






NCCARF

National
Climate Change Adaptation
Research Facility

Leading the national research community to generate the information needed by government, business and the community to manage climate change impacts.

Australian Government
Department of Climate Change

Research leadership in climate change adaptation

Our climate is changing as a result of increased greenhouse gas emissions from human activities. Further warming is inevitable, regardless of national and international efforts to reduce emissions. Projected climate change impacts, such as sea level rise, more severe heatwaves and storms, and more extensive droughts will affect natural systems and human activities and wellbeing.

Concerted efforts to reduce the rate of increase of greenhouse gas emissions remain a high priority, but it is also important that we start to plan and prepare for the unavoidable impacts of climate change.

Decision-makers need ready access to information relating to climate change impacts in order to support effective and informed decision-making. Australia has the scientific, research and technical expertise to undertake this research on likely impacts, vulnerabilities and adaptation options, but much of it is fragmented and dispersed.

Recognising the urgency of the adaptation challenge and the wide range of information needed to meet this challenge, the Council of Australian Governments (COAG) endorsed a National Climate Change Adaptation Framework in April 2007. The Framework identified the need for a Facility that would coordinate Australia's research resources, to deliver information to support climate change decision-makers.

Terrestrial biodiversity

- → species and ecosystem-level impacts of climate change
- → ecosystem and ecological community adaptive capacities
- → implications for biodiversity management strategies

Marine biodiversity and resources

- → biophysical impacts of climate change and climate variability on coastal, estuarine and marine ecosystems, including fisheries
- → social and economic impacts and implications
- → adaptation strategies for industries and sectors dependent on the marine environment

Water resources and freshwater biodiversity

- → the impacts of climate change on surface and groundwater, inland aquatic and semi-aquatic ecosystems
- → the associated social and economic impacts of changed water regimes
- → potential adaptation strategies for water managers and users

Primary industries

- → impacts of climate change on horticulture, viticulture, livestock, cropping, intensive and extensive farming practices, forestry
- → social and economic impacts and implications
- → sector- and region-specific adaptation strategies

Research themes

The National Climate Change Adaptation Research Facility

An initiative of the Australian Government, the National Climate Change Adaptation Research Facility was established in November 2007, and is based at Griffith University's Gold Coast campus.

The key roles of the Facility include:

- development and implementation of National Adaptation Research Plans to identify critical gaps in the information available to sectoral decision-makers and to set research priorities
- establishing and maintaining adaptation research networks to link together key researchers and assist them in focussing on national research priorities
- synthesising existing and emerging national and international research on climate change impacts and adaptation and developing targeted communication products for stakeholders
- undertaking a program of integrative research to address national priorities; and
- identifying potential funding sources for climate change adaptation research and helping researchers access these funds.

Human health

- changes to the range and persistence of vector- and food-borne diseases
- the physical and mental health impacts of heat waves and other extreme events
- the social, economic and management implications of these impacts for the Australian health care system and health services

Settlements and infrastructure

- the impacts of climate change on coastal settlements; public and private infrastructure including building and facility design and construction; urban water security; flooding and stormwater overflow
- the social, economic and institutional implications of these impacts
- implications for planning, design, and management of settlements and infrastructure

Emergency management

- implications of changes in frequency and intensity of extreme weather events for disaster mitigation, preparedness, response and recovery
- community and organisational resilience
- adaptation strategies in the disaster management and emergency services sectors

Social, economic & institutional dimensions

- cross-cutting analysis of issues such as methods for understanding whole-of-economy impacts
- implications of social and economic trends for vulnerability to climate change
- understanding and developing adaptation strategies for vulnerable communities, especially indigenous and remote communities
- institutional challenges in adapting to climate change.

Adaptation Research Networks

The Facility coordinates Adaptation Research Networks, that bring together researchers and stakeholders addressing each of the priority themes.

These Networks facilitate open exchange of information and sharing of resources; contribute to the implementation of National Adaptation Research Plans and the synthesis of research relevant to a sector or region; and develop the capacity of young researchers.

The networks work closely with the Facility to facilitate the sharing and communication of research outputs, and to ensure that all relevant research expertise is harnessed to identify research needs.

The Network hosts include:

Terrestrial biodiversity James Cook University

Marine Biodiversity & Resources University of Tasmania

Water Resources & Freshwater Biodiversity Griffith University

Settlements & Infrastructure University of New South Wales

Emergency Management RMIT

Social, Economic & Institutional Dimensions University of Melbourne

Human Health Australian National University

Primary Industries Land & Water Australia

Facility Partners

The Facility is a partnership between the Australian Government Department of Climate Change and Griffith University, with a consortium of funding partners drawn from across the country:

- Queensland Government
- James Cook University
- Macquarie University
- Murdoch University
- Queensland University of Technology
- The University of Newcastle
- University of Southern Queensland
- University of the Sunshine Coast.

How to get involved

Research opportunities will be provided through the Facility via initiatives tailored to suit the needs of the eight adaptation research networks.

Updates and information will be available through:

- Our website **www.nccarf.edu.au**
- Conferences and workshops
- Publications

If you are interested in participating in the National Climate Change Adaptation Research Networks, the national adaptation research planning process, or if you would like further information or to be added to the Facility's mailing list, please contact:

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