PROSPERING IN A CHANGING CLIMATE

Government Action Plan for the Climate Change Adaptation Framework in South Australia

2012 - 2017

August 2012
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Summary

The release of the draft Climate Change Adaptation Framework for South Australia in December 2010 marked the first step in the delivery of the Government’s climate change adaptation reform. The consultation process that followed identified broad support for the Framework and a genuine engagement with regional leaders. An effective implementation mechanism was identified as an important issue for the regions and the Government Action Plan is a key element of this requirement.

The Climate Change Adaptation Framework (the Framework) was released on 22 of August, 2012.

Current knowledge of climate change indicates that the impacts will be broad and will affect all South Australians. The responsibility for climate change adaptation will therefore involve everyone including individuals, communities, government and non-government organisations and private parties. For government, adaptation action will need to be delivered by many agencies, incorporated into a range of policy and planning processes and embedded into risk management frameworks.

The roles and responsibilities of the South Australian Government in climate change adaptation have been clarified in the Framework and in broad terms include:

1. Encouraging climate resilience and adaptive capacity including by utilising regulatory and policy instruments
2. Providing or disseminating relevant local and regional science and information
3. Managing public assets (including natural assets), infrastructure, service delivery and programs
4. Cooperating with other governments to implement the national adaptation reform.

This Government Action Plan (GAP) identifies actions to be undertaken by government agencies over the next five years to implement the Climate Change Adaptation Framework.

The Government Action Plan has been developed in consultation with the key government agencies involved and is relevant to government businesses. It addresses those issues that prevent effective adaptation both for government and the community and, where possible, the identified actions incorporate existing agency arrangements and reflect climate change adaptation priorities for each agency.

Critically, the actions under the Government Action Plan ensure that existing adaptation plans and strategies already being delivered by agencies are well aligned with the Framework and take account of new knowledge and information being developed through the regional process.
Policy context

The Government Action Plan builds on many government policies and programs that recognise the changing climate and aim to address its impacts. Some of the key plans, strategies and institutions that contribute to providing the policy context are listed below.

- South Australia’s Strategic Plan
- Climate Change Adaptation Framework
- Tackling Climate Change: SA’s Greenhouse Strategy
- South Australian Planning Strategy including the 30-Year Plan for Greater Adelaide
- Strategic Infrastructure Plan for South Australia
- State Natural Resources Management Plan
- Natural Resources Management Action Plans
- Water for Good and the Stormwater Strategy
- DFEEST Sustainability Strategy & Action Plan 2010-12
- Skills for All
- South Australia’s Social Inclusion Initiative
- Premier’s Climate Change Council
- Select Committee on Climate Change

Statewide objectives

The Framework outlines four overarching, statewide objectives for increasing South Australia’s resilience to the impacts of climate change. These objectives largely focus on building the capacity of the business sector, industry, communities, individuals and natural systems to adapt to climate change through coordinating effort, providing strategic direction, making information and decision-making tools easily accessible, engaging with local communities, improving the responsiveness of government policy, and setting science and research priorities.

The four objectives are:

1. **Leadership and strategic direction for building a more resilient state**
   Leading SA’s adaptation efforts by building partnerships, incorporating adaptation in all decision-making and actively participating in national and international activities

2. **Policy responses that are founded on the best scientific knowledge**
   Establishing processes that deliver science of high quality and relevance to inform an adaptive management approach to building resilience and adaptive capacity

3. **Resilient, well-functioning natural systems and sustainable, productive landscapes**
   Increasing the resilience of terrestrial, aquatic, marine ecosystems and primary production systems and linking adaptation, biodiversity conservation and sustainable landscape use

4. **Resilient, healthy and prosperous communities**
   Building resilience and adaptive capacity by empowering communities and businesses with relevant information and decision-making tools and by helping the most vulnerable

State Government, local government, business, non-government organisations, the research sector and communities will all need to work together to achieve these objectives.

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1 See Appendix 1 for a definition of resilience and adaptive capacity.
State Government roles and responsibilities

Adaptation to climate change is a major priority for the South Australian Government. All agencies will play an important role in working with business, non-government organisations and local communities to develop statewide and regional responses. There are four broad roles for the State Government in adaptation:

1. Encouraging climate resilience and adaptive capacity including by utilising regulatory and policy instruments
2. Providing or disseminating relevant local and regional science and information
3. Managing public assets (including natural assets), infrastructure, service delivery and programs
4. Cooperating with other governments to implement the national adaptation reform.

Some of the specific roles for the State Government will include:

- raising community awareness and promoting a risk management response to climate change adaptation by government and private parties
- ensuring that regulatory and market frameworks, such as state planning, property and environmental legislation, promote effective adaptation by private parties
- partnering with the business sector and providing support for adaptation responses by business
- working with other governments to identify and implement priorities to improve adaptive capacity and strengthen climate resilience in vulnerable communities
- supporting local governments to facilitate building resilience and adaptive capacity in the local community and to ensure that policies and regulations are consistent with the State Government adaptation approaches
- managing risks and impacts to public assets (including natural assets) and infrastructure owned and managed by the Government
- managing risks from climate change impacts to services provided by the Government in such areas as emergency management, transport, land use planning, environment, health services and public housing
- undertaking actions that will not be initiated by the private or community sectors because of market failure (for example, strengthening the resilience and adaptive capacity of natural systems)
- establishing science and research priorities and conducting research in key areas of specific interest to South Australia which are not addressed in national research priorities and outcomes
- providing information and decision-making tools in a range of accessible formats that are relevant to local communities, including educating communities about how to adapt to a highly variable climate
- facilitating institutional arrangements that provide for an integrated approach to adaptation among sectors
- collaborating with other jurisdictions to develop relevant national standards, codes and approaches and implementing them through state regulatory instruments.
Government agency roles and responsibilities

South Australian Government agencies are organised in a functional structure around the delivery of specific services and infrastructure needs and around facilitating specific industries and sectors of the economy. This enables agencies to develop the necessary skills and expertise to effectively support the Government in policy development and service delivery to the benefit of all South Australians.

While most issues require the intervention of several agencies and this is encouraged through the centralised Cabinet process, the impacts of climate change will be so broad that a highly coordinated approach will be necessary to ensure that adaptation responses are fully integrated and aware of other agency views.

Within this context, the Government Action Plan identifies three broad roles for agencies:

1. Ensuring Government activities and services are resilient to the impacts of climate change
2. Working with communities in developing adaptation options
3. Cooperating with and coordinating across agencies

These are outlined in further detail below.

1. Ensuring Government activities and services are climate resilient

The Government Action Plan recognises the current roles Government agencies play in adapting to climate change and builds on any existing sector specific climate change strategies developed by a number of agencies.

The following diagram identifies key SA Government agencies including their roles, potential climate change impacts and existing strategies and approaches to climate change.
KEY ROLES OF GOVERNMENT AGENCIES AND POTENTIAL CLIMATE CHANGE IMPACTS

Department of Planning, Transport and Infrastructure

Key roles:
- Developing and implementing public transport networks, including the State road network, metropolitan and regional bus networks, ferries and rail infrastructure
- Implementing the 10 Year Plan for South Australia, including the Strategic Infrastructure Plan
- Facilitating relationships between government agencies and the private sector
- Managing and implementing climate change and adaptation policies

Potential climate change impacts:
- Increased risk of erosion, flooding and inundation
- Changes in recreation patterns and tourism
- Increased demand for climate change adaptation and mitigation
- Changes in sea level and coastal management
- Changes in weather patterns and extreme events
- Changes in water availability and quality

Department of the Premier and Cabinet

Key roles:
- Providing specialist policy advice to the Premier and Ministers
- Managing the Premier's office

Potential climate change impacts:
- Increased demand for climate change adaptation and mitigation
- Changes in weather patterns and extreme events
- Changes in water availability and quality

Department of Manufacturing, Innovation, Trade, Resources and Energy

Key roles:
- Providing specialist policy advice to the Premier and Ministers
- Developing policies and programs in areas of social inclusion, Aboriginal wellbeing, the arts, industrial relations, DIVS

Potential climate change impacts:
- Increased demand for climate change adaptation and mitigation
- Changes in weather patterns and extreme events
- Changes in water availability and quality

Department of Communities and Social Inclusion

Key roles:
- Providing individuals, families and communities in need with opportunities to improve their lives
- Increasing the culture of workforce development and planning in SA's businesses
- Providing vocational education and training

Potential climate change impacts:
- Increased need for climate change adaptation
- Changes in weather patterns and extreme events
- Changes in water availability and quality

Department of Health and Ageing

Key roles:
- Protecting and improving the health of all South Australians
- Providing public health, education and health information
- Facilitating the application of innovative technologies, and providing research and development capability

Potential climate change impacts:
- Increased demand for climate change adaptation
- Changes in weather patterns and extreme events
- Changes in water availability and quality

Department of Treasury and Finance

Key roles:
- Supporting the Government’s key economic, social and financial policy outcomes by coordinating resource allocation
- Providing advice and financial management services including asset and liability management, taxes, insurance and superannuation
- Managing whole of government financial processes

Potential climate change impacts:
- Increased risk of climate change on the growth of the national and South Australian economies
- Increased cost of providing government services and assets

Department of Environment, Water and Natural Resources

Key roles:
- Providing specialist policy advice to the Premier and Ministers
- Developing policies and programs in areas of sustainability and climate change for the South Australian Government

Potential climate change impacts:
- Increased demand for climate change adaptation
- Changes in weather patterns and extreme events
- Changes in water availability and quality

Environment Protection Authority

Key roles:
- Protecting air and water quality and controlling pollution, waste, noise and radiation
- Influencing and regulating human activities to protect and restore the environment

Potential climate change impacts:
- Increased demand for climate change adaptation
- Changes in weather patterns and extreme events
- Changes in water availability and quality

SAFECOM

Key roles:
- Protecting South Australians from emergency situations including fires, floods, severe weather emergencies and disasters

Potential climate change impacts:
- Increased risk of climate change adaptation
- Changes in weather patterns and extreme events
- Changes in water availability and quality

Primary Industries and Regions SA

Key roles:
- Facilitating & promoting the development and growth of primary industries (agriculture, food, wine, fisheries, aquaculture and forestry)

Potential climate change impacts:
- Increased risk of climate change adaptation
- Changes in weather patterns and extreme events
- Changes in water availability and quality

Strategies:
- Facilitating the application of innovative technologies, and providing research and development capability
- Delivering rural and remote community support services
- Providing climate change impact statements

Environment Protection Authority

Key roles:
- Protecting air and water quality and controlling pollution, waste, noise and radiation
- Influencing and regulating human activities to protect and restore the environment

Potential climate change impacts:
- Increased demand for climate change adaptation
- Changes in weather patterns and extreme events
- Changes in water availability and quality

Strategies:
- Provision of environmental information collected by the EPA to governments, business and the community
- Regulation of government, business and industry to ensure implementation of industry best practice
2. Working with communities

The Climate Change Adaptation Framework proposes a more coordinated and integrated approach to identifying and evaluating climate change risks and delivering adaptation responses in South Australia. The regional approach proposed in the Framework recognises that local knowledge is important in developing adaptation responses and that a significant proportion of adaptation responses will be delivered by those who are impacted by climate change and have therefore the most to gain from adapting.

It is not realistic to expect that governments will be in a position to protect the community from climate change and to enable Australians to maintain established lifestyles. According to Garnaut\(^2\) “climate change will require adjustments to innumerable, locally-specific customs and practices over time” and “the range and scale of impacts that is likely across Australia is such that it is not feasible for governments to underwrite maintenance of established patterns of life for all people in all places”.

Governments will need to work more closely with local communities to ensure their service delivery and asset management policies are consistent with community thinking and to assist, where necessary, in developing locally relevant responses. The Framework details the responsibilities of all parties involved in climate change adaptation including responsibilities for undertaking and supporting the regional integrated vulnerability assessments.

The development of the Climate Change Adaptation Framework and the subsequent consultation process has identified several changes that government will need to make in order to fully consider regional views and provide an integrated response on community issues. Some of the early actions the South Australia Government and its agencies will need to undertake in order to successfully implement the Adaptation Framework include:

- The establishment of regional committees through agreements between key regional leaders and the Government under the Climate Change and Greenhouse Emissions Reduction Act 2007
- The participation of specific agencies in those regional agreements that have the greatest bearing on their agency business
- The participation of agencies in new information sharing arrangements, including a cross agency group, to ensure that an integrated and coordinated government response can be presented to communities (see next section)

Government representatives on the regional committees will assist in the exchange of information between the regions and the government. The development of adaptation plans will therefore be informed by local knowledge supported by findings of Integrated Vulnerability Assessments (IVA’s) and by advice provided by relevant government agencies.

Other actions and desirable outcomes:

- Deliver adaptation responses that are cohesive, coordinated and mainstreamed in established planning, decision-making and risk management frameworks
- Recognise the interconnections between social, environmental and economic systems
- Prioritise adaptation actions through assessment of risks, costs and equity using best available science and considering uncertainty of climate change projections
- Assess climate change risks and opportunities via IVA’s in the first instance
- Determine priorities and develop adaptation action plans

Functions of Regional Steering Committees

Specific roles of the regional committees will include:

- Overall coordination of vulnerability assessments and adaptation planning
- Facilitating and directing vulnerability assessments across the relevant sectors in each of the regions
- Engaging local communities to ensure the results of the vulnerability assessments are understood
- Engaging local communities in the development of adaptation strategies and actions
- Ongoing monitoring and evaluation of the adaptation process
- Developing and enhancing adaptation methodologies and promoting opportunities and best practice in other regions

The Framework builds on existing regional processes and functions that already work well. Natural Resources Management (NRM) Boards, Regional Development Australia (RDA) Boards and Local Governments already consider issues within their areas of responsibility and their community. The establishment of regional communities creates a mechanism for regional leaders to work together, set a vision and lead their region to a prosperous future. The membership of regional committees will comprise leaders of relevant regional organisations including Local Governments, NRM Boards, RDA’s and key industry and community sectors.

The establishment of regional committees does not create additional authority for decision making. Rather, community and regional leaders establish a forum where they are able to consider the priority areas for adaptation action in the region and plan coordinated responses. However, the delivery of these actions remains the responsibility of regional leaders within existing organisations. All regional authorities will maintain and continue to exercise their existing roles and responsibilities – but they will do so in the context of discussions and agreements made with other leaders in their region.

Importantly, discussions and agreements made by the regional committees will need to attempt to balance the varying interests of parties within the region and, through evidence based assessments, achieve trade-offs between the various pressures within the region.
3. Cooperating with and coordinating across Government

New arrangements will need to be put in place to ensure that the plans and concerns of regional committees are capable of informing government policy, and government responses.

Plans generated through regional agreements will be provided to Government for their consideration. Government would then be required to provide a response, in line with its roles and responsibilities identified in the Framework, and this would be coordinated through a cross agency group established to deal with climate change matters. The Government’s requirement to respond to regional concerns may be embodied in legislation or administratively.

The establishment of the cross agency group does not create additional authority for decision making within Government. The group is a forum for discussion, exchange of information and the development of whole-of-government positions on climate change issues. It will be important for the group to attempt to achieve a consensus view of climate change issues between the various government agencies and to balance their respective priorities. Government approval processes within agencies will continue to apply to actions recommended by the group.

The group’s membership will include relevant agencies responsible for climate change adaptation actions.

Other committees and processes will likely be established to support decision making and cooperation at the officer/practitioner level.
Strategies and actions

The roles of State Government and individual agencies discussed above are articulated as specific actions under each of the objectives of the Framework.

**Objective 1 Leadership and strategic direction for building a more resilient state**

While action will need to occur at a range of levels, it is important for some responses to be coordinated at the whole-of-State level to reduce duplication, minimise costs, maximise opportunities for sharing information and to ensure that adaptation responses are effective. The State Government has a clear leadership role in this regard.

Mechanisms and processes that will build resilience must be embedded into public and private sector decision-making and risk assessment. This will require the right policy settings and the creation of incentives to encourage action. The majority of adaptation responses will need to occur in the private sector, so it will therefore be crucial for Government to form strong partnerships with business.

It is also important for South Australia to continue to show leadership on climate change by actively participating in, and seeking to influence, national adaptation policy and programs, staying in touch with international developments, and making the most of commercial opportunities to export skills and knowledge.

**Partners:** State Government, local government, key business and industry groups, Regional NRM Boards, Regional Development Boards

<table>
<thead>
<tr>
<th><strong>Strategy 1.1</strong></th>
<th><strong>Lead South Australia’s adaptation efforts</strong></th>
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<tbody>
<tr>
<td><strong>Action 1.1.1</strong></td>
<td>Establish Regional Agreements under the Climate Change and Greenhouse Emissions Reduction Act 2007 between the State Government and regional organisations including local governments, natural resources management and regional development boards and local leaders</td>
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<td><strong>Lead:</strong> Sustainability and Climate Change, Department of Environment, Water and Natural Resources (DEWNR)</td>
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<tr>
<td><strong>Action 1.1.2</strong></td>
<td>Work with regional stakeholders to establish Regional Committees that oversee implementation of the Adaptation Framework; coordinate funding submissions; oversee regional governance arrangements and the development of regional adaptation strategies and plans and engage with key stakeholders and lead the development of locally relevant adaptation responses. The Regional Committees will be established under the Regional Agreements</td>
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<td><strong>Lead:</strong> Sustainability and Climate Change, DEWNR</td>
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<td><strong>Action 1.1.3</strong></td>
<td>Conduct Regional Integrated Vulnerability Assessments overseen by Regional Committees to assess the level of risk to business, communities and the environment</td>
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<td><strong>Lead:</strong> Regional partners</td>
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<td><strong>Action 1.1.4</strong></td>
<td>Establish a cross agency group to deal with adaptation issues affecting more than one government agency, this includes issues that are identified through Regional Committees and Integrated Vulnerability Assessments and which fall within the State Government’s responsibilities</td>
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<td><strong>Lead:</strong> Sustainability and Climate Change, DEWNR</td>
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Action 1.1.5  **Support the cross agency group** by committing one senior executive and providing ongoing support to its work programme  
Lead: Sustainability and Climate Change, DEWNR supported by relevant agencies

Action 1.1.6  **Support Regional Committees** by committing one senior executive per region in geographic areas of particular relevance to the business of the agency  
Lead: Sustainability and Climate Change, DEWNR supported by relevant agencies

Action 1.1.7  **Prepare whole-of-government responses** to climate change adaptation plans provided to Government by regional committees  
Lead: Sustainability and Climate Change, DEWNR supported by relevant agencies

Action 1.1.8  **Hold an annual adaptation forum** to provide the opportunity for regional and state organisations to share information and experiences and to ensure common approaches and methodologies  
Lead: Sustainability and Climate Change, DEWNR

Action 1.1.9  **Bring together a community of climate change adaptation practitioners** within the State and Local Government and academia to encourage the sharing of adaptation information and ideas by providing regular meeting opportunities and utilising appropriate communications technologies  
Lead: Sustainability and Climate Change, DEWNR

**Strategy 1.2**  
**Build partnerships with the business community and non-government organisations**

Action 1.2.1  **Engage with key business and non-government organisations** to identify key roles and responsibilities and adaptation activities  
Lead agencies: Sustainability and Climate Change, DEWNR in consultation with DMITRE and DPTI

**Strategy 1.3**  
**Incorporate adaptation into all decision-making**

Action 1.3.1  **At the expiration of this Government Action Plan, evaluate the effectiveness of agency responses to adaptation issues identified at the regional level**  
Lead: Sustainability and Climate Change, DEWNR

Action 1.3.2  **Assess the degree to which climate change risk management is incorporated** into existing government and business risk management frameworks  
Lead: Sustainability and Climate Change, DEWNR

Action 1.3.3  **Assist in the development of a decision framework** to assist in prioritising climate change adaptation action by government  
Lead: Sustainability and Climate Change, DEWNR

**Strategy 1.4**  
**Actively participate in national initiatives**

Action 1.4.1  **Contribute to national climate change adaptation policy developments**  
Lead: Sustainability and Climate Change, DEWNR
Objective 2  
**Policy responses that are founded on the best scientific knowledge**

Accurate, relevant and up-to-date science will underpin successful responses to build resilience. South Australia has excellent adaptation research and climate science capacity. It is vital that our efforts are coordinated, prioritised, and informed by the latest national and international developments. It is also important to acknowledge that there will always be uncertainties about the extent and impacts of climate change. To this end we will need to take an adaptive management approach that will allow sufficient flexibility to change our responses as new information arises. This will rely on continuously improving our knowledge and monitoring the success of our responses. Community science programs, such as Climate Watch\(^3\), will also have an important role to play.

It is also vital that we have the right datasets to inform our responses. As yet, we do not have some of the underlying datasets that are essential to create the knowledge we need to take action. We will need to make sure that local communities and businesses have access to, and understand, the science that they need to make effective decisions.

Finally, effective responses to climate change will require changes in the behaviours of individuals and communities. Understanding the social dimensions of adaptation will be critical to ensuring that the population has the knowledge, perceptions and emotional responses that mitigate climate change risks at an optimum level.

**Partners:** State Government agencies, Premier’s Science and Industry Council, the academic sector and the science and technology industry

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**Strategy 2.1**  
**Establish a comprehensive adaptation research agenda for South Australia**

**Action 2.1.1**  
Work with research institutions to develop a strategic plan to guide adaptation science and research efforts in South Australia, in particular to provide clear direction for setting adaptation priorities, obtaining funding and identifying partnership opportunities.  
**Lead:** Sustainability and Climate Change, DEWNR in partnership with the Premier’s Science and Industry Council and consultation with research providers, industry and the community.

**Action 2.1.2**  
Lobby for and support national research on key adaptation issues to promote information sharing, reduce duplication of effort and contribute to building national research capacity that will benefit South Australia.  
**Lead:** Sustainability and Climate Change, DEWNR in partnership with the Premier’s Science and Industry Council.

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\(^3\) [www.climatewatch.org.au](http://www.climatewatch.org.au)
**Strategy 2.2**  
Use up-to-date, high quality and relevant science to inform an adaptive management approach to building resilience and adaptive capacity

**Action 2.2.1**  
**Develop and implement adaptive management criteria** to guide adaptation in each of the sectors  
Lead: Regional Committees supported by peak bodies and relevant agencies

**Action 2.2.2**  
**Establish monitoring and evaluation programs** to inform the adaptive management approach  
Lead: Regional Committees supported by peak bodies and relevant agencies

**Strategy 2.3**  
Identify, create and share the datasets and knowledge to underpin successful responses

**Action 2.3.1**  
**Work with other agencies to review and consolidate existing datasets** relevant to adaptation across all disciplines  
Lead: Sustainability and Climate Change, DEWNR in partnership with relevant agencies

**Action 2.3.2**  
Work with other agencies to **integrate essential datasets** to generate comprehensive and confident models of the hazards and risks to climate change to better inform adaptation responses  
Lead: Sustainability and Climate Change, DEWNR in partnership with relevant agencies
Objective 3  Resilient, well functioning natural systems and sustainable, productive landscapes

Our health, well-being and economic prosperity depend upon healthy, natural systems and the services they provide such as clean water, climate regulation, healthy soils, pollination and nutrient recycling. Many natural systems in South Australia are already degraded. To increase their resilience we will need to adjust our management objectives for biodiversity conservation to deal with the complexities created by climate change. We will need to increase ecosystem resilience and connectivity across the landscape through restoration and rehabilitation; manage major threats to biodiversity, many of which are likely to worsen under climate change; and ensure that formal protected areas conserve as many different ecosystems and habitats as possible.

Climate related impacts such as pests, weeds, soil erosion, water scarcity, loss of biodiversity, and extreme weather events threaten productive landscapes and primary industries that underpin the State’s prosperity. Primary producers need support to identify opportunities for diversification and the uptake of new technologies and management regimes. Farm management systems will need to be altered to incorporate measures that will increase resilience, and integrated approaches will be needed to address the impacts of fire, pests, weeds and diseases, which are expected to increase under climate change.

With flexible and integrated approaches to both mitigation and adaptation, there will be many opportunities to develop solutions that deliver positive mitigation and adaptation outcomes and enhance the sustainable use of natural resources and biodiversity values. We must ensure that we make the most of these opportunities.

Partners: State Government, local government, Regional NRM Boards, South Australian Farmers Federation, Conservation Council of South Australia

Strategy 3.1  Increase the resilience of South Australia’s terrestrial, aquatic and marine biodiversity

Action 3.1.1  Using findings of the Integrated Vulnerability Assessments and regional feedback assess and address climate change vulnerabilities of the natural environment through natural resources management and nature, coast and marine conservation  
Lead: DEWNR

Action 3.1.2  Develop and implement strategies informed by Integrated Vulnerability Assessments (IVA’s) and community engagement processes to increase the resilience of terrestrial, aquatic and marine ecosystems  
Lead: DEWNR

Action 3.1.3  Undertake a stocktake of primary production and biodiversity conservation policies to ensure consistency and incorporate existing activities into a broader climate change adaptation agenda  
Lead: Jointly DEWNR and PIRSA
Strategy 3.2  
Increase the resilience of primary production systems

Action 3.2.1  
Using findings of the IVA’s and regional feedback assist primary producers to address climate change vulnerabilities  
Lead: PIRSA

Action 3.2.2  
Informed by IVA’s assist primary producers and industries reliant on natural resources to identify opportunities for diversification and economic re-structuring  
Lead: PIRSA supported by DEWNR

Action 3.2.3  
Collaborate in scientific and technical research including IVA’s to increase understanding of climate processes and impacts on primary industries  
Lead: PIRSA supported by DEWNR

Action 3.2.4  
Communicate understanding of climate science, risks and opportunities of climate change on primary industries to government, communities and industry  
Lead: PIRSA supported by DEWNR

Action 3.2.5  
Based on IVA’s and latest available science identify best practice technologies to improve productivity of primary production systems  
Lead: PIRSA supported by DEWNR

Strategy 3.3  
Strengthen policy links to achieve mutual benefits for climate change, biodiversity conservation and the sustainable use of landscapes and water

Action 3.3.1  
Review and amend primary industries, biodiversity conservation, water management and planning policies to ensure consistency in light of findings of the Regional Integrated Vulnerability Assessments  
Lead: Jointly DEWNR, PIRSA, DPTI

Action 3.3.2  
Identify and put in place strategies to improve the interface and consistency between land use planning and NRM systems in the context of the issues identified in IVA’s  
Lead: DPTI supported by DEWNR and PIRSA
Objective 4  Resilient, healthy and prosperous communities

The impacts of climate change affect the economy and the way that people lead their everyday lives. Building resilient, healthy and prosperous communities will involve spreading risk and maintaining economic and social diversity. It involves seizing opportunities, and promoting and recognising successes. It requires the ‘mainstreaming’ of climate change considerations into planning and policy, creating flexible decision-making frameworks; assessing the vulnerability of sectors and communities; and empowering people to take action by providing accessible information and decision-making tools. It will also require us to pay attention to the needs of the most vulnerable members of society, including the elderly, people living with disability, young children, those living in remote or highly vulnerable coastal communities, those on low incomes who are least economically equipped to move or adapt to their living conditions, and also to those businesses and sectors that have the potential to prosper as a consequence of adaptation.

Creating resilient human systems will also mean paying attention to increasing the resilience of natural systems because healthy, diverse ecosystems underpin successful and prosperous communities.

Although a number of key government agencies already deliver effective climate change adaptation responses as part of existing business strategies, the Climate Change Adaptation Framework and the Government Action Plan provide a focus on climate change as a broader issue for South Australia and therefore aim to deliver climate change responses equitably across the community, business and government operations.

While everyone will need to adapt and the Government’s role is generally focussed on providing leadership, encouragement and public-good adaptation information there are many established functions forming part of the Government’s service delivery to the community that include more direct involvement, often on a fee for service basis. This includes, for example, assistance and direct service delivery in the areas of primary industries, natural resources management and health. Consultation with government agencies on the Government Action Plan and with regional leaders on the draft Climate Change Adaptation Framework has identified several actions to be delivered by government agencies over the life of this plan.

Establishing regional committees to lead the development of relevant adaptation responses, informed by regional IVA’s, are critical actions that ensure a comprehensive assessment of climate change impacts in the regions. It also provides for effective dissemination and use of this information throughout the community and governments. Other actions relate to specific agency functions and provide information on climate change impacts or deliver specific responses that offset these impacts.

Partners: State Government, local government, industry, business, communities and individuals
Strategy 4.1  Build the resilience and adaptive capacity of businesses and communities at the regional and local levels

Action 4.1.1 Engage businesses and communities in developing adaptation strategies and action plans based on the Integrated Vulnerability Assessments
Lead: Regional Committees supported by relevant government agencies

Use findings of the Integrated Vulnerability Assessments and regional feedback to assess and address climate change vulnerabilities in South Australia with particular reference to:

Action 4.1.2 the transport system including key transport infrastructure such as roads, rail and regional air strips and public transport services
Lead: DPTI

Action 4.1.3 the energy system to ensure a safe and reliable supply of energy to all South Australians including supply of electricity, natural gas and transport fuels
Lead: DMITRE

Action 4.1.4 the South Australian business and climate change impacts on competitiveness including the economic sustainability of regional communities
Lead: DMITRE

Action 4.1.5 the small business sector by identifying, promoting and fostering opportunities for the growth of innovative business
Lead: DMITRE

Action 4.1.6 the local economy through the provision of advice on, and coordination of, resource allocation in line with the Government’s economic, social and financial policy outcomes
Lead: DTF

Action 4.1.7 the community by ensuring that the planning system minimises climate change impacts in new developments
Lead: DPTI

Action 4.1.8 emergency management by protecting South Australians from emergency situations including fires, floods, extreme weather events
Lead: Hazard Leaders and SAFECOM

Action 4.1.9 the health system by improving wellbeing and preventing illness of the population
Lead: SA HEALTH

Action 4.1.10 the environment and natural resources, including terrestrial, marine and aquatic systems
Lead: DEWNR

Action 4.1.11 future workforce planning and skills building in support of emerging industries
Lead: DFFEST

Action 4.1.12 the impacts of climate change on air quality by amending existing pollution reduction measures to ensure South Australia achieves national air quality standards
Lead: EPA

Action 4.1.13 the availability of water to meet current and projected demand
Lead: DEWNR
Strategy 4.2  
Create climate resilient urban areas and address the needs of the most vulnerable members of the community

Use Integrated Vulnerability Assessments (IVA’s) and regional feedback to assess and address climate change impacts:

Action 4.2.1  
on South Australia’s urban areas by reviewing planning strategies, the building code and urban design and open space policy  
Lead: DPTI

Action 4.2.2  
to support vulnerable members of the community including vulnerable Aboriginal people  
Lead: DPC, DCSI

Action 4.2.3  
Consistent with the Climate Change Adaptation Framework, incorporate the regional approach in dealings with local government  
Lead: Office of State/Local Government Relations, DPC

Strategy 4.3  
Empower people to take action through making relevant information and decision-making tools easily accessible

Action 4.3.1  
Develop a SA Climate Adaptation Web Portal to provide a ‘one-stop-shop’ website where people can get access to decision-making tools, plausible climate projections, likely impacts and adaptation responses, education resources and community support programs  
Lead: Sustainability and Climate Change, DEWNR

Strategy 4.4  
Increase community awareness and understanding of the opportunities for adaptation

Action 4.4.1  
In cooperation with government agencies and regional partners identify and promote adaptation opportunities in South Australia  
Lead: Sustainability and Climate Change, DEWNR

Strategy 4.5  
Increase community resilience during times of crisis

Action 4.5.1  
Consider findings of IVA’s and regional feedback to assess the preparedness of relief and recovery arrangements to deal with emergencies and disasters  
Lead: Hazard Leaders and the State Recovery Office
<table>
<thead>
<tr>
<th>Acronyms</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>CAF</td>
<td>Council for the Australian Federation</td>
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<tr>
<td>COAG</td>
<td>Council of Australian Governments</td>
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<tr>
<td>DCSI</td>
<td>Department for Communities and Social Inclusion</td>
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<td>DECID</td>
<td>Department for Education and Child Development</td>
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<td>DEWNR</td>
<td>Department of Environment, Water and Natural Resources</td>
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<td>DFESST</td>
<td>Department of Further Education, Employment, Science and Technology</td>
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<td>DHA</td>
<td>Department for Health and Ageing</td>
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<td>DMITRE</td>
<td>Department for Manufacturing, Innovation, Trade, Resources and Energy</td>
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<td>DPC</td>
<td>Department of the Premier and Cabinet</td>
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<td>DPTII</td>
<td>Department of Planning, Transport and Infrastructure</td>
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<td>DTF</td>
<td>Department of Treasury and Finance</td>
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<td>IVA</td>
<td>Integrated Vulnerability Assessment</td>
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<td>PIRSA</td>
<td>Primary Industries and Regions SA</td>
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Building resilience and adaptive capacity

Building the resilience of social, economic and natural systems so that they can withstand climatic change without collapsing will be essential to successful adaptation. The alternative to a resilient system is a vulnerable or fragile system, where even small changes can have disastrous outcomes.

We are part of the natural world and depend on the services provided by nature for survival. The intricate connections between people and the environment mean that we will need to build resilience into both human and natural systems at the same time.

Resilience has three defining features:\n- The amount of change a system can undergo and still retain the same controls on function and structure.
- The degree to which the system is capable of self-organisation.
- The ability to build and increase the capacity for learning and adaptation.

In the context of climate change, a more resilient system has the ability to withstand higher threshold limits associated with such events as droughts, heat waves and floods.

Some of the factors that can decrease the resilience of our natural, social and economic systems include:
- loss of biodiversity
- toxic pollution
- inflexible, closed institutions
- perverse subsidies that encourage the unsustainable use of resources
- a focus on production and increased efficiencies that lead to a loss of redundancy.

The key to building resilience in both human and natural systems is maintaining diversity and spreading risk. Adaptive management processes can also increase resilience.

Some of the actions that will increase the resilience of human and natural systems include:
- stopping practices that put people at high risk
- improved understanding and awareness of climate change and the need to adapt
- incorporating climate change information into planning, practice, and decision-making
- implementing measures that proactively reduce climate impacts
- developing informed risk-spreading practices.

Improving adaptive capacity creates and expands our options for dealing with climate change, and allows us to respond quickly and effectively to climate change impacts that go beyond what existing systems can reasonably withstand.

Adaptive capacity is about building our understanding of the interrelationships and feedbacks between the social, economic and ecological systems across the time and space scales that are appropriate to climate change impacts. Understanding these interrelationships will allow us to prepare for any necessary changes in our behaviours in the face of significant changes to our climate.

\[http://www.resalliance.org\]
The six stages of adaptive management:

1. **Assess** the problem: determine management objectives, indicators of success, options for action, assumptions, key uncertainties and alternative hypotheses.
2. **Design** actions to test hypotheses; predict outcomes based on current knowledge.
3. **Implement** the actions as designed.
4. **Monitor** implementation and effectiveness: are there any deviations from the design, and were the objectives achieved.
5. **Evaluate** the results: which actions were most effective, and which hypotheses should be accepted or rejected.
6. **Adjust** and revise uncertainties and hypotheses and repeat; share what has been learned.