

# Introduction to the case studies

Through 2010, the NCCARF consortium developed a suite of historical case studies to examine present-day management of climate variability and the lessons that can be learnt for adaptation to future climate change.

## Why study past extreme events?

Although the parallels are not exact, understanding community, institutional and governance responses to climate events, and their interactions, is informative of the conditions that determine the success of future climate change adaptation strategies.

These projects examine case studies of seven historical extreme events or conditions:

- Cyclone Tracy, which struck Darwin on Christmas Day 1974;
- Drought in small inland towns, looking at:
  - Agricultural communities: Donald, a dryland agricultural community in central Victoria, and Mildura, an agricultural community dependent on irrigation water from the Murray
  - Mining communities: Broken Hill and Kalgoorlie
- Heatwaves, taking the case of the late January-early February 2009 heatwave in Melbourne and Adelaide;
- Queensland floods in 2008, looking at Charleville in southern central Queensland, which was flooded from Bradley's Gully in January, and Mackay, which experienced a flash flood in February;
- Storm tides, looking at the period from the 1950s to the mid 1970s when there was a series of severe storm tides along the coast of southern Queensland and northern New South Wales;
- An East Coast Low, the *Pasha Bulker* storm that struck Newcastle in June 2007.

The outcome is a set of freestanding case studies that together provide in-depth explorations of our knowledge of present-day adaptation, vulnerabilities and resilience to climate variability and change. Climate change means more extreme events in the future, and adapting to these events will strongly rely on lessons learnt in past events.

In addition to the individual case studies, an eighth project is currently developing a Synthesis of lessons learned for developing community adaptive capacity, resilience and responses to climate change, and lessening vulnerability. The Synthesis will look at:

1. What are the broad lessons that can be learnt across all the case studies? (how successes can be put into practice in the future, how vulnerability can be decreased, why some events stimulate change and others don't);
2. Are there any new insights that can be drawn from the case studies that would support policy reform? (what could be done differently to prepare for future events, what do planners and policy makers need, how does experience from previous events inform the

development of adaptive strategies);

3. What is the capacity of a range of systems (e.g. policy, engineering, building, emergency management, communication, institutional coordination, skills, training and workforce) to support future disaster management and, where necessary, reform? (does climate change create new problems not previously considered in this planning, are there government policies that can deal with the conclusions/recommendations of case studies, the role of local law, policy, etc. in framing responses).

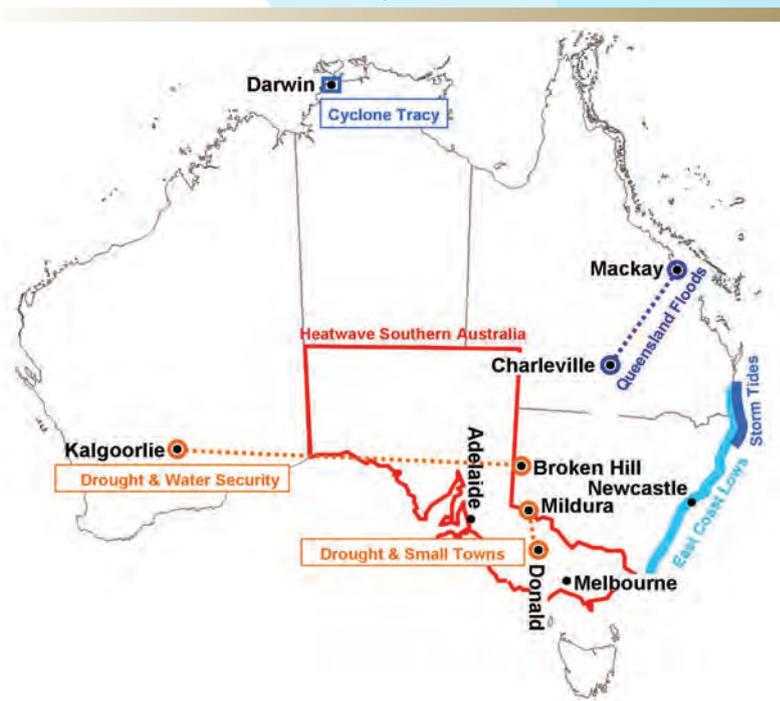


Figure 1. Locations of the case studies

## This folder

This folder contains a Key Findings sheet for each case study, and a Meteorology Fact Sheet which provides the background meteorological circumstances of each event.

The folder will support a suite of roadshows around the Australian capital cities to introduce the Historical Case Studies project to NCCARF end users and stakeholders. Discussion at these roadshows will inform the development of the Synthesis, which eventually will be added to the folder.

Complete studies will be available online at: [www.nccarf.edu.au](http://www.nccarf.edu.au)

The editors of this project are: Anthony Kiem and Danielle Verdon-Kidd (University of Newcastle); Jean Palutikof and Sarah Boulter (NCCARF).

