrated and cooperative approach to assistance for climate change in its own programs, and encouraging other donors to do the same.

# Principles for future climate change engagement

It is in Australia's and Pacific island countries' national interests to achieve an effective global climate change outcome. Australia is advocating an ambitious global effort to stabilise greenhouse gases at 450 ppm CO<sub>2</sub>-e or lower.

Climate change has the potential to significantly impede the Pacific region's sustainable development efforts. The following principles will guide how Australia assists Pacific island countries to achieve their climate change priorities.

## Global action on climate change

### a. An effective global solution to climate change:

Australia will press for an ambitious global solution to climate change, that includes mitigation, adaptation and financing, and ensure that Pacific views are represented in international forums, by highlighting the challenges faced by the Pacific region due to climate change and by supporting organisations that articulate regional views.

A common focus for Australia and Pacific island countries is achieving an effective global climate change outcome that includes ambitious mitigation, strong adaptation and better financing for climate change measures.

Australia will continue to advocate an ambitious global response aimed at stabilising greenhouse gases at 450 ppm CO<sub>2</sub>-e or lower. We will use our presence in forums such as the United Nations, and others where we are the sole Pacific representative such as the Major Economies Forum and the Group of Twenty, to build understanding of the particular climate change challenges facing the Pacific region and its priorities for action.

Australia will continue to support a range of organisations, regional agencies and negotiating blocs (such as the Alliance of Small Island States) that seek to advocate and deliver the Pacific's international climate change objectives.

## Supporting Pacific priorities

### b. Support aligned with Pacific regional and national priorities:

Australia will recognise and support national and regional priorities and work in partnership to help achieve them.

Pacific nations have articulated their priorities for addressing climate change, regionally through the *Pacific Plan for Strengthening Regional Coordination and Integration*, the *Niue Declaration on Climate Change* and the *Pacific Islands Framework for Action on Climate Change 2006-2015*, and nationally through documents such as the *National Adaptation Programmes of Action* and United Nations Framework Convention on Climate Change (UNFCCC) National Communications.

As set out in the *Pacific Islands Framework for Action on Climate Change 2006-2015*, building resilience to climate change is a key priority for Pacific island countries—particularly as some climate change impacts are already being felt.





Photo: Rob Maccoll, AusAID



Photo: Department of Environment, Water, Heritage and the Arts

The Australian Government will work in partnership based on mutual respect and mutual responsibility to help Pacific island countries meet their goals, drawing on relevant national expertise in such areas as meteorological services, climate science, water management, fisheries management, agriculture, construction, urban planning and disaster response.

**c. Pacific contribution to global emissions reductions:**

Australia will support the Pacific island countries' stated priority to contribute to global greenhouse gas reductions.

The *Pacific Islands Framework for Action on Climate Change 2006-2015* states that Pacific island countries wish to play their part in the global effort to reduce greenhouse gas emissions, despite contributing only a small proportion of the world's total emissions. Measures that help to reduce emissions also have other benefits, such as enhanced energy security. Introducing cost-effective measures that improve energy efficiency and promoting the use of low-carbon technologies have clear benefits for the region. Australia is at the forefront of the development and use of many low-emissions technologies and practices. We will help the region's efforts to reduce emissions, for example, through our support for renewable energy and energy efficiency programs. This is provided without the expectation that Pacific countries take on stringent, unsupported mitigation actions.

## Building climate resilience

**d. Long-term viability of Pacific island communities:**

Australia will provide support for adaptation programs to increase resilience and reduce vulnerability in support of sustainable development.

The Pacific region is particularly vulnerable to the effects of climate change. Effective adaptation—in conjunction with ambitious global mitigation—is critical for the long-term viability of Pacific communities.

Australia will assist Pacific island countries to adapt to the unavoidable impacts of climate change through an ongoing commitment to the region, including through programs such as the International Climate Change Adaptation Initiative (ICCAI), which will lay the foundation for future adaptation work in the region.

Because climate change will affect many sectors, including food, water and health infrastructure, it will be essential to integrate support for adaptation with the broader development agenda, including disaster risk reduction strategies. Integration will help to make Pacific nations less vulnerable to natural disasters such as cyclones and storm surges, which could become more intense with climate change. Australia contributes to a range of risk reduction measures, including improved building construction practices, early warning systems, disaster education, and mapping the occurrences of natural hazards. *Investing in a*

*Safer Future: A Disaster Risk Reduction Policy for the Australian Aid Program* highlights this approach. The policy is consistent with the *Hyogo Framework for Action 2005–2015*, which calls on countries to reduce underlying risks by integrating risk reduction measures and climate change adaptation.

**e. Capacity to deal with climate change:** Australia will assist Pacific island governments to build their institutional arrangements and skills to respond to and integrate climate change into development policy and planning.

Climate change will place an additional strain on the limited resources of Pacific island governments. Responses to climate change will be enhanced by effective policy integration across all development planning, including in the areas of public finance, infrastructure and health.

Australia's development assistance program, including its contributions to global environment funds, will help Pacific island governments strengthen cross-sectoral policy and institutional arrangements and assist with skills development. Bilateral and regional support could include interagency and peer-to-peer exchanges, scholarships, volunteering and training.



photo: Lorrie Graham, AusAID

**f. Information to facilitate policy development and decision making:** Australia will help meet the needs of policy makers by improving the quality of and access to accurate, localised and relevant data necessary for effective decision making.

Through programs such as the Pacific Climate Change Science Program, Australia will assist Pacific island countries to further develop their scientific and socioeconomic knowledge base for effective policy development and planning. Australian organisations—including the Commonwealth Scientific and Industrial Research Organisation, Geoscience Australia, the Centre for Australian Weather and Climate Research, the Australian Centre for International Agricultural Research, the Bureau of Meteorology and universities—will contribute by increasing collaborative work with regional institutions and governments.

**g. Improved use of resources:** Australia will contribute to better development coordination by supporting regional organisations that have a coordination role, taking an integrated and cooperative approach to assistance for climate change in its own programs, and encouraging other donors to do the same.

Australia supports the *Paris Declaration on Aid Effectiveness* and the *Accra Agenda for Action* by backing Pacific ownership and leadership of development assistance, and by ensuring our development assistance reflects Pacific governments' identified priorities.

Australia will lead by example by effectively integrating climate change into the international development assistance program, communicating with other donors to plan activities cooperatively and continuing to explore opportunities for better coordination.



photo: Department of Environment, Water, Heritage and the Arts



## Defining the challenge



Climate change presents a new series of challenges to the governments and communities of the Pacific, and threatens to undermine the development gains of recent decades. Effective global, regional and local responses to address climate change and limit its impacts are therefore in the interests of both Australia and our Pacific neighbours. The Australian Government is committed to engaging with our Pacific neighbours and working collaboratively to realise shared economic and social aspirations.

### Vulnerability

Pacific island countries are among the most vulnerable to the impacts of climate change. Vulnerability is multifaceted and inextricably linked to broader development challenges (see Figure 1). The degree of vulnerability varies between the island countries of the Pacific, with many different drivers at both global and local levels. The countries of the region share particular characteristics, such as small size, exposure to frequent extreme weather events, and the high cost of adaptation relative to gross domestic product. Those shared characteristics highlight the need to work together to respond to climate change.

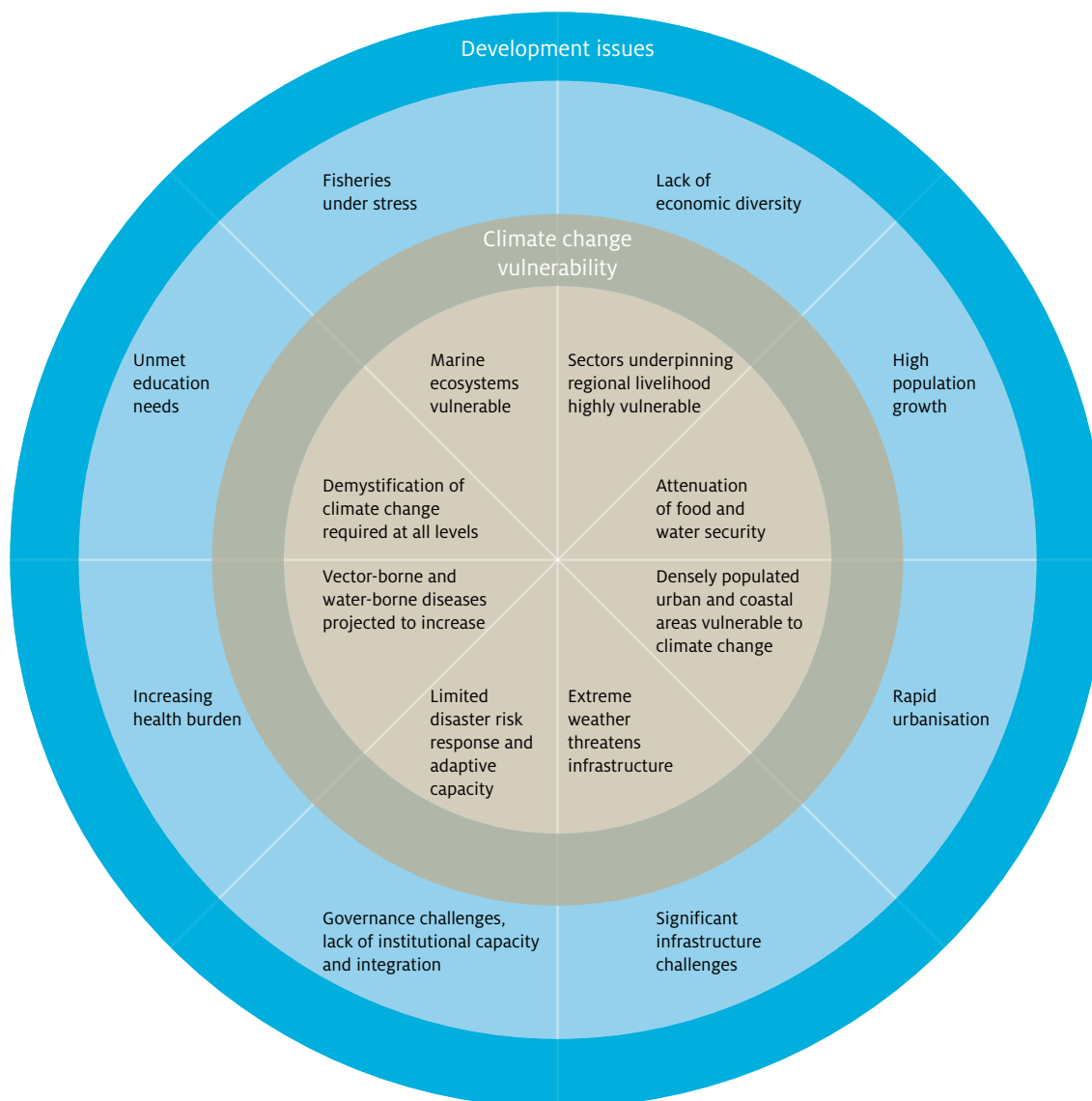
### Adaptation and uncertainty

Decisions and actions to reduce vulnerability in the Pacific must be taken now, but a number of scientific, geopolitical and economic uncertainties make this difficult.

The scientific uncertainty begins with a lack of detailed observational data and climate modelling for the Pacific. This means that long-term projections include broad ranges for the likelihood, timing and extent of impacts. The diversity of Pacific geography means that local impacts will vary greatly across the region.

Confronting uncertainty in decision making is not new. The challenge is to reduce the extent and causes of uncertainty and build on existing expertise, institutions, community networks and infrastructure to allow positive outcomes in an unclear future.

Figure 1. Interrelationship of key development issues and climate change vulnerability



### Development challenges

The Pacific region faces complex and overlapping development challenges—economic, environmental and social. Climate change impacts are already being felt and are likely to exacerbate these challenges over the coming decades. The Pacific 2020 initiative, an Australian Government effort conducted in collaboration with Pacific island countries and regional organisations, identifies requirements for growth. These include increased employment, improved infrastructure (transport, telecommunications and power), enhanced health and education services and sustainable urban planning.

### Geography and environment

The countries of the Pacific region are geographically diverse, comprising continental islands, high islands formed from active or extinct volcanoes, and low-lying coral reefs and atolls. However, many share features including concentration of population in coastal areas (with very high densities in some localities); island states that are spread over a very large area; and remoteness from neighbouring states and markets. Many states’ populations and agricultural lands are predominantly coastal, increasing the consequences of severe storms, salt water intrusion and sea-level rise. A lack of arable land and freshwater resources—especially for smaller islands—adds to their fragility and increases their dependence on marine ecosystems. The isolation of many Pacific island ecosystems has resulted in a high proportion of endemic species, which can be especially sensitive to environmental changes.



## Pacific priorities

Responding to climate change is a key development challenge for the Pacific—both in terms of pressing for an effective and ambitious global outcome to reduce greenhouse gas emissions, and effective national and local action to adapt to the projected impacts of climate change. Australia aims to align with these priorities, which are addressed in a series of key documents:

- » **The Pacific Plan for Strengthening Regional Cooperation and Integration.** The Pacific Plan is based on the concept of regionalism: countries working together for their joint and individual benefit. It is built around four themes: economic growth, sustainable development, good governance, and security through regionalism. It provides a comprehensive roadmap of opportunities to enhance regional cooperation, to share experience and expertise and to pursue greater integration.
- » **The Niue Declaration on Climate Change.** Released at the Pacific Islands Forum Leaders' Meeting on 21 August 2008, this is the principal political climate change statement of the Pacific region. It calls for urgent action by the world's major greenhouse gas emitting countries to set targets and make commitments to significantly reduce their emissions, and to support the most vulnerable countries to adapt to and address the impacts of climate change.
- » **The Pacific Islands Framework for Action on Climate Change (2006-2015) and the Action Plan for Implementation.** The Framework's goal is to ensure that Pacific island peoples and communities build their capacities to be resilient to the risks and impacts of climate change. The key objective is to deliver on the expected outcomes under the following Principles: implementing adaptation measures; governance and decision making; improving understanding of climate change; education, training and awareness; contributing to global greenhouse gas reduction; and partnerships and cooperation.
- » **The Pacific Islands Disaster Risk Reduction and Disaster Management Framework for Action (2005-2015).** This Framework captures the "increased national and regional commitments to disaster risk reduction and disaster management on an 'all hazards' basis in support of sustainable development".
- » **The Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States.** The Mauritius Strategy includes a call for the establishment, strengthening and facilitation of regional climate change coordination mechanisms with the support of the international community.



photo: Rob Maccoll, AusAID

- » **National Adaptation Programmes of Action (NAPAs).** Developed under the UNFCCC, NAPAs provide a process for Least Developed Countries (LDCs) to identify priority activities that respond to their urgent and immediate needs to adapt to climate change—those for which further delay would increase vulnerability, costs, or both. In the Pacific, NAPAs have been completed by Kiribati, Samoa, Solomon Islands, Tuvalu and Vanuatu.
- » **National Action Plans for Disaster Risk Management (NAPs).** NAPs are the key country level documents guiding mainstreaming of disaster risk management into whole of government/national, sub-national and community planning and budgeting.

## Demography

Population growth rates in the Pacific region are among the highest in the world and most Pacific island countries are experiencing demographic stress, with high levels of rural-urban migration. Small populations and limited higher education opportunities contribute to human resource constraints on government, civil society and the private sector.

## Economy

Pacific island countries generally have small, open economies with only a few major sectors such as commodity exports, tourism, and remittances. Important industries include agriculture, fisheries, forestry and mining. These characteristics make the region's economies inherently susceptible to external shocks including natural hazards and economic shocks.

### Economic impact of natural hazards

Natural hazards have a chronic and often lasting impact on poverty and human development.

Countries with small and vulnerable economies, such as small island developing states, face higher relative levels of economic loss and low resilience to loss caused by natural hazards. The countries with the highest economic vulnerability to natural hazards and the lowest resilience are also those with very low participation in world markets and low export diversification.

Source: United Nations International Strategy for Disaster Reduction Secretariat (2009), *Global Assessment Report on Disaster Risk Reduction*.

Climate change impacts will represent yet another external shock for Pacific island countries, and should therefore be considered in the broader context of the region's future economic security.

The current global recession is affecting all Pacific island countries, mainly through reduced demand for commodity exports, pressure on tourism and remittance flows, and falls in the value of their offshore national trust funds. At the household level, the impacts will be felt most sharply through declining remittances and job losses. People most vulnerable to falling into poverty are likely to be those who live in urban areas where costs of living are higher and those with limited access to traditional support mechanisms.

## Governance and institutions

Building resilience to climate change is inextricably linked to sustainable development. Governance challenges constrain sustainable development across the Pacific. Continued strengthening of political, government, market, environmental and educational institutions will provide a stronger foundation for responding to climate change.



photo: Department of Environment, Water, Heritage and the Arts

## Projected climate change in the Pacific

The Fourth Assessment Report of the 2007 Intergovernmental Panel on Climate Change (IPCC AR4) Working Group II details future trends in climate and weather for small island states, including those in the Pacific. While this is the most comprehensive and widely accepted synthesis of climate change science for the region, climate change science is constantly evolving.

Under a business-as-usual scenario ('A1FI'), the IPCC AR4 projects that by 2100 global sea levels will rise by between 0.26 and 0.59m, with an additional 0.1 to 0.2m for ice-sheet dynamics on a 1990 baseline. In March 2009, scientists at the International Scientific Congress on Climate Change in Copenhagen reported that projections based on current trends indicated that a sea-level rise of 1m or more by 2100 could not be discounted. Limited scientific understanding of the dynamics of ice sheets in Antarctica and Greenland creates uncertainty in sea-level rise projections.

Studies in the southwest Pacific suggest that the proportion of intense tropical cyclones may increase. Uncertainty remains about the trends in the frequency of cyclones in the region, closely related to uncertainty in El Niño-Southern Oscillation (ENSO). The IPCC AR4 reports that precipitation from tropical cyclones is likely to increase in a warmer climate. The potential increases in peak wind speeds and the intensity of precipitation in tropical cyclones, coupled with sea-level rise, could worsen the impacts of storm surges and flooding in the Pacific.

### Key potential impacts from climate change

The geographical, social, institutional and economic characteristics of Pacific island countries make them susceptible to a range of climate change impacts, some of which are already being felt. National Adaptation Programmes of Action and initial National Communications prepared by Pacific island countries for the UNFCCC outline these impacts from individual countries' perspectives. Many potential impacts are common throughout the region, although their extent can differ.

- » Storm surges, flooding and coastal erosion threaten **coastal settlements** and the transportation, water and sanitation **infrastructure** that supports them.
- » Climate change may have severe **economic impacts**, including reduced income from agricultural exports, tourism and fisheries.
- » Climate change could exacerbate existing **water security** challenges faced by countries with a dependency on rainfall, underdeveloped water infrastructure (including in urban areas), saltwater intrusion and rising water demands.

- » **Food security** could be further threatened as traditional subsistence agriculture is undermined by extended droughts or loss of fertility due to increased rainfall and extreme events. Projected declines in the viability of fisheries—likely to arise from warmer oceans, ocean acidification and coral bleaching—may have significant implications for people's protein intake.
- » Increasing temperatures could change the distribution of disease-bearing vectors like mosquitoes, potentially exacerbating existing threats to **human health**, such as limited access to clean water and the restricted availability of public health services.
- » The diverse and resource-rich **coastal systems** of the Pacific are already under pressure and are expected to be further threatened by more severe weather events, and, in the longer term, sea-level rise. It is very likely that projected future increases in sea surface temperature of about 1 to 3°C will result in more frequent **coral bleaching** events and widespread coral mortality, if corals cannot acclimatise or adapt. Disintegration of degraded reefs following bleaching or reduced calcification may exacerbate the impacts of storm surge in coastal regions.
- » Regional **biodiversity** and vital ecosystem services—such as pollination and soil enrichment—could be degraded. Temperature, rainfall and extreme event changes may affect the timing of reproduction in animals and plants; the migration of animals; the length of the growing season, species distributions and population sizes; the availability of food species; and the incidence of pest and disease outbreaks. Marine biodiversity may be damaged by flooding in wetlands, increasing acidification and declining coral ecosystem health.

## The value of Pacific fisheries

Fisheries are a major source of food and income for Pacific island countries. Therefore, the health of freshwater, coastal and oceanic ecosystems and the long-term sustainability of fisheries are key issues in the region. Coastal and oceanic fisheries are vital to all Pacific island countries. Freshwater resources are also particularly important in communities engaged in subsistence fishing and small-scale pond culture in inland Papua New Guinea, Solomon Islands and other large islands of Melanesia, and they are locally important elsewhere in the region.

Source: Commonwealth of Australia (2007) *Valuing Pacific Fish: A framework for fisheries-related development*.





photo: Lorie Graham, AusAID



photo: Department of Environment, Water, Heritage and the Arts

## Resilience

The people of the Pacific have a long history of resilience in the face of often hostile climatic conditions. Pacific island countries and communities are actively building their resilience to climate change through a combination of traditional and modern practices that reduce vulnerability to climatic extremes and variability. These include growing staple crops that are more resilient to climate variability (for example, yam and taro rather than cassava), diversifying crops, using forest food resources, and practising traditional food storage and preservation methods. In the past, social tenets governing marine resource use and indigenous local knowledge have proved effective tools for protecting marine ecosystems.

Resilience is enhanced by non-government organisations and church organisations that spread information and awareness about climate change, and implement concrete adaptation projects. Kinship networks and strong communities also underpin resilience by creating social safety nets providing and international remittances flowing back to Pacific communities, which can be used to support local adaptation actions. Regional knowledge-sharing can provide further gains, particularly in exchanging information about successful adaptation practices.

## Mitigation

Australia and the Pacific share a strong interest in effective global action to reduce greenhouse gas emissions and stabilise atmospheric concentrations at levels sufficient to avoid dangerous climate change.

Australia is committed to playing a full, fair and constructive part in building global solutions to climate change, and, as a developed country, is committed to taking the lead in reducing emissions. Domestically, Australia is taking strong action to put emissions on track to meet our emission reduction goals. Australia does not expect the poorest and most vulnerable developing countries to take on stringent, unsupported mitigation actions. Australia is making a significant contribution to mitigation solutions globally, through our active participation in international negotiations and through a suite of bilateral, regional and multilateral partnerships.

Although Pacific island countries collectively account for less than one per cent of global emissions, they have expressed a desire to contribute to global mitigation efforts. Climate change responses should aim to facilitate opportunities for growth and innovation. Australia and the Pacific have the resources to exploit developments in clean and renewable energies and energy efficient technologies, which will play an important role in reducing emissions and enhancing energy security.

## Climate change policy in the Pacific

A lasting and equitable response to the complex problem of climate change requires policy which is adapted to local and regional circumstances. A clear understanding of the issue at the grassroots level can provide the impetus for action.

The ability of Pacific island governments to address climate change issues—particularly adaptation—is often constrained by limited capacity and a focus on more immediate development challenges. This is recognised in the *Pacific Islands Framework for Action on Climate Change 2006-2015*. The Framework also recognises that there are opportunities to deal with climate change more effectively by incorporating it into broader decision making and national planning strategies. Experience shows that a ‘silo’ approach to climate change policy is ineffective. The problem must be tackled across all sectors and government portfolios, including infrastructure, fisheries, agriculture, energy, health, foreign affairs and trade. Recognising this, Australia is working to integrate climate change considerations across the development assistance program.

Better awareness and more reliable and accessible information are required at every level of society to achieve necessary policy outcomes. Communities, decision makers, the public sector and the private sector will all benefit from relevant, comprehensible and culturally appropriate information.

An ambitious global outcome on climate change and the potential for increased funding for adaptation in particularly vulnerable developing countries should focus higher level political attention on climate change. However, elevating climate change as a policy issue places additional strain on human resources. In the Pacific, climate change policy making is resource intensive and climate change officers are obliged to ‘wear many hats’. Decision makers across all portfolios and sectors may benefit from skills that enable them to identify barriers to mitigation and adaptation efforts and set achievable priorities for action in their own policy areas.

### Adapting Pacific agriculture

A range of viable adaptation options are available to reduce the vulnerability of Pacific agriculture to climate change.

Practical farm-level actions include the choice of crops and varieties, diversification, greater use of food preservation techniques, changes in planting dates and local irrigation. Potential national and regional adjustments include developing new cultivars and expanding irrigation systems on a large scale.

Many of these changes are simple and low-cost but could reduce yield losses by at least 30–60% compared with no adaptation.

Source: Secretariat of the Pacific Community (2008) *Reducing Vulnerability of Pacific Agriculture to Climate Change*.



photo: Department of Environment, Water, Heritage and the Arts



## Climate change and displacement

The potential for climate change to displace people in the Pacific is increasingly gaining international attention. Australians are aware of and concerned about this issue. Sea-level rise leading to inundation of low-lying atolls is often viewed as the main driver of potential migration. But, particularly in the shorter term, the relationship between climate change and migration is more complex.



photo: Department of Environment, Water, Heritage and the Arts

While climate change is a new and significant threat, it is the potential for climate change to exacerbate existing problems which poses the greatest immediate challenge. Water supply systems, already under pressure due to high population growth, will be further challenged by possible changes in rainfall patterns. Food security, which may be threatened by over fishing and stress on coral reef ecosystems, could be further affected as climate change impacts on fisheries and agricultural productivity. If such challenges become greater due to climate change, more people may consider leaving their homes.

The *Niue Declaration on Climate Change*, agreed by leaders of all Pacific Islands Forum countries in August 2008, recognises the desire of Pacific peoples to continue to live in their own countries, where possible. Australia is committed to assisting our neighbours in the Pacific realise their stated desire to stay in their countries by responding to the challenge of climate change.

Australia believes that the most effective way to reduce the likelihood of climate change-induced displacement is to reach a strong and effective global agreement to reduce greenhouse gas emissions. For this reason, Australia is committed to playing its full and fair role in strong and decisive action to avert dangerous climate change.

Given that some impacts of climate change are unavoidable and are already being felt by Pacific island countries, building communities' resilience to climate change impacts is vital. Sustainable development activities and measures directly aimed at climate change adaptation are vital to securing livelihoods and helping people have the choice to remain in their homes wherever possible. The Australian Government will continue these substantial efforts to simultaneously support sustainable development while building resilience to climate change.

While climate change may become an increasingly significant factor in decisions to move, the IPCC has noted that "the reasons for migration are often multiple and complex, and do not relate straightforwardly to climate variability and change". For the lifetime of this document, incremental climate change impacts are unlikely to cause widespread migration. However, there is always potential for natural disasters to cause sudden dislocating impacts to populations, requiring efforts to support rebuilding or relocation.

The *Niue Declaration on Climate Change* encourages the Pacific's Development Partners (including Australia) to increase their technical and financial support for climate change action, including on relocation if it becomes necessary. Building resilience to climate change is a key priority for Pacific island countries. In the longer term, the possibility remains that permanent migration could become an option for some Pacific islanders. In these circumstances, Australia will work in close consultation with the region to ensure that Pacific islanders' vital interests—economic, social and cultural—are paramount.

Australia has long helped the Pacific region deal with its challenges, and will continue to play its role in helping to find solutions.



## Current Australian activities



Australia engages in a range of activities to help develop an effective international response to climate change that is aligned with Pacific priorities.

### International activity

#### Multilateral engagement

Australia proactively advocates Pacific views in international forums, especially those in which Australia is the sole regional representative. The Prime Minister of Australia has utilised meetings such as the G8 and the Major Economies Forum to emphasise that climate change is already a reality for small island states in the Pacific.

Australia recognises the importance of Pacific islanders representing their interests in international forums. Australia facilitates this, for example, by contributing to the UNFCCC Trust Fund for Participation and the Fellowship Programme and by supporting coordination meetings of the Alliance of Small Island States.

#### Support for regional organisations

The Pacific has a well-developed framework of regional organisations and institutions that deliver services in priority sectors including security, economics, health, education, disaster management and environment. Australia has been a long-term member of, and major donor to, Pacific regional organisations. Australia supports the important role they play in coordinating and delivering regional solutions to shared development issues and challenges (see Appendix).

The *Pacific Plan for Strengthening Regional Cooperation and Integration* is based on the concept of regionalism: countries working together for their joint and individual benefit. The Pacific Plan aims to advance the implementation of regional frameworks and action plans—including the *Pacific Islands Framework for Action on Climate Change 2006-2015* and the *Disaster Risk Reduction and Disaster Management Framework for Action 2005-2015*—to better assist members to develop adaptation measures in response to the effects of climate change.



photo: Howard Moffat, AUSPIC



## Sustainable development activity

Supporting sustainable development can also help Pacific island countries to effectively respond to the additional burden posed by climate change.

As one of the largest providers of development assistance to the Pacific region, Australia works closely with other development partners to help our Pacific neighbours meet sustainable development challenges in the areas of basic health and education, infrastructure and governance, law and justice, and economic development. Australia will increase development assistance over time in line with Pacific island nations' efforts to improve governance, increase investment in economic infrastructure and achieve better outcomes in health and education.

Maintaining and expanding this assistance is an essential element of building climate change resilience in the region.

The Pacific Partnerships for Development provide a new framework for Australia and Pacific island countries to jointly commit to achieving shared development

### Climate change and security

Climate change impacts on economic, political and social systems may increase and exacerbate the incidence, extent and complexity of security-related problems. This has been articulated in the *First National Security Statement to Parliament* (announced by Prime Minister Kevin Rudd in December 2008) and the 2009 Defence White Paper. Some South Pacific nations may require assistance to manage climate change consequences, including more intense extreme weather events. Recognising their particular vulnerability to climate change, the Pacific Small Island Developing States tabled a UN General Assembly resolution regarding climate change and its possible security implications. Australia co-sponsored the resolution, which was adopted by consensus in the General Assembly on 3 June 2009.

**Sound governance** embraces respect for the rule of law and defined property rights. It helps to create favourable investment environments for sustainable development, enabling the effective management of natural resources, the protection of biodiversity, improved food security and participation in global carbon markets. Australia will engage with partner countries to build their capacities to, for example, carry out impact assessments and implement 'best practice' environmental management in development assistance initiatives. At the national level, Australia's development assistance program will help to build the cross-sectoral policy and institutional arrangements and skills needed to support these activities and secure good environmental results from future development. Complementary policy dialogue, interagency and peer-to-peer exchanges, scholarships, volunteering and training will be available through a range of existing mechanisms in the program. This support will add to Australia's contributions to global environment funds, which are already helping partner nations to engage in large environment and climate change initiatives, which provide access to an array of education, training and skills-building opportunities.

objectives and making faster progress towards the Millennium Development Goals. The Pacific Partnerships for Development emphasise the principles of mutual respect, mutual responsibility and mutual commitments.

### Disaster risk reduction

There are significant overlaps between disaster risk reduction and climate change adaptation. *Investing in a Safer Future: A Disaster Risk Reduction Policy for the Australian Aid Program* describes how the Australian Government integrates disaster risk reduction into the international development assistance program, to strengthen partner countries' capacity to reduce disaster risks in line with the *Hyogo Framework for Action 2005-2015*.

## Fisheries

The Pacific's fisheries resources are a major source of both food and income for Pacific island countries. Therefore, climate change will have important socio-economic implications for fisheries. The Australian Government is working with Pacific regional organisations and national fisheries management agencies to support fisheries management and development in the region. Through the support of AusAID and other donors, the Forum Fisheries Agency works with member countries on the management and development of fisheries and the Secretariat of the Pacific Community provides members with scientific information to manage fish stocks and supports activities on coastal fisheries management and aquaculture.

## Adaptation action

Regardless of the level of global mitigation, some of the impacts of climate change cannot be avoided. Building resilience through adaptation to climate change is a key priority for Pacific island countries.

## International Climate Change Adaptation Initiative

It is critical that any post-2012 climate change outcome includes increased financing to support adaptation in countries that are particularly vulnerable to climate change impacts. Australia and Pacific island countries are seeking scaled up international support for adaptation, prioritising those that are most vulnerable and least able to respond.

This will build on Australia's current support for adaptation programs, through the International Climate Change Adaptation Initiative. Under the ICCAI, Australia will invest A\$150 million from 2008 to 2011 to meet high priority climate adaptation needs in vulnerable countries in the Asia Pacific region. The primary geographic emphasis of the program is on Australia's neighbouring island countries, but targeted policy and technical assistance is also available for other countries in the region. We are developing and implementing the ICCAI in close consultation with partner countries.

The A\$20 million **Pacific Climate Change Science Program** funded under the ICCAI will assist Pacific Island countries and East Timor to better understand how climate change will affect them. It will track climate trends, investigate regional climate drivers, provide regional climate projections and improve understanding of ocean processes, ocean acidification and sea level rise. The Program will help foster a cooperative research network for countries in the region, for other international science agencies and for Australian universities to build regional climate science capacity.

## Scientific activities

### South Pacific Sea Level and Climate Monitoring Project (SPSLCMP)

Australia maintains a network of 12 stations in the Pacific, compiling an accurate long-term record of sea levels and sea surface temperatures. Total funding for SPSLCMP over four phases from 1991 to 2010 will total A\$32 million, including A\$9 million for the current phase (January 2006-December 2010). Project data and information help Pacific governments plan for the impacts of climate change and make an important contribution to the work of the IPCC. The recording of data from Pacific SEAFRAME sensors, which began in 1991, now provides the largest body of continuous sea-level observations for the region. To date, trends in sea-level change for the region are broadly in line with global trends in sea-level rise.

Australia has also been working with its Pacific neighbours to improve understanding of expected climate change impacts through the Pacific Islands Climate Prediction Project (PICPP). A\$5.3 million has been allocated to the PICPP from 2002 to 2009 to assist build capacity for climate change predictions in the region. National meteorological services in ten Pacific countries are using purpose-built software to produce climate forecasts, tailored to the needs of local industries and government agencies. Archived national weather measurements have been recovered and are being digitised to increase the length of each country's data record, improving the quality of predictions and allowing testing and improvement of the software. Three-month climate predictions are provided to agricultural and tourism industries, utilities managers and public health authorities, enabling them to plan for anticipated high or low rainfall and extreme weather events, which are likely to increase in intensity with climate change.



Figure 2. Seaframe and CGPS Installation Status



### Mitigation action in the Pacific

Although their emissions of greenhouse gases are negligible, Pacific island countries nonetheless want to play a part in the global emissions reduction effort. Australia's International Forest Carbon Initiative (IFCI) is an example of the potential opportunities presented by global mitigation efforts. The IFCI aims to demonstrate that reducing emissions from deforestation and forest degradation in developing countries (REDD) can be part of an equitable and effective global climate change outcome. Through the *PNG-Australia Forest Carbon Partnership* Australia has committed up to A\$3 million for technical, scientific and analytical support for establishing REDD policy, institutions, and a forest carbon measurement and accounting system to assist Papua New Guinea prepare to participate in future international forest carbon markets. Through the IFCI, Australia has also provided A\$11.7 million to the World Bank-managed Forest Carbon Partnership Facility, which is providing policy and technical support to 38 countries globally, including Papua New Guinea and Vanuatu.

The Australian Government is helping to promote cost effective reduction of greenhouse gas emissions in the Pacific region through its support for energy sector reform, appropriate use of clean energy technology and energy efficiency measures. For example, AusAID is working with

the World Bank, the Asian Development Bank and NZAID to develop the Pacific Region Infrastructure Facility (PRIF). A focus of the PRIF will be helping Pacific island countries to improve the performance of their energy sectors by improving sectoral planning, increasing generation efficiency and mainstreaming renewable energy and energy efficiency measures. In turn, this will reduce reliance on fossil fuels.

The use of renewable resources and energy efficient technologies plays an important role in reducing emissions and increasing energy security. The Renewable Energy and Energy Efficiency Partnership (REEEP) is a global public-private venture that actively promotes the use of clean energy in the Pacific in cooperation with Pacific island countries and regional organisations. REEEP has undertaken two projects in the Pacific involving microfinance for home lighting in villages, and has received A\$1.5 million from the Australian Government over three years through AusAID to finance up to another seven projects. As REEEP's focus is on policy, regulation, finance and skills transfer, the projects do not directly affect greenhouse gas abatement. However, they assist with the appropriate use of energy, generate cost savings through energy efficiency, and assist Pacific countries with their energy security concerns in responding to climate change.



# Appendix

The Pacific Island Forum Leaders mandated the *Regional Institutional Framework Review*, which is due to be implemented 1 January 2010. Following this date, the structure and role of some regional organisations are likely to change.

Organisation	Role	Australia's support
Pacific Islands Forum (PIF)	<p>PIF comprises 16 independent and self-governing states in the Pacific. It is the region's premier political and economic policy organisation. Forum Leaders meet annually to develop collective responses to regional issues.</p> <p>At their 2005 meeting Forum Leaders agreed on the <i>Pacific Islands Framework for Action on Climate Change 2006-2015</i>, which outlines the priority action areas for the Pacific. In their 2008 Communiqué, Forum Leaders emphasised their concern about the growing threat posed by climate change to the economic, social, cultural and environmental well-being and security of Forum members, particularly the Forum Island Countries.</p>	<p>Australia is a member of the Pacific Islands Forum and is committed to the Forum as the pre-eminent decision-making body for the Pacific community. In 2009, Australia contributed core funding of A\$3 million.</p>
Pacific Regional Environment Programme (SPREP)	<p>SPREP is the primary intergovernmental environmental organisation working in the Pacific. Its mandate is to promote co-operation in the Pacific and provide assistance to Pacific island countries in environmental protection and implementation of sustainable development. SPREP membership includes 21 Pacific island countries and four countries with direct interests in the region, including Australia.</p>	<p>Australia provides a core contribution to SPREP (2009 core funding of A\$1.4 million).</p> <p>Australia is also co-financing a Global Environment Facility support advisor position and has recently funded a strategic programs advisor position.</p>



Organisation	Role	Australia's support
Secretariat of the Pacific Community (SPC)	SPC provides technical assistance, policy advice, training and research services to 22 Pacific island countries and territories in areas such as health, human development, agriculture, forestry and fisheries. It is the Pacific's largest development organisation, with a vision of 'a secure and prosperous Pacific Community, whose people are educated and healthy, and manage their resources in an economically, environmentally and socially sustainable way'. SPC's key climate change work focuses on forestry and agriculture-related sectors.	Australia provides a core contribution to SPC (2009 core funding A\$10.52 million). In addition, significant funding is provided to programs in health, fisheries, statistics, pandemic preparedness and maritime security.
Pacific Islands Applied Geoscience Commission (SOPAC)	SOPAC provides applied geoscience services to promote sustainable development. In particular, it provides assistance to its member countries through three program areas: Ocean and Islands Programme, Community Lifelines Programme and Community Risk Programme.  SOPAC also has the regional mandate from the Pacific Island Forum Leaders for disaster risk management.  Following a decision by the Pacific Islands Forum Leaders Summit in 2007, SOPAC's functions will be rationalised between SPREP and SPC. Final decisions on the new institutional arrangements and responsibilities will be taken in 2009.	Australia makes annual contributions to SOPAC (2009 A\$1.8 million of core funding). Funding is also provided to various activities within the Community Lifelines, Community Risk and Ocean and Islands Program.
Forum Fisheries Agency (FFA)	The FFA strengthens national capacity and regional solidarity so its members can manage, control and develop their tuna fisheries.  FFA was established to help countries sustainably manage their fishery resources that fall within their 200 mile Exclusive Economic Zones. The FFA is an advisory body providing expertise and technical assistance to its members to support their sovereign decisions about their tuna resources and their participation in regional decision-making on tuna management through agencies such as the Western and Central Pacific Fisheries Commission.	Australia provides a core contribution (2009 A\$2.3 million of core funding) to the FFA.
University of the South Pacific (USP)	Established in 1970, USP provides education and training, targeted research and consultancy services, and technical expertise to its members and other Pacific Regional Organisations. USP is a multi-modal university, offering hundreds of courses both on-campus and by distance learning. USP offers formal and non-formal courses relating to climate change using different modes of delivery.	Australia contributes towards USP's core budget (2009 A\$2.75 million of core funding) as well as towards program funding.
Pacific Islands Law Officers' Network (PILON)	PILON is a network of senior law officers of the Pacific. It provides a forum for addressing law, justice and governance issues common to countries in the Pacific region. Meetings are usually attended by Attorneys-General, Solicitors-General and senior Crown Counsel or their representatives. Although PILON is an independent body it has close relationships with regional and international organisations.	Australia is a founding member of PILON. The Australian Attorney-General's Department currently hosts the PILON Secretariat on an interim basis.



# Glossary

Term	Abbreviation	Definition
Adaptation		Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
Adaptive capacity		The ability of a system to adjust to climate change (including climate variability and extremes) to moderate potential damages, to take advantage of opportunities, or to cope with the consequences.
Alliance of Small Island States	AOSIS	Intergovernmental coalition of low-lying coastal and small island states with 43 member and observer states from the regions around Africa, the Caribbean, the Indian Ocean, the Mediterranean, the Pacific and the South China Sea.
Asian Development Bank	ADB	Multilateral development finance institution.
Fourth Assessment Report of the 2007 Intergovernmental Panel on Climate Change	IPCC AR4	The most recent report by the IPCC. The IPCC's main activity is to provide Assessment Reports at regular intervals on the state of knowledge on climate change.
Capacity building		In the context of climate change, the process of developing the technical skills and institutional capability in developing countries and economies in transition to enable them to address effectively the causes and results of climate change.
Carbon dioxide equivalent	CO <sub>2</sub> -e	A measure that allows for the comparison of different greenhouse gases in terms of their global warming potential.
Disaster risk reduction	DRR	The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.
El Niño Southern Oscillation	ENSO	A coupled fluctuation in the atmosphere and the equatorial Pacific Ocean that has a great impact on the wind, sea surface temperature and precipitation patterns in the tropical Pacific.



Term	Abbreviation	Definition
Gross Domestic Product	GDP	The monetary value of all goods and services produced within a nation.
Group of Eight	G8	International forum of eight leading industrialised nations.
National Communication		Document submitted in accordance with the UNFCCC and the Kyoto Protocol, by which a Party informs other Parties of activities undertaken to address climate change.
Intergovernmental Panel on Climate Change	IPCC	Established in 1988, the IPCC surveys world-wide scientific and technical literature and publishes assessment reports that are widely recognised as the most credible existing sources of information on climate change. The IPCC also works on methodologies and responds to specific requests from the UNFCCC subsidiary bodies.
International Climate Change Adaptation Initiative	ICCAI	Australian Government initiative investing A\$150 million from 2008 to 2011 to meet high priority climate adaptation needs in vulnerable countries in the Asia Pacific region.
International Forest Carbon Initiative	IFCI	Australian Government initiative which aims to demonstrate that reducing emissions from deforestation and forest degradation in developing countries can be part of an equitable and effective global climate change outcome.
Least Developed Countries	LDC	The world's poorest countries; current criteria for designation as an LDC include low income, human resource weakness and economic vulnerability.
National Action Plans for Disaster Risk Management	NAPs	Key country-level documents, whose development is being facilitated by SOPAC, and in partnership with the United Nations Development Programme Pacific Centre, which guide mainstreaming of disaster risk management into whole of government/national, sub-national and community planning and budgeting.
National Adaptation Programmes of Action	NAPAs	Documents prepared under the UNFCCC by LDCs identifying urgent and immediate needs for adapting to climate change. The NAPAs are presented to the international donor community for support.
Non-government organisation	NGO	A not-for-profit group or association organised outside of institutionalised political structures to realise particular social and/or environmental objectives or serve particular constituencies.
Official Development Assistance	ODA	Flows of official financing administered with the promotion of the economic development and welfare of developing countries as the main objective, and which are concessional in character with a grant element of at least 25 percent (using a fixed 10 percent rate of discount). By convention, ODA flows comprise contributions of donor government agencies, at all levels, to developing countries ("bilateral ODA") and to multilateral institutions. ODA receipts comprise disbursements by bilateral donors and multilateral institutions.
Organisation for Economic Co-operation and Development	OECD	International organisation of 30 countries that support the principles of representative democracy and free-market economy.

Term	Abbreviation	Definition
Pacific Islands Climate Prediction Project	PICPP	A\$5.3 million has been allocated to the PICPP from 2002 to 2009 to assist build capacity for climate change predictions in the region.
Pacific island countries		The 14 developing country members of the Pacific Islands Forum: Cook Islands, Fiji, Nauru, Tonga, Samoa, the Federated States of Micronesia, Kiribati, Niue, Republic of the Marshall Islands, Palau, Papua New Guinea, Solomon Islands, Tuvalu and Vanuatu.
Pacific Region Infrastructure Facility	PRIF	Developed by AusAID with the World Bank, the ADB and NZAID, one focus of the PRIF is on helping Pacific island countries to improve the performance of their energy sectors and reduce reliance on fossil fuels.
Papua New Guinea	PNG	Nation in the south-western Pacific Ocean, occupying the eastern half of the island of New Guinea and numerous offshore islands.
Parts per million	ppm	Measurement of the concentration of greenhouse gas in the atmosphere in carbon dioxide equivalent units.
Reducing emissions from deforestation and forest degradation	REDD	Mechanism being scoped through UNFCCC climate change negotiations for reducing emissions from deforestation and forest degradation.
Renewable Energy and Energy Efficiency Partnership	REEEP	Global public-private venture that actively promotes the use of clean energy.
Resilience		The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.
South Pacific Sea Level and Climate Monitoring Project	SPSLCMP	Australian Government initiative which will enable some Pacific island countries to better manage their own environments and contribute to achieving sustainable development.
Sustainable development		Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
United Nations	UN	Global association of governments facilitating cooperation in international law, security, economic development, and social equity.
United Nations Framework Convention on Climate Change	UNFCCC	International treaty that sets general goals and rules for confronting climate change, with the goal of preventing 'dangerous' interference with the climate system. Signed in 1992, it entered into force in 1994, and has near-universal ratification.
Vulnerability		The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard.

