

# 16

## SUMMARY

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### KEY MESSAGES:

- There is a clear imperative for action to prepare agriculture to adapt to climate change. The agricultural sector in Australia, which is already constrained by a harsh environment, is particularly vulnerable to climate change with projected negative impacts on the amount, quality and reliability of production. Past greenhouse gas emissions have already committed the earth to at least several decades of continued warming, while emissions and climate indicators are currently tracking the most pessimistic IPCC scenarios.
- The benefits and positive opportunities presented by climate change may start to peak during the initial stages (possibly as late as mid-century), but the negative impacts are likely to lag behind, becoming progressively stronger over time and with greater build up of greenhouse gases in the atmosphere. Caution is therefore needed not to underestimate the long-term challenge of climate change based on initial, more moderate experiences.
- Given the inherent uncertainty in the effects of climate change, there is a clear need to develop enhanced adaptive capacity in agricultural systems (including socio-economic and cultural/institutional structures) that is sufficiently robust to cope with a broad range of plausible scenarios. Synergies with existing government policies such as self-reliance in drought and related supporting programs as well as with institutions such as Landcare are needed to develop this capacity.
- This book has identified a number of potential options for primary industries to adapt to climate change. Few of these have been fully evaluated, but those that have suggest the benefits of adaptation are so significant that further systems analyses are warranted.
- Several adaptation priorities with broad applicability across the agricultural sector have been identified. In particular, a common adaptation option, at least in the short term, will be to improve and promote existing management strategies for dealing with climate variability. This will enhance capacity to deal with extreme events and incrementally track early stages of climate change until longer-term trends become clearer.
- Marginal production areas are among the most vulnerable and will most likely be among the first areas in which the impacts of climate change will exceed adaptive capacity. It will be important to identify areas where climate change risks and opportunities require strong policy intervention (beyond simple incremental adjustments to existing agricultural practices) so that affected communities can be appropriately supported through any disruptive transition periods.