

Climate change impacts factsheet:

6. Indigenous communities

There is growing evidence from around the world that Indigenous peoples will be more affected by climate change than other social groups. The Indigenous people of Australia account for 2.5% of the population, and are comparatively young, with a median age of 21 years compared to 37 years for the non-Indigenous population. The majority live in regional areas (43%) or major cities (32%); just 25% live in remote areas. There are a number of reasons why the Indigenous community may be disproportionately affected by climate change:

- Those living in remote areas of Australia are vulnerable to any increase in the occurrence of extremes, such as tropical cyclones and flooding, which increase their risk of being isolated for long periods of time;
- Those whose livelihoods include a greater or lesser dependence on fishing, hunting and gathering for the quantity, or more likely the quality, of their diet are vulnerable to shifts in climate (atmospheric or marine) which in turn affect the distribution and abundance of species;
- Strong connection to country may make it hard if not impossible for people to contemplate permanent relocation;
- Climate change is likely to compound existing Indigenous poverty and disadvantage in Australia.

Present-day climate and Indigenous communities

The degree to which Indigenous communities are vulnerable to climatic conditions, including extreme weather events, depends on combinations of factors:

- In isolated and remote Indigenous settlements, costs of transport and supply monopolies give rise to high prices which, when coupled with few jobs, create poverty and welfare dependence.
- Many such communities are inaccessible by road due to widespread flooding in the wet season (December to March). This limits mobility and access to fresh food and essential goods.
- During tropical cyclones in Northern Australia, authorities often find it hard to deliver disaster relief to remote Indigenous communities due to infrastructure constraints.
- Indigenous people typically have inadequate access to education and health services, which increases vulnerability to health risks of climate change.

Future climate trends

- Best estimates from global climate models suggest Australia's temperatures are likely to increase by 0.7°C to 1.2°C by 2030, with the greatest increases inland.
- Sea-level rise is expected to be similar to the global average of around 83 cm by 2100.
- Research suggests a projected decline in mean annual rainfall of around 2–5% by 2030, particularly in the south-west, with little change in Northern Australia.
- Projections indicate, but with low confidence, that the intensity and frequency of extreme events, including heavy rainfall events and droughts, are likely to increase by 2030.

These changes pose significant risks to Australian Indigenous communities. Those living in rural and remote locations, and/or those working in natural resource-dependent industries, are likely to be particularly exposed.

Key future climate change impacts and vulnerabilities

Poverty, disadvantage and human health: Climate change seems likely to compound existing Indigenous poverty and disadvantage in Australia. Indigenous Australians, particularly those living in remote communities in Northern and Central Australia, are likely to be disproportionately affected by the adverse impacts of climate change on human health, including through heat stress, water and food-borne illnesses, air pollution, and vector-borne infectious diseases. Existing health challenges in these communities, including the prevalence of chronic and infectious diseases, poor quality housing and infrastructure, and inadequate access to health services, all heighten the risk posed by climate change.

Ecosystem services: In judging the likely impacts of climate change on Indigenous communities, of pivotal importance is the extent to which a community depends on ecosystems for its livelihood and well-being, the resilience of those ecosystems in the face of climate change, and the capacity of communities to adapt to changes in access to ecosystem goods and services.

Many remote and rural Indigenous communities depend on marine, terrestrial and freshwater resources for their livelihoods. For coastal communities, collection of fish, shellfish, turtles and dugong is important for subsistence, social, cultural and economic purposes. Fish and shellfish provide a cheap healthy protein source. Declining availability of marine resources will negatively impact diet, as residents are forced to rely more heavily on the expensive and generally unhealthy foods available in local stores. Increasing numbers of Indigenous people are involved in marine-based economic enterprises, such as fisheries,

aquaculture and tourism. Changes in the marine environment pose risks to the economic viability of these operations.

Water security: Changes in the quality and availability of water supplies in Indigenous communities pose risks to human health and development. Water supplies in coastal and arid environments are at risk from contamination of water supplies by salt-water intrusion resulting from a drying climate and sea-level rise.

Cultural heritage: Sea-level rise, coupled with king tides and storm surges, poses increasing risks in both material and non-material ways. In addition to the risks to human habitation, coastal flooding threatens to damage or destroy cultural heritage sites. While some groups have expressed concern about the potential loss of 'culture' as a result of inundation of heritage sites, and sought to move cultural artifacts to other locations, others have declared that even if a cultural heritage site is no longer visible it still retains its cultural significance.

Adaptation

For many Indigenous communities, poverty and unemployment, and poor health, housing and education, are more immediate and pressing issues than future climate change. Indigenous leadership, communities and organisations, both independently and in collaboration with governments and non-government organisations, are attempting to tackle disadvantage and socio-economic marginalisation through a variety of strategies including welfare reforms, educational programs, health provisions, improved housing stock, alcohol controls, and development opportunities. These initiatives can reduce the vulnerability of Indigenous people to climate change. A key issue, therefore, is how to fully integrate adaptation strategies with poverty reduction, environmental management, and human development plans. Such 'mainstreaming' approaches raise the possibility of 'win-win' or 'no-regrets' adaptations through the creation of policies that reduce vulnerability to the impacts of climate change while simultaneously addressing other social priorities.

In consideration of Australia's post-1788 history, it is unlikely that adaptation plans or policy recommendations developed without the engagement and collaboration of local Indigenous communities will be legitimate, efficient, fair, or effective. Adaptation policies, plans and projects need to draw upon the present day and historical experiences of Indigenous communities, and to harness their knowledge and skills.

Adaptation-mitigation interfaces

Due to their relative poverty, Indigenous individuals, households, businesses and communities – particularly those in remote locations – may be disproportionately affected by the implementation of policies to address climate change through adaptation and mitigation.

Climate change policies also offer opportunities for Indigenous people. In the tropical savannas of Northern Australia, traditional Aboriginal fire-burning techniques reduce the size and extent of unmanaged wildfires, and hence greenhouse gas emissions, by undertaking strategic burning from early in the dry season. Although these traditional practices have fallen into disuse in recent decades, there are moves to reinstate them as part of emergent carbon offsets markets. Fire abatement represents a promising area of economic development for northern Aboriginal groups. Indigenous rangers, natural resource managers and traditional owner

groups are likely to play key roles in monitoring changes to biodiversity, and in developing and implementing adaptation actions. Indigenous ecological services, fire abatement, and reforestation are likely to become important elements of the economies of some communities, particularly those with native title rights. If these endeavors increase incomes of Indigenous people and access to services, then they may at the same time increase adaptive capacity.

Research priorities

The NCCARF Indigenous Communities National Climate Change Adaptation Research Plan was completed in September 2011, and outlines research priorities around climate change impacts and adaptation. The Plan identifies five broad categories of information needed to enhance decision-making:

1. The sensitivity and exposure of indigenous individuals, households, communities, businesses and institutions to climate risks;
2. The vulnerability and adaptive capacity of Indigenous Communities to climate change;
3. Extreme weather events and emergency management planning for Indigenous communities;
4. Indigenous population movement, displacement, community relocation and severe climate variation; and
5. Climate change adaptation and Indigenous biodiversity management.

About the Network

The Adaptation Research Network for Indigenous Communities is part of the Adaptation Research Network for Social, Economic and Institutional Dimensions (SEI-Network) within NCCARF. The Indigenous Communities component of SEI-Network is designed to be interdisciplinary and cross-sectoral, and draw together research on the adaptation needs of Australia's Indigenous communities. Members include representatives from government, native title representative bodies, Indigenous health providers, universities, Indigenous natural resource management groups, non-government organisations, and other stakeholders. For more information about the Network, please go to www.nccarf.edu.au/social-economic-and-institutional-dimensions