

LOOKING FORWARD

AJ Ash, CJ Stokes and SM Howden

KEY MESSAGES:

- We highlight and discuss some priority challenges to be faced in adapting to climate change: managing risk and uncertainty; balancing incremental adaptation and transformational change; considering mitigation-adaptation interactions; conserving biodiversity and natural resources, and building adaptive capacity.
- Given the imperative for immediate action, decisions will have to be made while there is still some uncertainty about climate change and its impacts on primary industries. While climate change projections and assessments of climate change impacts will improve over time, these are unlikely to ever be entirely accurate and some uncertainty will always remain. Policy and management strategies will therefore have to take broad risk-based approaches that accommodate uncertainty (rather than focussing too narrowly on technical solutions to location-specific climate change projections).
- In the early stages of climate change, incremental changes in agricultural practices may be sufficient. But with greater levels of climate change, or for areas that are particularly vulnerable to climate change, transformative adaptations will be required. Where major transitions in agricultural practices are necessary, communities may require additional assistance.
- Climate change adaptation strategies will have to strike a balance that addresses both the technical and capacity issues. There will be a need to develop technical management options that are appropriate for altered future climate scenarios. However, it will also be essential to (1) support these technical developments by building capacity for communities to plan and implement adaptation strategies, and (2) address institutional and policy constraints to adaptation.
- While much of this book has focussed on initial actions that can be taken with what we currently know, significant knowledge gaps still need to be addressed before more comprehensive and effective adaptation strategies can be implemented.

Introduction

This book has clearly demonstrated how no primary industry or rural region of Australia is immune from the effects of climate change. The need for adaptation is clear and while there are huge challenges, Australia's primary industries, which already have to manage extreme climatic variability, are in a position to lead Australian industry in innovative and proactive responses to climate change.

There is a relatively small window of opportunity over the next two to three decades where the negative impacts of climate change on primary industries will be modest, and for some regions and sectors there will be opportunities to take advantage of rising temperatures and carbon dioxide concentrations. This period of opportunity should be used to develop new technologies and new practices that will allow agriculture to cope with the more severe consequences of climate change that appear likely to play out over the next 50 years.