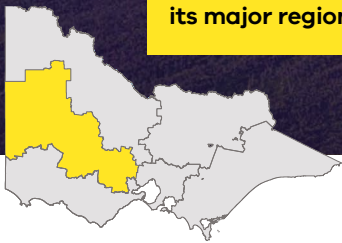


# Regional Adaptation Snapshot Grampians



The Grampians region is in Victoria's west, stretching from Bacchus Marsh to Edenhope and the South Australian border. Ballarat is its major regional centre.



## State of adaptation in the Grampians 2018

Over the last year, DELWP Community and Partnership Officers conducted a series of interviews in the Central Highlands, in Ballarat, Ararat, Castlemaine, Beaufort, Bannockburn and Bacchus Marsh. We also spoke to people in the Wimmera Southern Mallee, in Horsham, Edenhope, Kaniva, Stawell and Halls Gap.

When we did a stocktake of the climate change adaptation projects already under way, we found 117 projects across the region. In the Central Highlands, there are 16 projects focusing on energy, such as promoting solar power, energy efficiency and community renewables. In the Wimmera Southern Mallee, 20 projects relate to primary production. They include developing a set of guidelines to assess bushfire risks during harvest, and trialling earlier sowing times and different cultivar selection to adapt to drier and hotter springs.

Throughout the region, nearly nine out of ten people say climate change exists and humans are contributing to it, and an overwhelming majority agree that their actions can help reduce its impact. In the Wimmera Southern Mallee, however, many stakeholders see the topic of climate change as political and prefer to talk in terms of remaining profitable and productive into the future, or about seasonal variability.

## What are the regional adaptation snapshots?

In 2017 the Victorian Government committed another \$9.3 million over three years to support regional solutions through the *Supporting our Regions to Adapt* program. To ensure this funding addresses the most critical needs, officers from the Department of Environment, Land, Water and Planning (DELWP) examined regional impacts of climate change and existing adaptation projects and strategies. Officers spoke to community members, businesses, researchers and government bodies in each region and assessed priorities for communities based on the impacts they're facing as well as their needs and values.

In early 2018, DELWP completed climate change gap analyses in six regions across the state. This report presents a high-level summary of the analysis in the Grampians region. It provides a snapshot of impacts, actions, gaps and priorities in the region.

**Climate change impacts are already being felt in Victoria—and successful adaptation requires solutions that are identified, owned and driven locally.**

**Within Victoria, communities, industry and local government are already leading the way.**



## What we heard – regional priorities

**During the consultation, people identified many projects that could help the region adapt to climate change. Some of the priorities include:**

- » improving strategic planning to create a shared vision for climate adaptation across the region
- » improving resource availability to address challenges and undertake adaptation action in the region
- » improving water security and diversifying primary production to best use that water
- » installation of a weather radar for the region to improve tactical decision making by farmers
- » improving public facilities and assets to be better able to manage extreme temperatures and provide shared spaces for community members to escape extreme heat
- » closing gaps in the provision of mental health services, which underpin community wellbeing and resilience
- » more education on sustainable options and outcomes for developers and urban development

## Values and perceptions

**In late 2017 and early 2018, DELWP officers in the region conducted a series of interviews in a dozen towns. In the Central Highlands, we spoke to people in Ballarat, Ararat, Castlemaine, Beaufort, Bannockburn and Bacchus Marsh. In the Wimmera Southern Mallee, we visited Horsham, Edenhope, Kaniva, Stawell and Halls Gap.**

### Wimmera Southern Mallee

Sustainability Victoria's research revealed that nearly nine out of ten people think climate change exists and humans are contributing to it; the same proportion as the Central Highlands area. Six out of ten agree climate change requires urgent action, and seven out of ten say their actions can reduce its impact.

In our consultation, people spoke most of all about agriculture, but also about the importance of waterways and the natural landscape, and community groups and networks. They said adaptation is well underway: sports clubs are installing tanks to water their grounds; farmers are diversifying crops and livestock, or adding other income sources. However, the region relies on agriculture and many people fear the impact of a major shock.


### Central Highlands

Nearly nine out of ten people in the region say climate change exists and humans are contributing to it, according to research by Sustainability Victoria. Eight out of ten agree climate change requires urgent action and believe they can help reduce its impact.

But people told us that adaptation priorities are unclear because there's a lack of strategic planning, as well as a gap between what the science says and what the governing bodies do. Much of the funding available is for feasibility studies, but people want action: government should "enable the enablers", they said.

## Climate Change Adaptation in Victoria

To find out more about adaptation in Victoria

 [Victoria's Climate Change Adaptation Plan 2017-2020](#)



## Project spotlight: Ballarat Urban Forestry

Ballarat's Urban Forest Strategy involves a yearly tree-planting program to expand the tree canopy and offset the loss of older trees in decline. The City of Ballarat is investigating a target of at least 40 per cent urban canopy coverage by 2040, compared with 17 per cent now. Improving the urban forest supports better air quality, water management and nutrient cycling, and the provision of shade and habitat.

One of the strategy's key concepts is 'Living Corridors', a network of recreational and biological links between rivers and creeks and open space. The council is planning to extend existing trails along creek lines, and improve connections with parks, urban waterways and satellite towns. The corridors can also be created along major streets, parallel streets and public transport routes, where tree planting provides habitat and high amenity connections.

## Trends across the Grampians Key demographic statistics



**220,000**

The approximate number of people in the region



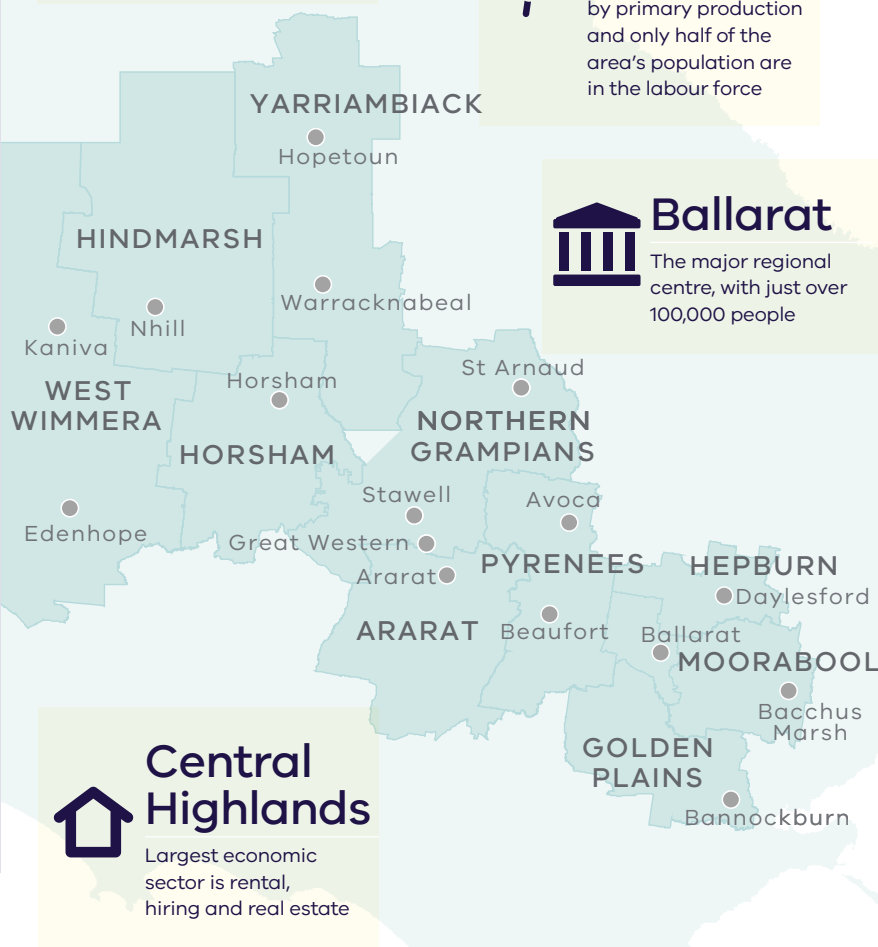
**Wimmera  
Southern  
Mallee**

Income is dominated by primary production and only half of the area's population are in the labour force



**Ballarat**

The major regional centre, with just over 100,000 people



**Central  
Highlands**

Largest economic sector is rental, hiring and real estate

## The Grampians has been getting warmer and drier

In the future we can expect



Temperatures to continue to increase year round



More frequent and more intense downpours



Less rainfall in autumn, winter and spring



Fewer frosts



More hot days and warm spells




Harsher fire weather and longer fire seasons

## Climate change sector impacts in the Grampians

	<b>BUILT ENVIRONMENT</b> 	<b>HEALTH AND HUMAN SERVICES</b> 	<b>PRIMARY PRODUCTION</b> 
<b>KEY CLIMATE IMPACTS AND RISK FACTORS</b>	<ul style="list-style-type: none"> <li>» Increasing fire weather and heatwaves</li> <li>» Increasing flooding</li> <li>» Critical services such as power, water, sewerage and telecommunications susceptible to extreme weather</li> <li>» Old housing stock that can't protect against extreme heat, bushfires and flooding</li> </ul>	<ul style="list-style-type: none"> <li>» Increasing heatwaves and flooding</li> <li>» Increasing fire weather and solar radiation</li> <li>» Ageing population and 'tree-changers' moving in</li> <li>» Drug and alcohol counselling services lacking</li> </ul>	<ul style="list-style-type: none"> <li>» Decreasing rainfall</li> <li>» Increasing temperature, hot days and fire weather</li> <li>» High dependence on agriculture in communities in the region's north</li> </ul>
<b>POTENTIAL IMPACTS</b>	<ul style="list-style-type: none"> <li>» Increased flood damage</li> <li>» Increased maintenance costs</li> <li>» Increased disruption to services</li> <li>» Increased threats to tourism infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>» More stress on health and emergency services</li> <li>» More heat-related deaths, particularly among the elderly and disadvantaged</li> <li>» Mental health effects</li> <li>» Risks to tourists unfamiliar with conditions</li> </ul>	<ul style="list-style-type: none"> <li>» Earlier flowering and planting times</li> <li>» Changed distribution of pests and diseases</li> <li>» Farm business affected by bushfire and flood</li> <li>» Lower cereal and wool production</li> </ul>
	<b>NATURAL ENVIRONMENT</b> 	<b>TRANSPORT</b> 	<b>WATER</b> 
<b>KEY CLIMATE IMPACTS AND RISK FACTORS</b>	<ul style="list-style-type: none"> <li>» Decreasing rainfall and stream flows</li> <li>» Increasing hot days and fire weather</li> <li>» Many species and ecological communities already under threat</li> <li>» Some species, such as the Brolga, may be sensitive to changes in water availability</li> </ul>	<ul style="list-style-type: none"> <li>» Increasing flooding</li> <li>» Increasing hot days, heatwaves and fire weather</li> <li>» Heightened reliance on transport infrastructure due to distance from metropolitan centres</li> <li>» Lack of baseline knowledge about asset vulnerability and maintenance</li> </ul>	<ul style="list-style-type: none"> <li>» Decreasing rainfall</li> <li>» Increasing temperature</li> <li>» Increasing fires and floods</li> <li>» Critical water infrastructure susceptible to extreme weather</li> </ul>
<b>POTENTIAL IMPACTS</b>	<ul style="list-style-type: none"> <li>» Amplification of existing threats to flora and fauna</li> <li>» Reduced water availability in wetlands and lakes</li> <li>» Changes in dynamics of invasive species</li> <li>» Damage to popular environmental sites</li> </ul>	<ul style="list-style-type: none"> <li>» Increased maintenance and retrofit costs</li> <li>» Disruptions to road and bridge infrastructure</li> <li>» Disruption to food supply</li> <li>» Disruptions to key community services such as emergency response, waste management and home care</li> </ul>	<ul style="list-style-type: none"> <li>» Damage to water infrastructure by fire or flood</li> <li>» Increased pressure on water supply</li> </ul>

### The Grampians Climate Ready Fact Sheets

More on projected climate impacts for Grampians

 [Climate Ready The Grampians](#)

## Adaptation action in the Grampians

We identified 117 climate change adaptation action projects currently or recently implemented in the Grampians, but we know there are many more. The largest number were focused on improving community and local government preparedness for emergencies and extreme weather, while a significant number of projects also focused on drought preparedness, improving water efficiency and strengthening resilient agricultural practices.

### Virtual Centre for Climate Change Innovation

The Virtual Centre for Climate Change Innovation (VCCCI) has been established to strengthen Victoria's role as a climate change leader.



30



#### PROJECTS IMPROVING EMERGENCY PREPAREDNESS AND MANAGEMENT

- » Flood & Bushfire
- » Extreme Temperature
- » Vulnerable Persons
- » Community Preparedness
- » Government Planning

28



#### PROJECTS AIMED AT BUILDING SUSTAINABLE & RESILIENT COMMUNITIES

- » Knowledge
- » Planning
- » Food Security
- » Green Buildings
- » Waste and Recycling

15



#### WATER AND DROUGHT PREPAREDNESS PROJECTS

- » Water Supply
- » Water Efficiency
- » Drought Preparedness

18



#### RENEWABLE ENERGY AND ENERGY EFFICIENCY PROJECTS

- » Solar
- » Bioenergy
- » Energy Efficiency
- » Net Zero Carbon Pathways

26



#### PROJECTS WORKING ON BIODIVERSITY AND AGRICULTURE

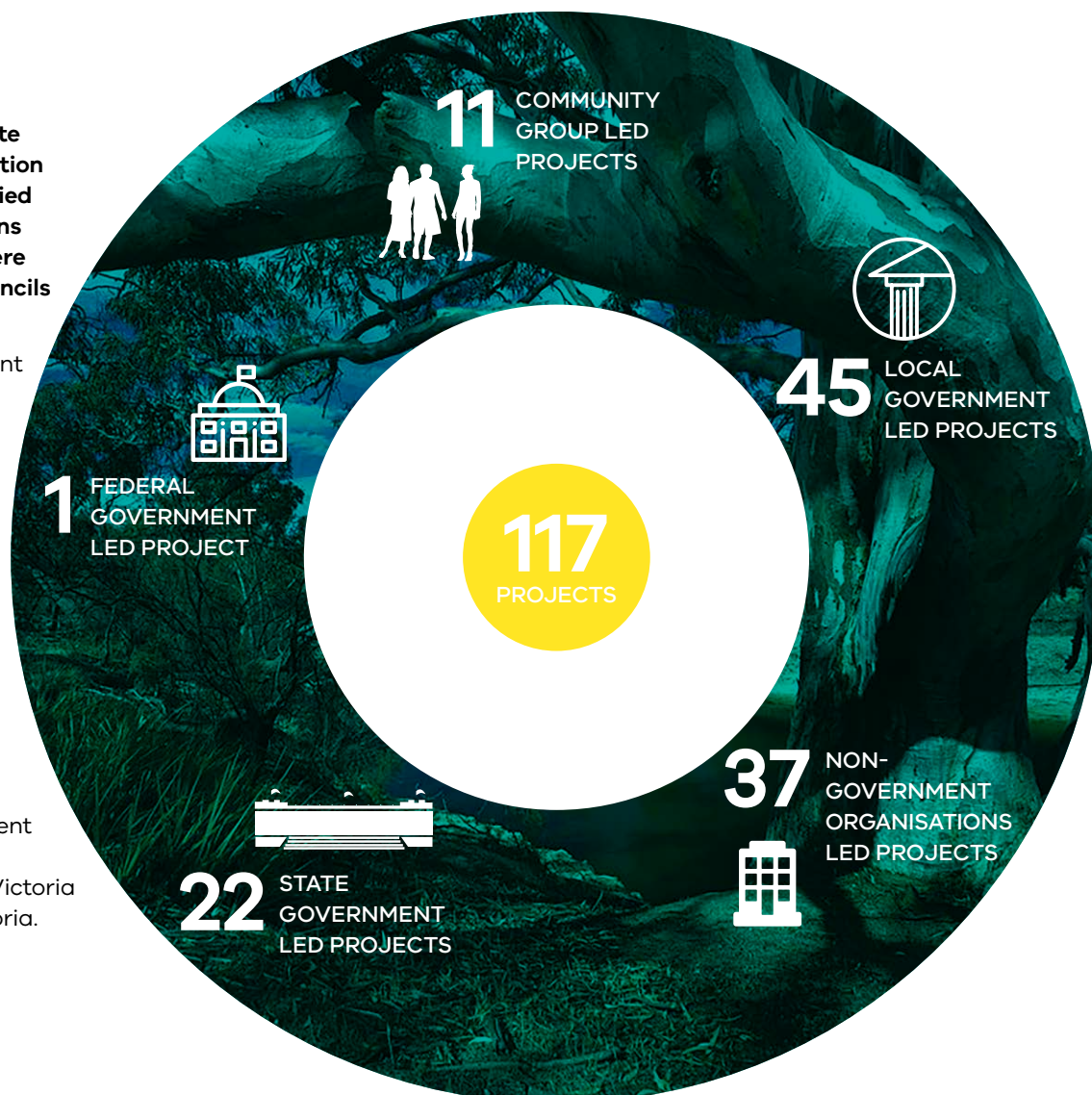
- » Ecosystem Preservation & Regeneration
- » Linking Biodiversity & Primary Production
- » Strengthening Resilient Agriculture Practices



## Project leads

Of the 117 climate change adaptation projects identified in the Grampians the majority were led by local councils and shires.

Non-Government Organisations, such as Birchip Cropping Group and Victorian No-Till Farmers Association, led the second highest number of projects, followed by State Government agencies, such as Agriculture Victoria and Parks Victoria.



## Project spotlight: Future Landscapes

Future Landscapes is a climate change adaptation project for councils and landholders in the Central Highlands region, delivered by Deakin University. It involved climate scenario modelling, adaptation planning and background research. The City of Ballarat, the Shires of Golden Plains, Hepburn, Moorabool and Pyrenees, and Cultivate Agribusiness developed a climate change adaptation framework, with a vision to 2050 and five-year strategic goals.

The research involved highly nuanced and localised climate projections, local biodiversity reports for each council, and ten regional agricultural commodity case studies. As next steps, the partners have identified regional and local projects, including planning for agricultural productivity and water resources, and alternative uses of marginal agricultural land.

## Key gaps in the Grampians

During the consultation, people identified many projects that could help the region adapt to climate change. Taking into account the measures already under way—and focussing on regional issues, rather than state or national—here are some gaps in the Grampians:

- » no regional adaptation strategy to promote a shared approach to climate change adaptation across the region
- » need for greater ongoing support of adaptation activities within the agricultural sector to variable climatic conditions, given high reliance on sustainable agricultural production for community viability
- » limited resources for councils to meet the challenges of adaptation
- » lack of investment in projects such as public halls, shade and green space to facilitate viable communities and reduce social isolation caused by extreme temperatures
- » gaps in the mental health services that support community well-being and resilience in times of drought and other disasters

## Enabling adaptation

Adaptation is an all-encompassing issue, but sometimes too much planning happens with a “silo mentality” with different departments and levels of government acting individually. Consequently, some stakeholders and communities can feel left out or aren’t aware of what’s going on. There’s a need and an opportunity to improve climate adaptation by creating a long-term vision with the commitment of a wide range of stakeholders. Good connections among people are the key to making it work.

## Adaptation Challenges

Climate adaptation is a long-term concern but political cycles are short. That’s a problem for people working on adaptation, because policy can change quickly, and fast funding cycles sometimes undermine collaboration.

In the Wimmera Southern Mallee, most stakeholders prefer to think of climate change in terms of remaining profitable and productive into the future and about seasonal variability.

They find it counterproductive to use the term ‘climate change’. Some individuals believe speaking about climate change can lead to social isolation. This perceived barrier might need more investigation, however, as Sustainability Victoria’s research suggests that climate change is generally accepted in the region.

## What's next?

The information gathered through the Grampians climate change adaptation gap analysis will inform priorities for action under the *Supporting our Regions to Adapt* program over the next three years.

This program will ensure government works in partnership with regional communities. We'll collaborate to support action that reduces the risk presented by climate change and help Victorians meet the challenges and act on the opportunities of climate change.

### FOR MORE INFORMATION ON WHAT IS HAPPENING IN THE GRAMPIANS CONTACT:

#### **Wimmera Southern Mallee**

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0428 599 927

#### **Central Highlands**

Tim Hudspith  
0429 963 056

## Climate Action in Victoria

To find out about other  
Victorian Government  
climate actions visit:

[climatechange.vic.gov.au](http://climatechange.vic.gov.au)

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ISBN 978-1-76077-147-8 (Print)

ISBN 978-1-76077-148-5 (pdf/online/MS word)

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