

The Knowledge Strategy sets priorities for the knowledge needed by the Office of Environment and Heritage (OEH) to support NSW Government and corporate objectives. *Climate Change Impacts & Adaptation* is one of six 'knowledge themes' in the Knowledge Strategy.



Knowledge goal: Understand and adapt to the impacts of climate change

The NSW climate is changing and this will increasingly affect all aspects of life in NSW. OEH coordinates the NSW Government's response to climate change by developing information and tools to support adaptation by local communities and natural environments across NSW.

Outcomes

The *Climate Change Impacts & Adaptation* knowledge theme aims to provide knowledge to:

- establish a climate 'baseline' for NSW and develop both regional and fine-scale projections of climate change, to measure and project the impacts of climate change
- maximise the benefit of investment in science and expertise, and develop the knowledge base that underpins climate change adaptation programs
- build the capacity of local and regional decision-makers to understand and adapt to the impacts of climate change
- enable all sectors and NSW Government agencies to assess and evaluate climate change impacts and the need for adaptation.

Major OEH programs to address priority knowledge needs

Understand climate systems

- As part of the *NSW and ACT Regional Climate Modelling* program, OEH is delivering fine-scale regional climate change projections for NSW and the ACT.
- OEH is analysing paleo-climate for long-term climate variability. This puts current climate and future climate change into a long-term Australian context, and helps understand the response and sensitivity of Australian systems.
- The *Eastern Seaboard Climate Change Initiative* aims to better understand how East Coast Lows and other extreme events may change, and impact on communities.

Understand the impacts of climate change on our systems

- OEH is developing information on the likely impacts of climate change at regional scales (the *NSW Climate Impact Profile* and interactive decision-support tools) which will be provided to regional decision makers through an online portal.
- OEH is researching the capacity to build resilience into the persistence of species, plant communities and ecosystems under the impact of a range of threats in a changing climate.

Understand risk across regions and service providers

- OEH's work to determine the potential effects of climate change for various sectors will help these sectors manage risks and improve service delivery. For example, research to help predict extreme events will enable emergency services to plan and respond more effectively.
- OEH is identifying NSW communities who are most at risk from the impacts of climate change. The research considers impacts on community health, mental health, air quality, food security, health services, infrastructure and primary industries, water security and biodiversity. The work will help prioritise management actions and adaptation responses

Understand and build adaptive capacity

- OEH is studying cost-effective options to enable communities to adapt to the impacts of climate change. The research includes strategies for coastal communities to adapt to sea level rise, pilot plans to respond to heatwaves and improving the resilience of the built environment through urban green cover.
- OEH is delivering Integrated Regional Vulnerability Assessments to help regional decision-makers and communities to build their capacity to adapt to climate change. The *Towards a Resilient Sydney* project will provide a strategic, regional approach to achieve adaptation outcomes at a metropolitan scale for Sydney.

Opportunities to collaborate with OEH – NSW Adaptation Research Hub

OEH has established the NSW Adaptation Research Hub, which has three nodes. Research institutions host each node and collaborate with OEH to study the impacts of climate change in NSW and develop potential adaptation responses. The Hub is funded to 2015 by the NSW Adaptation Leveraging Fund.

The three nodes are:

- **Adaptive Communities** – hosted by the Institute for Sustainable Futures (University of Technology Sydney) and the CSIRO
- **Biodiversity** – hosted by Macquarie University and the CSIRO
- **Coastal Processes and Responses** – hosted by the Sydney Institute of Marine Science and the Australian Climate Change Adaptation Research Network for Settlements and Infrastructure.

Future collaborations and priority knowledge needs will be identified by the NSW Adaptation Research Hub

More information

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