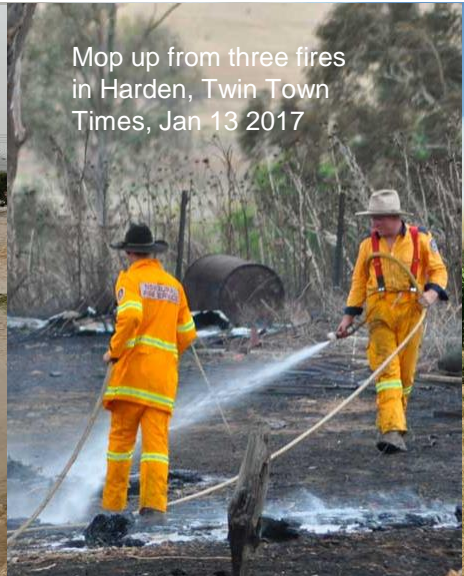




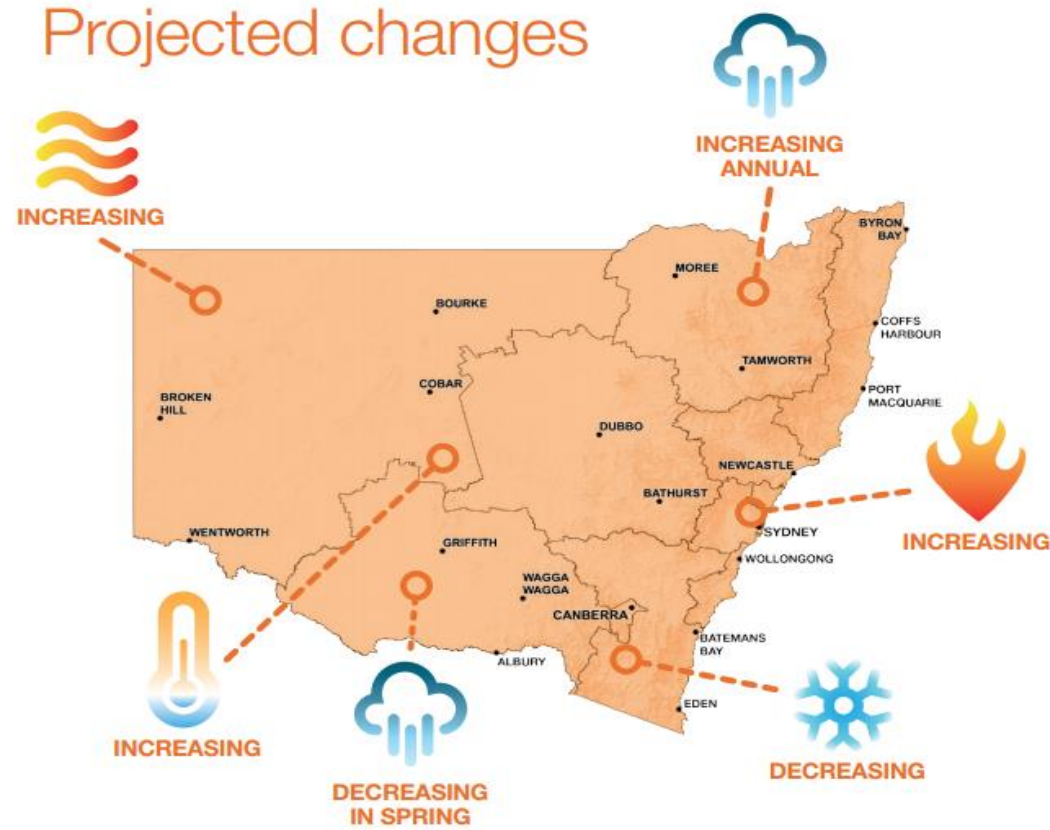
How can our communities know, assess and prepare for climate change? NSW Government programs

Understanding Climate Variability, Hovells Creek August 2019

Melinda Hillery, Senior Project Officer, Climate Change and Sustainability Division
NSW Dept Planning, Industry and Environment
August 2019



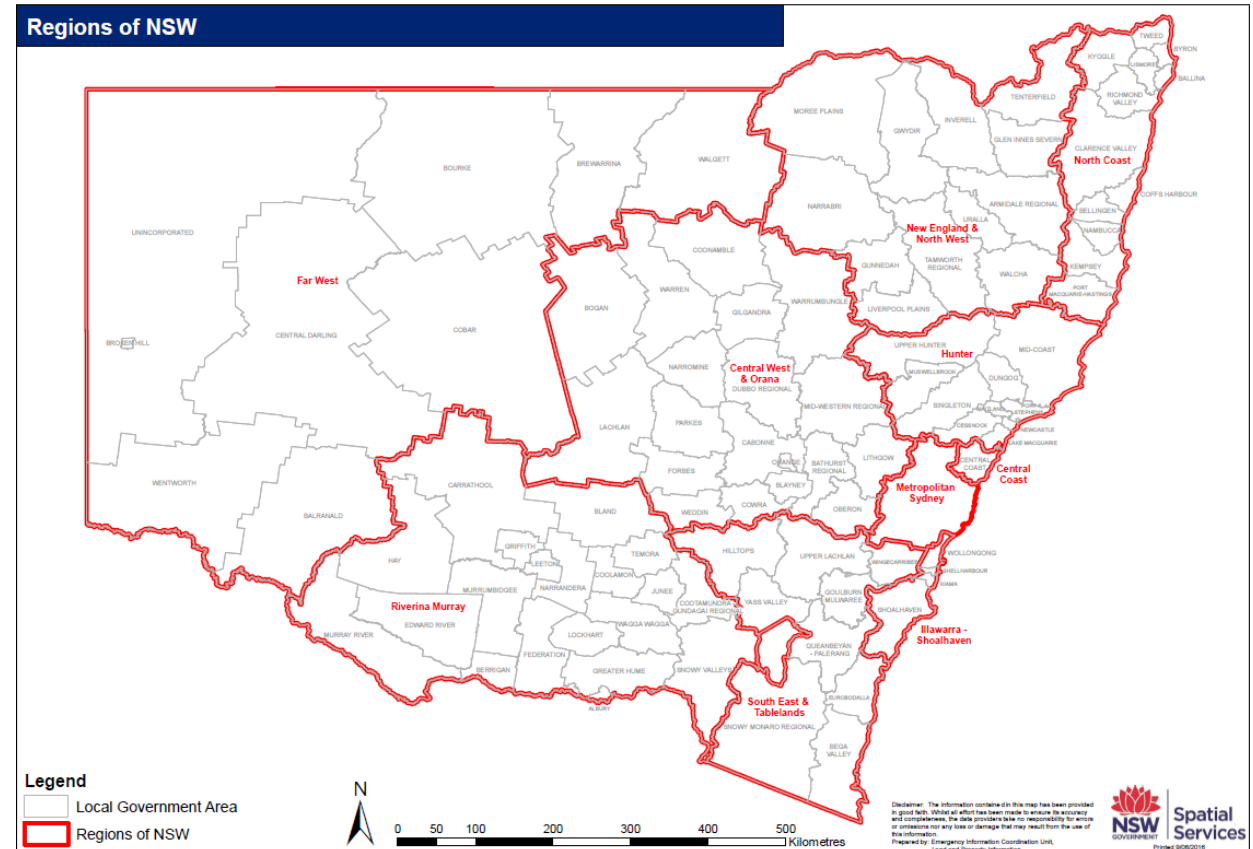
KNOW



1. **KNOW: Regional climate snapshots and local climate projections**
2. ASSESS: Regional vulnerabilities and priorities for change
3. RESPOND: Case studies from the SE & Tablelands

Adapt NSW website

The screenshot shows the Adapt NSW website. At the top left is the NSW Government logo and 'Environment & Heritage'. The main header is 'AdaptNSW'. Below this is a navigation bar with links: ADAPT NSW HOME, ABOUT CLIMATE CHANGE IN NSW, CLIMATE PROJECTIONS FOR NSW, IMPACTS OF CLIMATE CHANGE, ADAPTING TO CLIMATE CHANGE, EDUCATION RESOURCES, and BACK TO OEH HOME. The main content area features a large heading: 'Understanding and adapting to climate change impacts in New South Wales'. Below this is a map of NSW showing climate change impacts. To the right, there's a section titled 'What can we expect NSW Climate projections' with a sub-section 'Show me changes in temperature'. It includes icons for temperature, humidity, wind, waves, and snow. There are radio buttons for '2020-39' and '2060-79', and a button 'See interactive climate change map'. At the bottom of this section is a button 'Access the raw data'. Below the main content are four colored boxes with icons and text: 'About climate change' (blue), 'Impacts of climate change' (green), 'Adapt to climate change' (green), and 'Educational resources' (red).








<http://climatechange.environment.nsw.gov.au/>

Adapt NSW: How to find local climate projections

What can we expect
NSW Climate projections

Show me changes in **temperature**


    

in region my local area state view

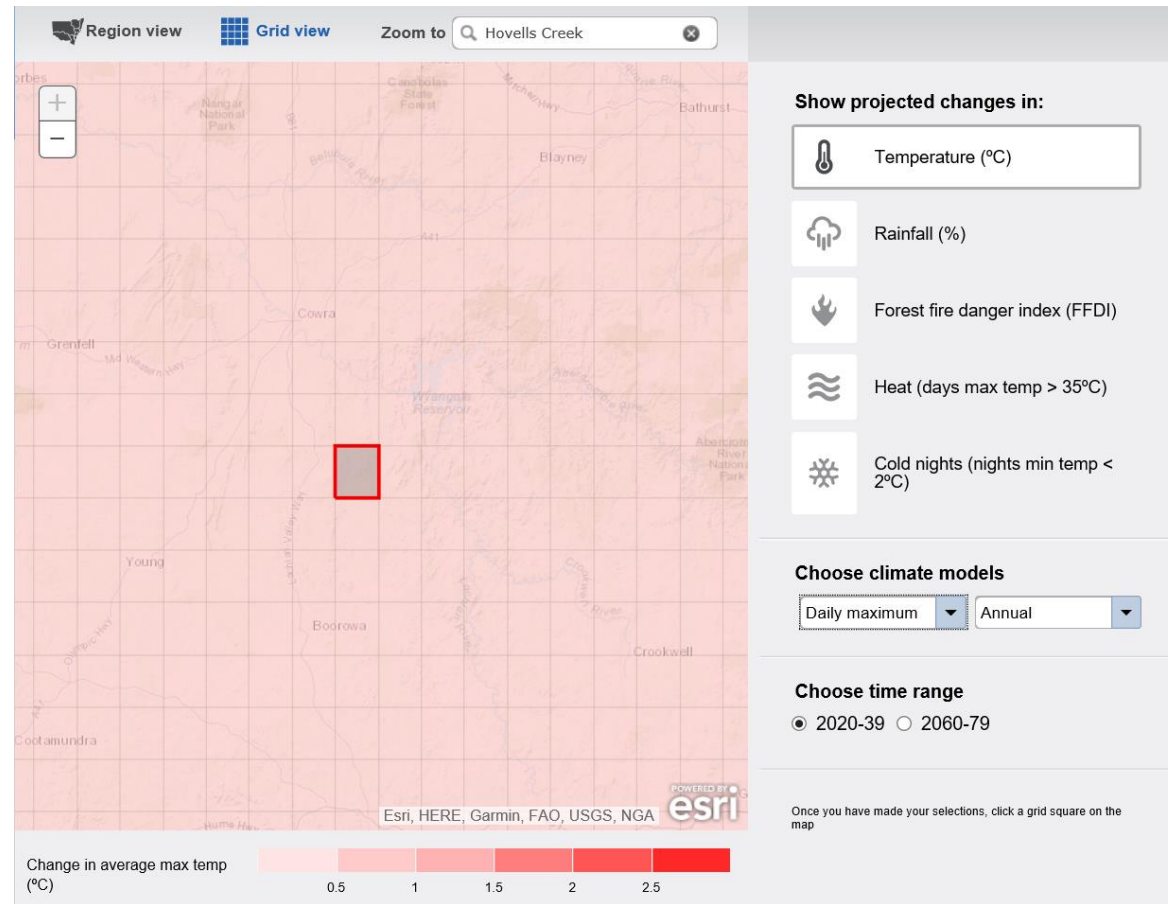
Hovells creek

2020-39 2060-79

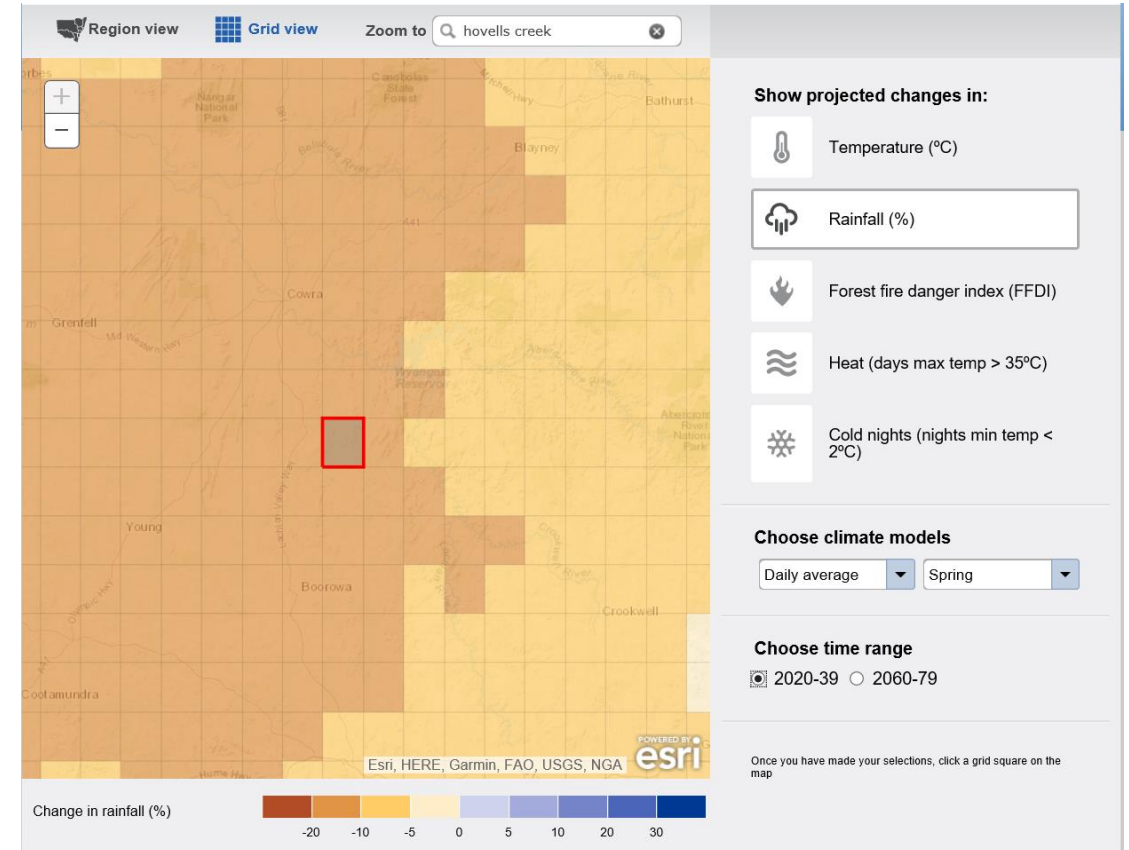
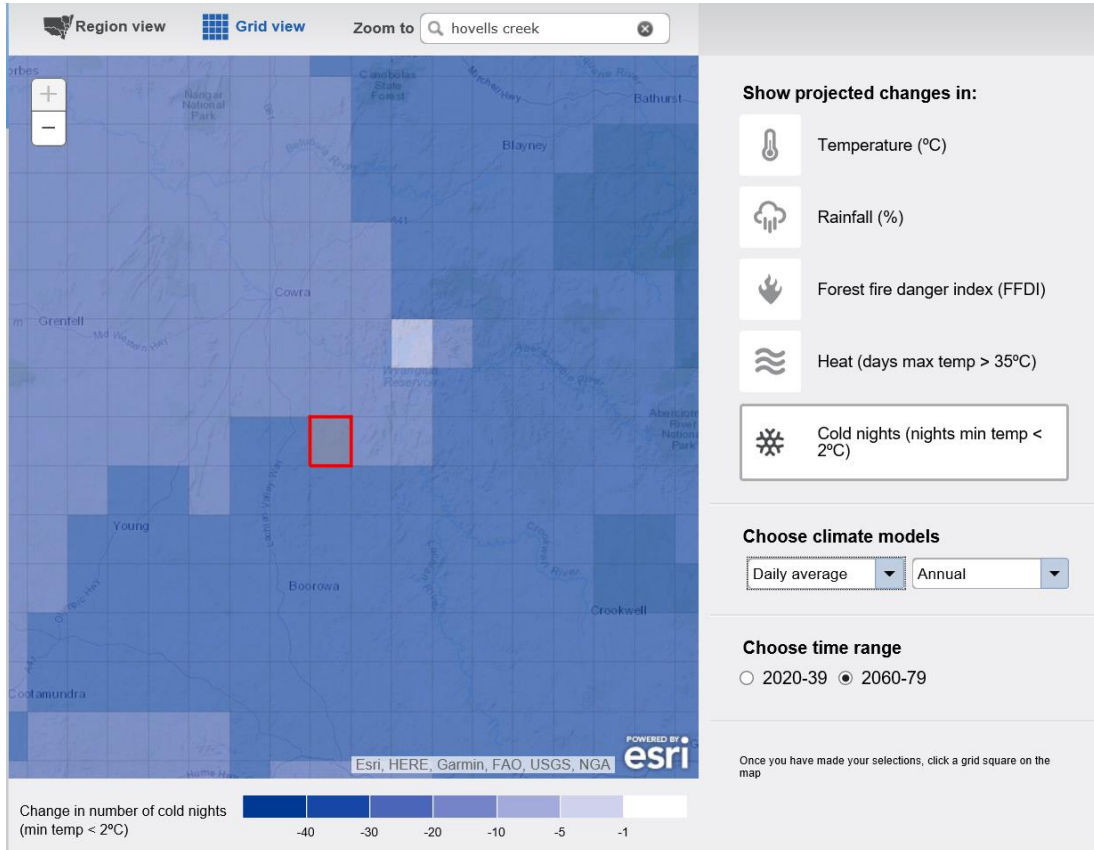
[See interactive climate change map](#)

 [Access the raw data](#)

Hovells creek daily max temperature 2030



Hovells creek: cold nights (2070) and Spring (2030) rainfall



SE and Tablelands rainfall projections: variation between models

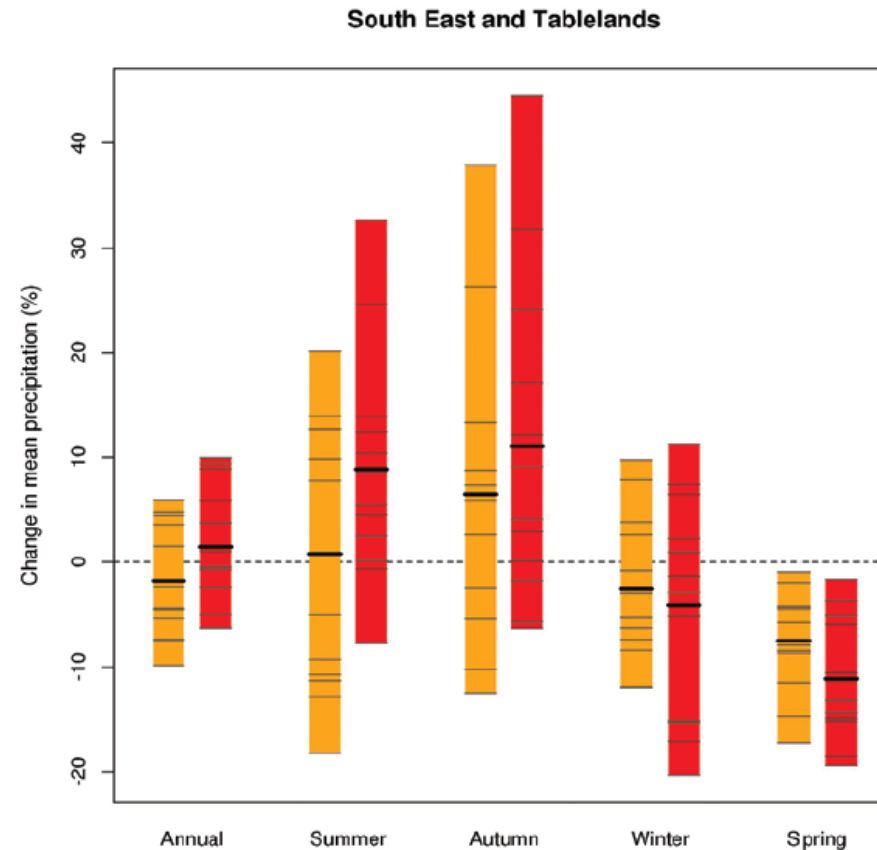
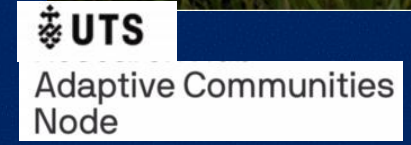
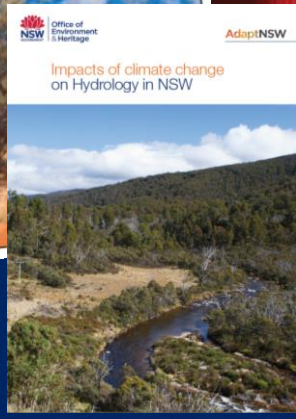
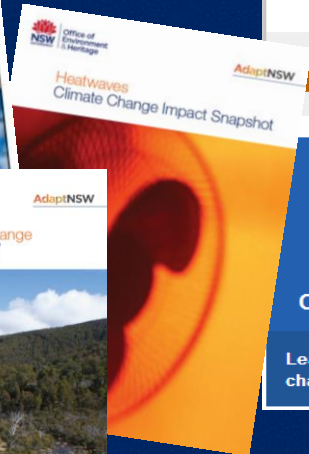



Figure 13: Projected changes in average rainfall for the South East Tablelands Region, annually and by season (2030 yellow; 2070 red). (Appendix 1 provides help with how to read and interpret these graphs).

Information delivery



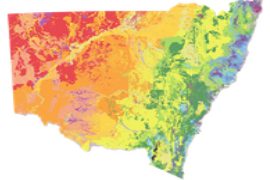
CLIMATE CHANGE, HUMAN HEALTH AND SOCIAL IMPACTS RESEARCH NODE



- ADAPT NSW HOME
- ABOUT CLIMATE CHANGE IN NSW
- CLIMATE PROJECTIONS FOR NSW
- IMPACTS OF CLIMATE CHANGE
- ADAPTING TO CLIMATE CHANGE
- EDUCATION RESOURCES
- BACK TO OEH HOME

Understanding and adapting to climate change impacts in New South Wales



Discover everything you need to know about climate change in NSW.

Discover how. Explore where. Learn to adapt.

What can we expect NSW Climate projections

Show me changes in **temperature**

● 2020-39 ○ 2060-79

[See interactive climate change map](#)

[Need some help on where to start?](#) [About climate change](#) [Access the raw data](#)

- ### About climate change

Learn more about climate change in NSW page >
- ### Impacts of climate change

Find out about the impact of climate change >
- ### Adapt to climate change

Learn about how you can adapt to climate change >
- ### Educational resources

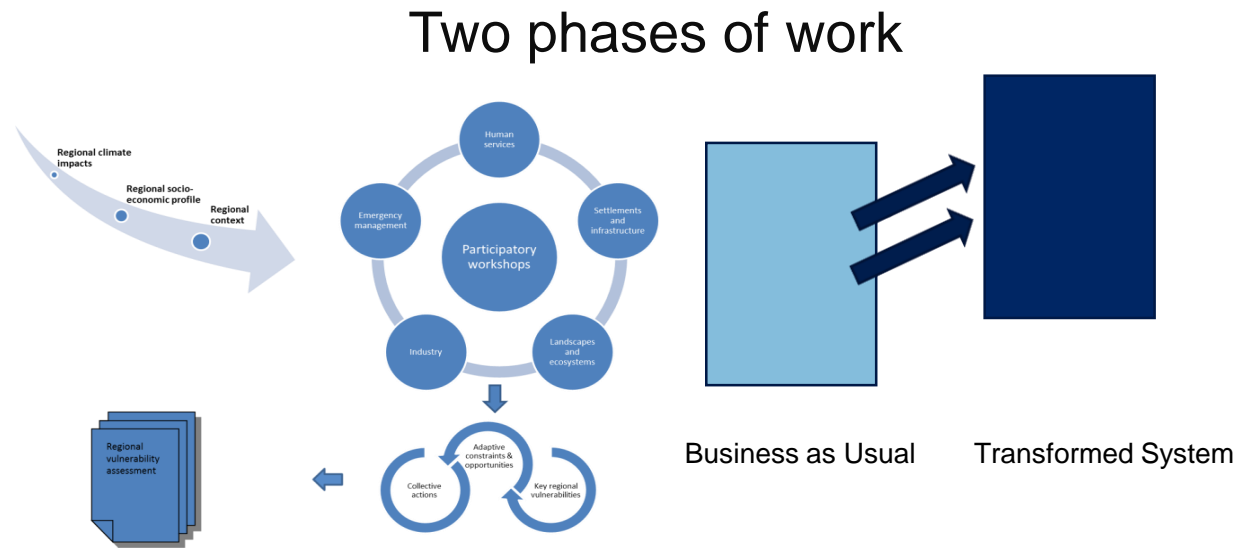
Information & resources on climate change >

ASSESS



1. KNOW: Regional climate snapshots and local climate projections
2. **ASSESS: Regional vulnerabilities and priorities for change**
3. RESPOND: Case studies from the SE & Tablelands

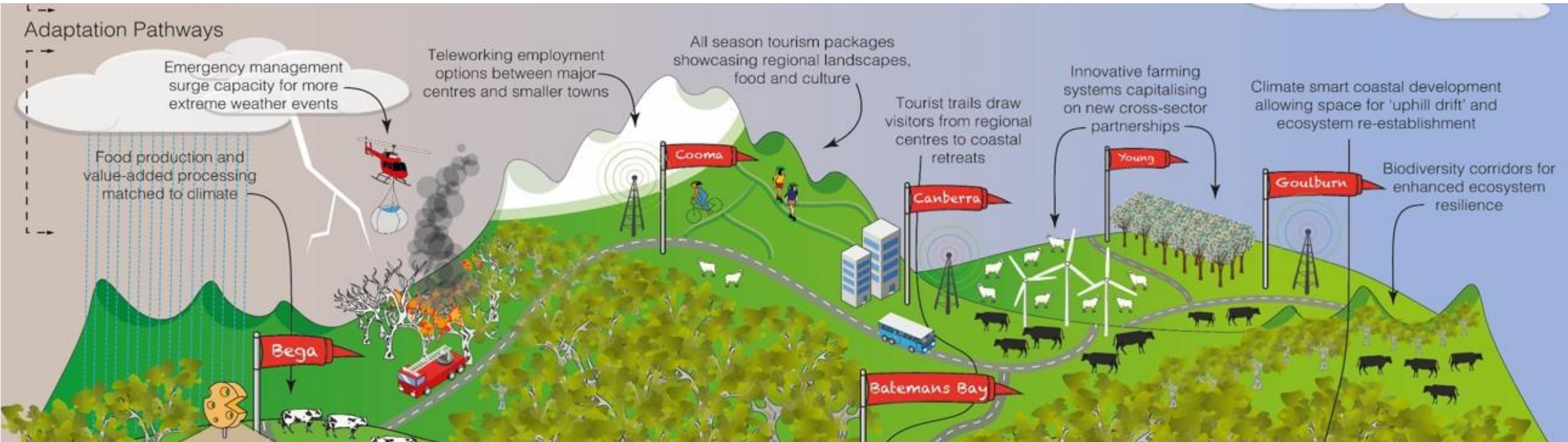
Vulnerability assessment and adaptation pathways (South East and Tablelands region)



Integrated Regional Vulnerability Assessment (IRVA)

Adaptation Pathways (Enabling Adaptation in the South East –EASE)
Over 130 participants across 3 subregions

Priority systems and adaptation pathways

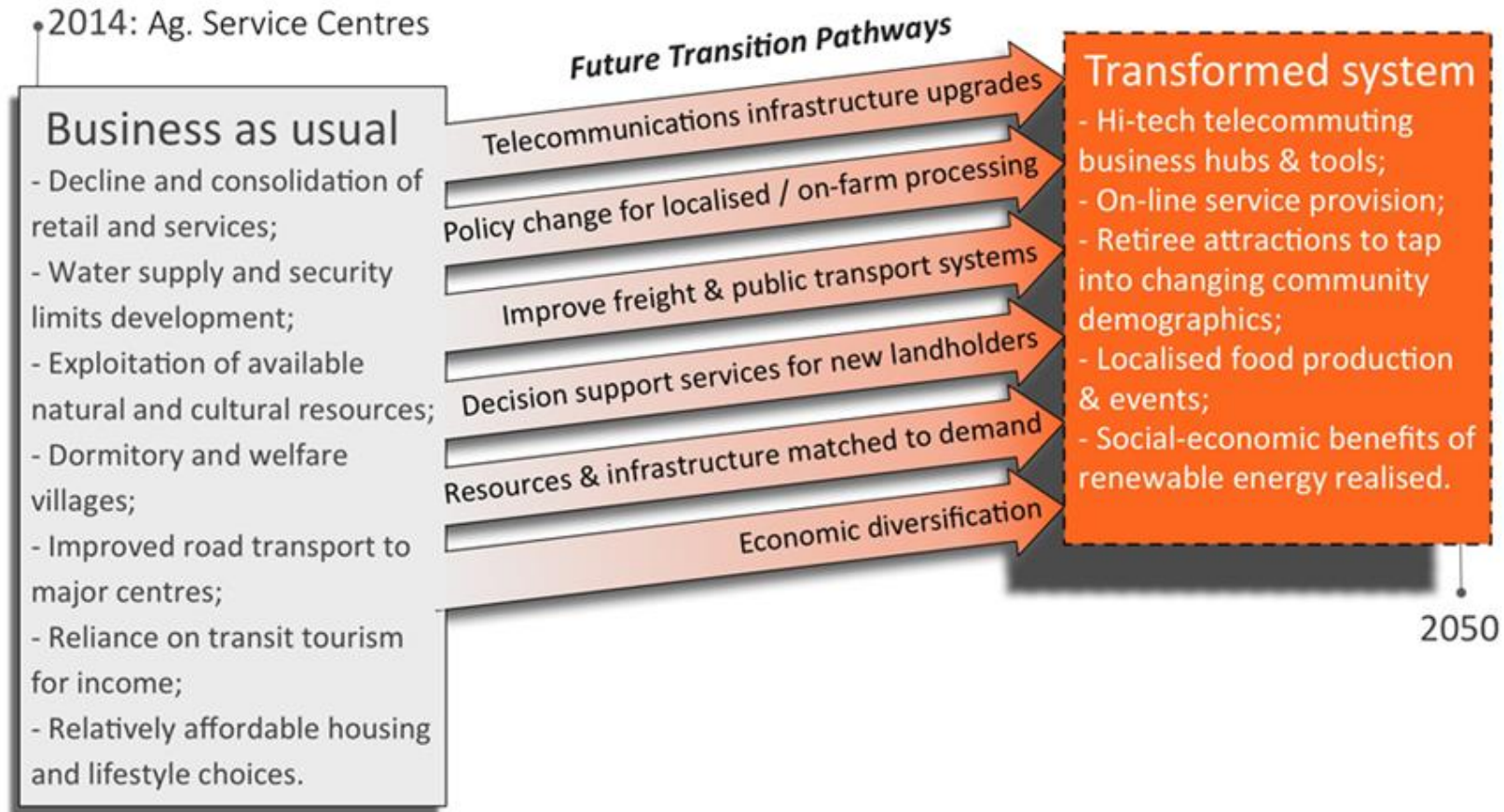


- large regional towns
- agricultural service centres
- coastal development
- potable water supply

- emergency management
- alpine tourism
- beach tourism
- public land management

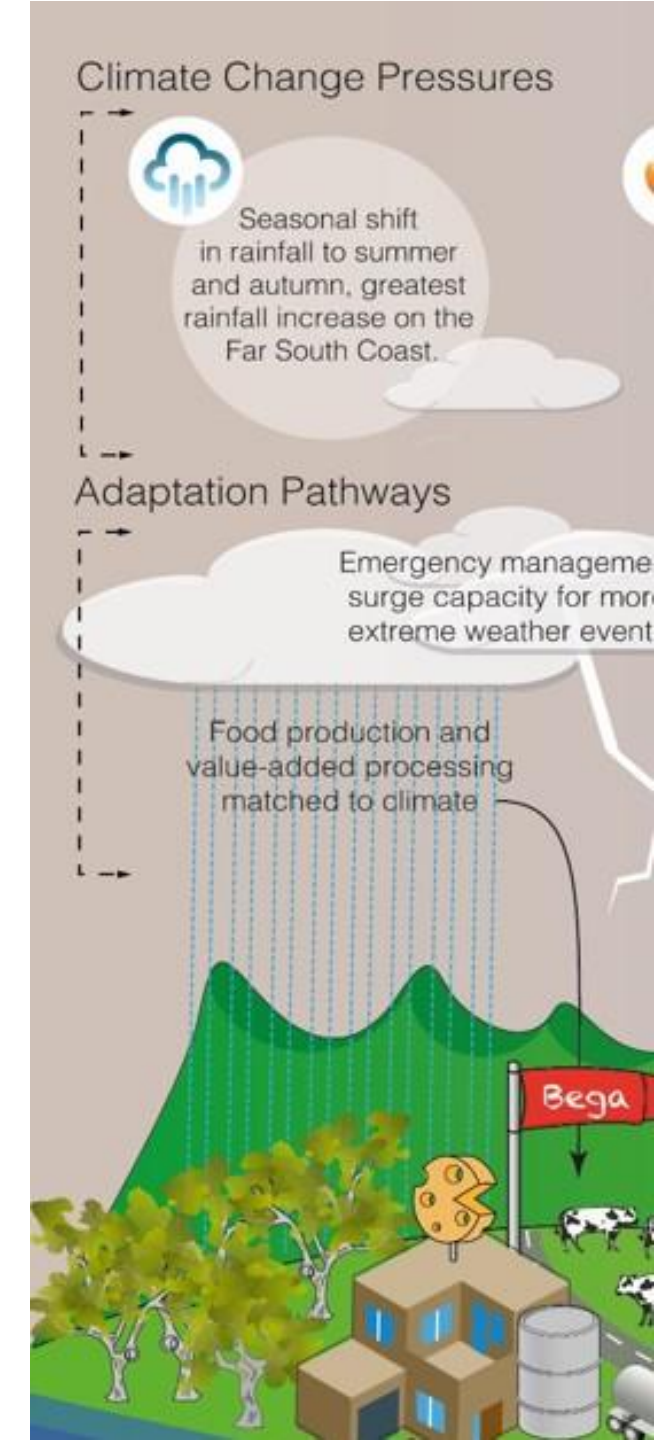
- coastal ecosystem management
- off-reserve conservation
- extensive grazing
- dairy farming

Priority systems and adaptation pathways



Priority: Potable water

- Recent years have included both drought declarations and flash flooding
- Priority pathways focus on:
 - Supply: drought planning and proofing, water sharing plans, alternative water sources
 - Quality: engineering landscapes to improve functionality, environmental flows and monitoring
 - Storage: improved agricultural storage, water smart town planning and development
 - Efficiency: improved agricultural application, improved water efficiency and re-use, incentives and education
 - Recycling: stormwater diversion and harvesting

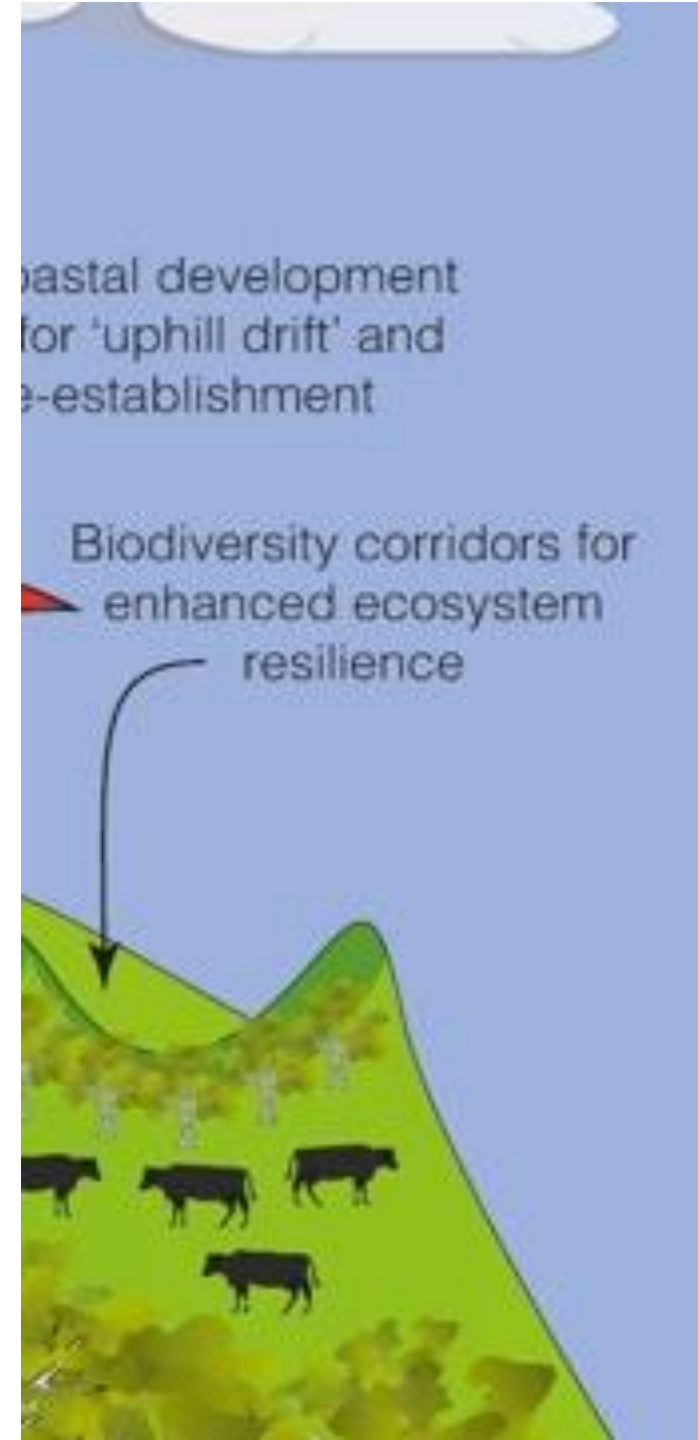


Priority: Public land management and Off-reserve conservation

- Currently seeing species increases/decreases, body size changes and movements e.g. Superb Parrots, Coolathai grass, changes in body size for honey eaters
- Public land management: key theme is public private partnerships and integrated public private landscape management
 - Also management adaptations for ecosystem change and regional planning for conservation
- Off-reserve conservation: key theme is financial mechanisms to support the value of natural resources and ecosystems

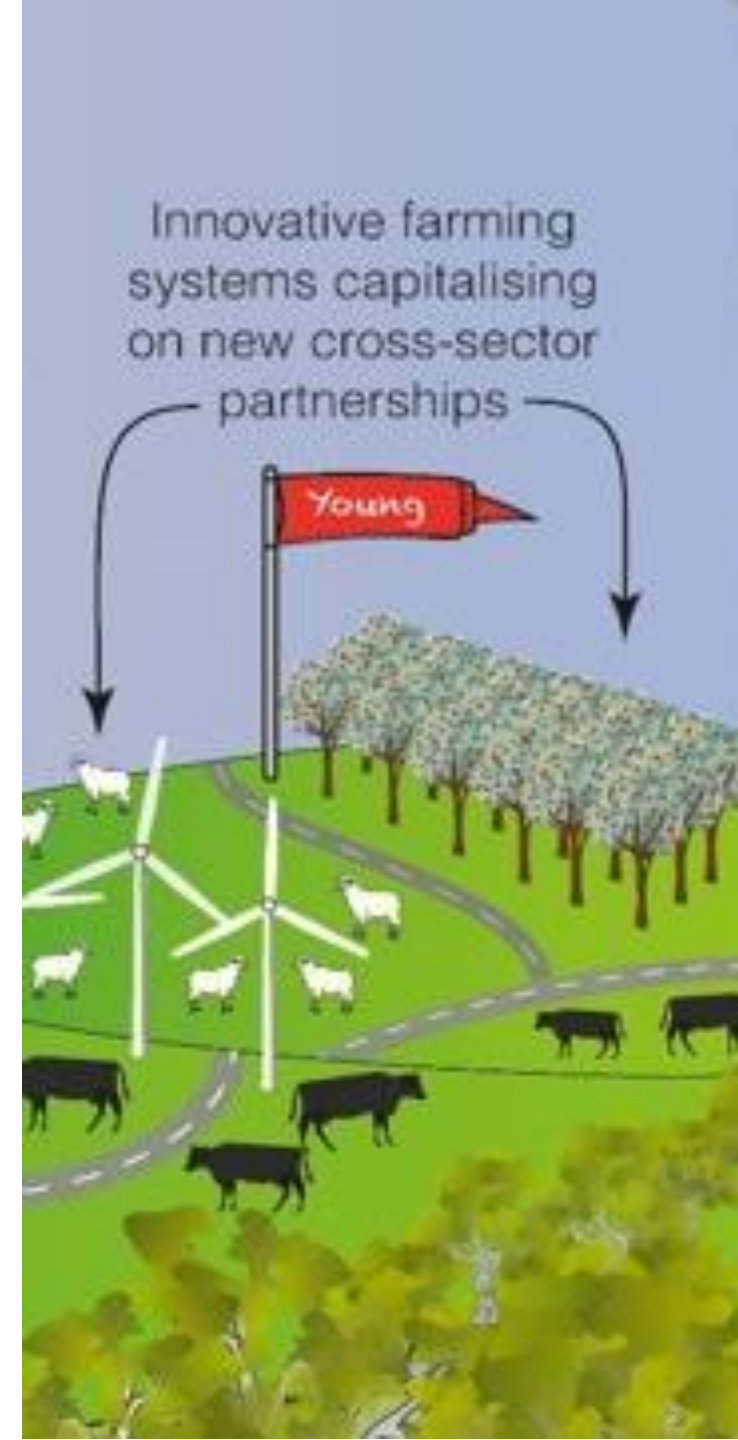


• Also better integrating this with other landscape management to produce multifunctional landscapes



Priority: Extensive grazing

- Recent years have seen low dam levels, low soil moisture and heatwaves
- Priority pathways focus on:
 - Diversification for multiple niches and new farm enterprises
 - Rationalizing inputs
 - Protection and consolidation of prime agricultural land



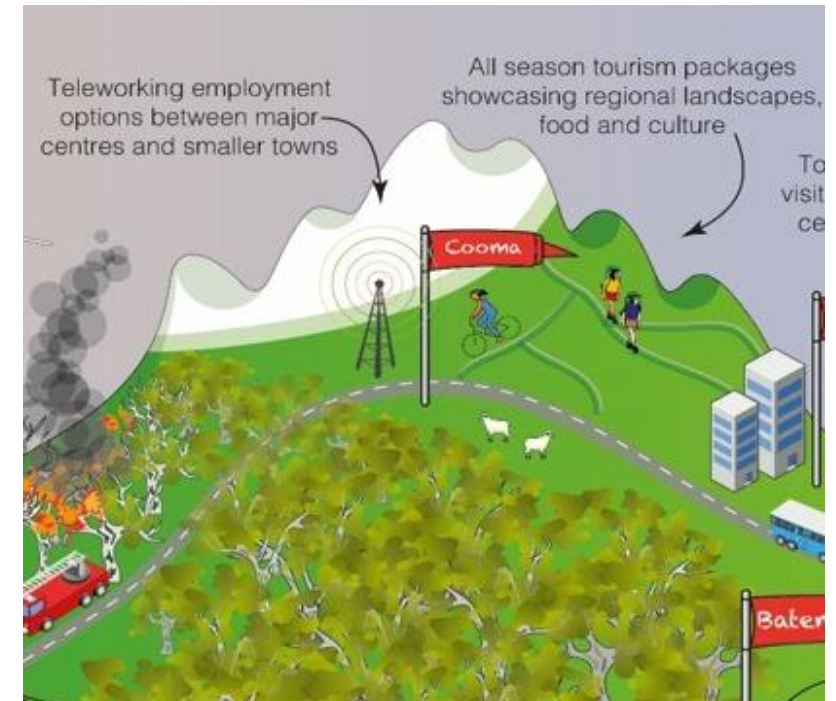
Priority: Emergency management



- Recent years have included minor fires at Harden and major fires in the SE & Tablelands Region; flash flooding across Hilltops Shire; heatwaves
- Priority pathways focus on:
 - Agencies enabling innovation and community led initiatives
 - Embedding resilience into planning controls
 - Levelling the playing field for vulnerable groups
 - Providing resources and accountability – supporting the Local Emergency Management Officer role within LG
 - Community engaged with Local Emergency Management Committee and involved in practice events
 - Better alignment between EM agencies
 - Support to LG to provide consistent emergency management information via council websites

Priority: Agricultural service centres

- Recent years have included water insecurity, degrading roads and expanding renewable energy
- Priority pathways focus on:
 - Service delivery – water, transport, housing, telecommunications, renewable energy
 - Economic diversification to counter retail decline
 - Focus on cultural and natural resources, and local food production/processing and events



RESPOND



1. **KNOW:** Regional climate snapshots and local climate projections
2. **ASSESS:** Regional vulnerabilities and priorities for change
3. **RESPOND:** Case studies from the SE & Tablelands

Case study: Potable water



Wingecarribee Shire Council:
Portable Water Treatment Feasibility Study to Increase Water Supply Resilience

Climate ready re-vegetation case study: Yass Area Network Landcare group (YAN)

Objective: Build climate resilience of plants chosen for revegetation projects to improve the survivability of species in the YAN Landcare region.

Activities

A two day workshop was held with the members of the Yass Area Network Landcare group. The group was taken through tasks to identify native plant species and the applying a climate-ready provenance and seed sourcing strategy. The project utilises the best available climate projections and flora adaptation research.

Next steps:

- Develop and implement a planting design
- Plant climate-ready seeds
- Monitor survivability at revegetation sites

Opportunity available for engagement in further climate-ready revegetation projects – please contact;

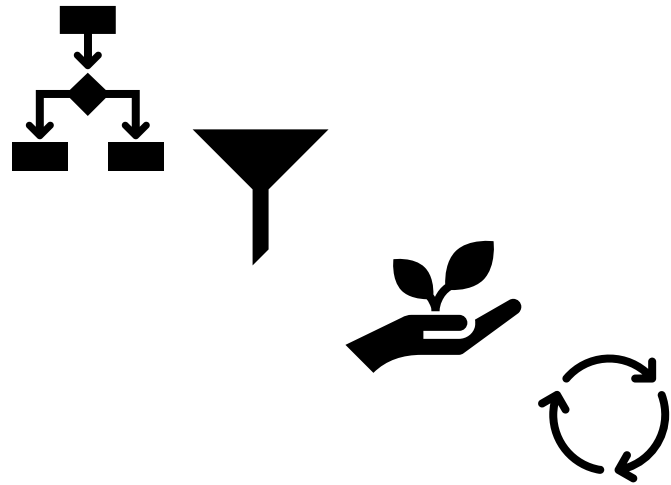
Isobel: Isobel.Cummings@environment.nsw.gov.au OR

Mel: Melinda.Hillery@environment.nsw.gov.au



Case study: Climate change risk assessment for farmers

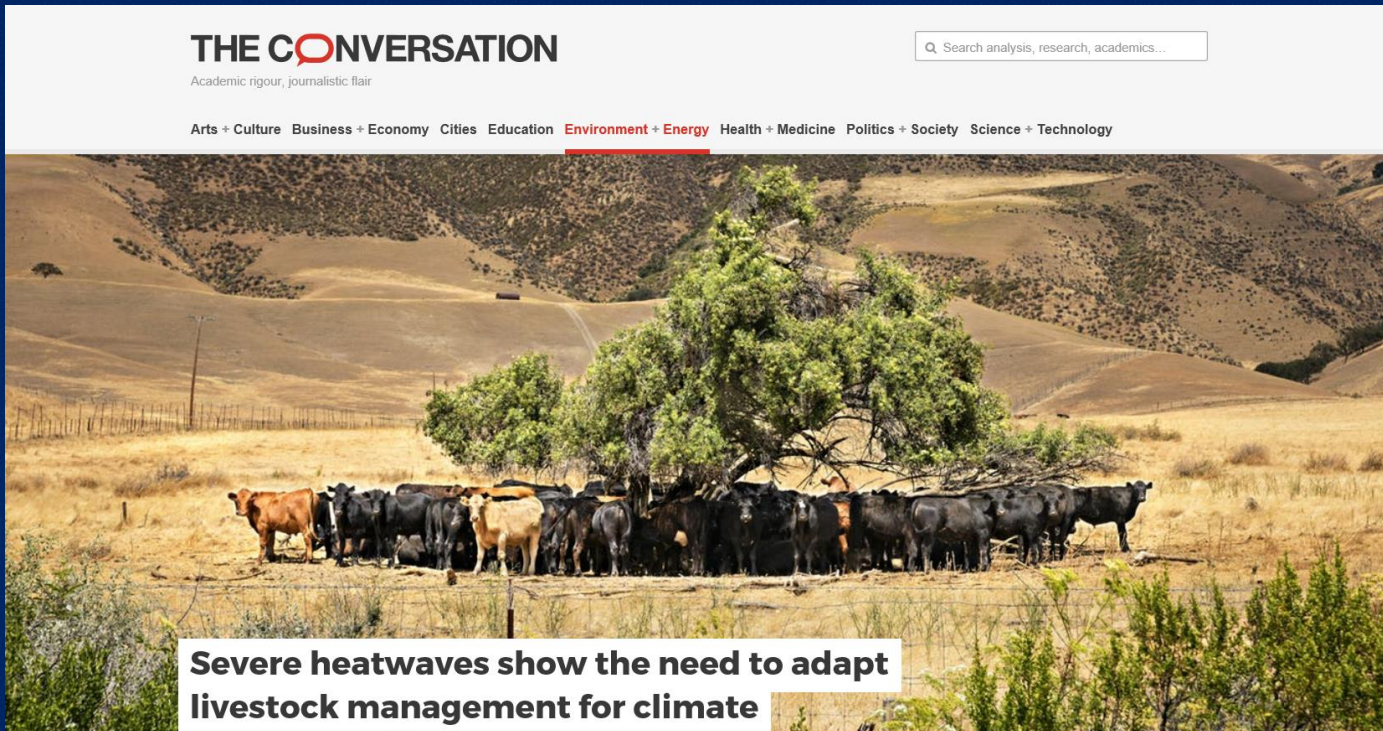
Climate Risk assessment



Risk assessment

1. My climate risks and impacts are...
2. My current climate risk ratings are...
3. My risk control plan is....
4. My climate opportunities are..
5. Monitor and Review

Case study: grazing



A legacy of research on grazing and climate change in this region....
What would the next adaptation project for graziers in this region look like?

Animal welfare integrated with nutritional management during dry times, fodder protection and/or local processing for a climate adapted premium?



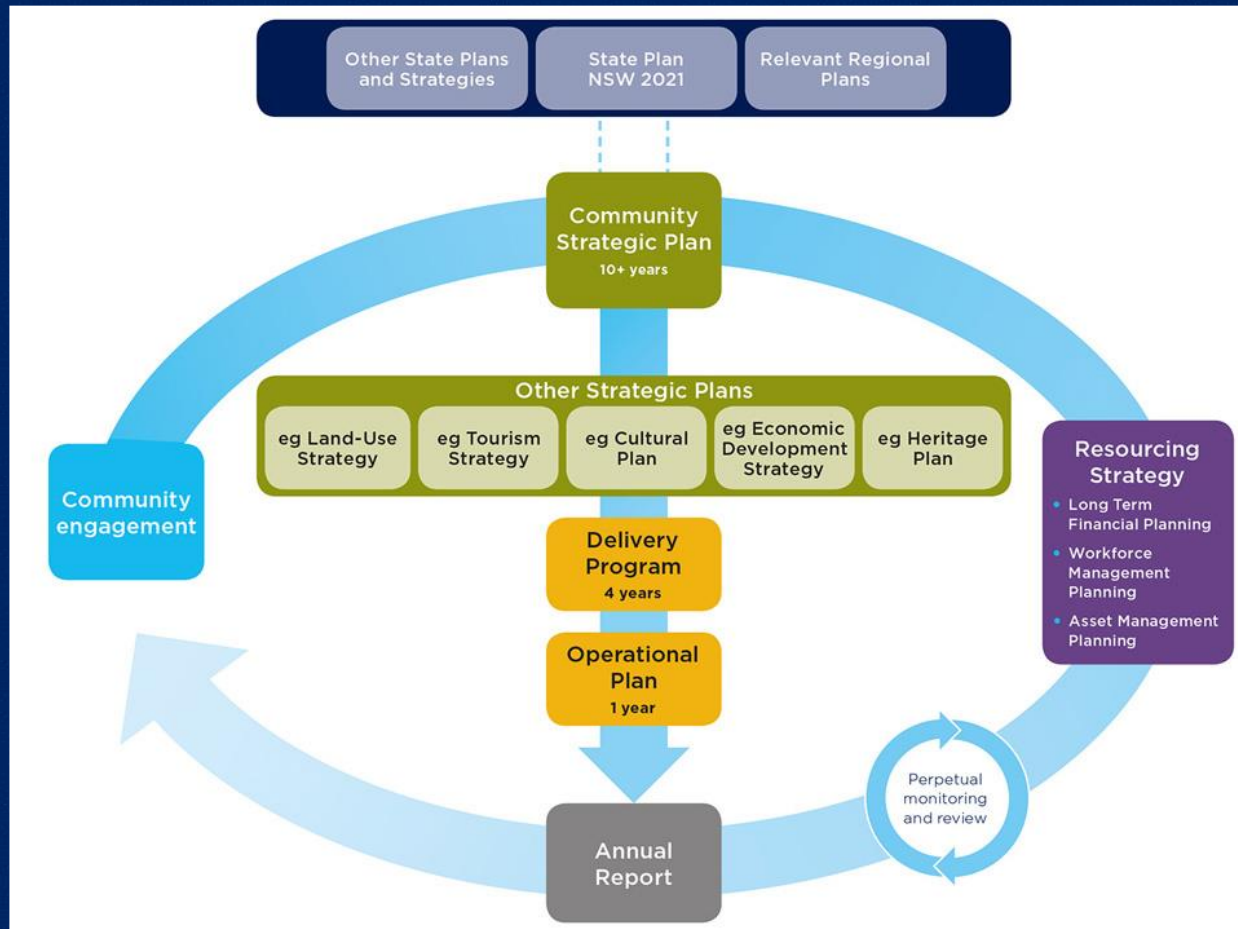
Your farming systems group? Funded by our community grants stream?

Case study: Emergency management



Bega Valley Shire Council:
Cooler places for a warmer climate: community hall upgrade in Bemboka,
Quaama and Wyndham.

Case study: planning for settlements: local strategic planning statements



- Local Strategic Planning Statements give a 20 year vision for the land use of an LGA
- Regional NSW councils must have their LSPS in place by 1 July 2020
- Integrating climate risk into the IP&R framework
 - Community Strategic Plan- community engagement
 - Delivery program and operational plan via adaptation plan
 - Asset management planning via risk register



Thank you



**Dr Melinda Hillery, NSW Department of Planning,
Industry and Environment**

Melinda.Hillery@environment.nsw.gov.au