



Australian Government
Department of Agriculture,
Water and the Environment



Future
Drought
Fund



Vic Hub
**DROUGHT &
INNOVATION**

VICTORIA DROUGHT
RESILIENCE ADOPTION
AND INNOVATION HUB



Irrigation Decision- Making and Innovation: Towards Perennial Horticultural Sustainability

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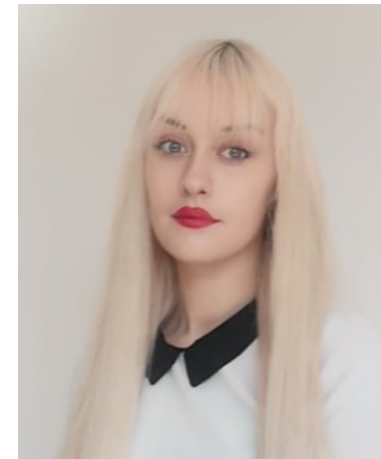
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(with special thanks to Paul McClure)



Dr. Natalie Araujo is a lecturer at La Trobe University and Coordinator of the major in Sustainability and Development. She has undertaken research and contributed to policy on food and water security in Australia, the Pacific, and in the Americas.



Hannah McCole is a PhD Candidate in Anthropology at La Trobe University. Hannah's work focuses upon the socio-political contexts of agriculture, environmental management, environmental civil science, resource management and sustainable development.

AIMS

1. Investigate irrigation behaviours of growers in Victoria, southern New South Wales, South Australia and Tasmania
2. Systematically explore the factors that influence irrigation decisions and innovations
3. Explore how the growers perceive the strengths and weaknesses of current approaches to support irrigation decisions
4. Contribute to understandings of drought resilient futures



PARTNERS

This project is a Cross-Hub Drought Resilience Adoption and Innovation Hub project, bringing together researchers, policy makers, and practitioners from Victoria, Tasmania, New South Wales, and South Australia

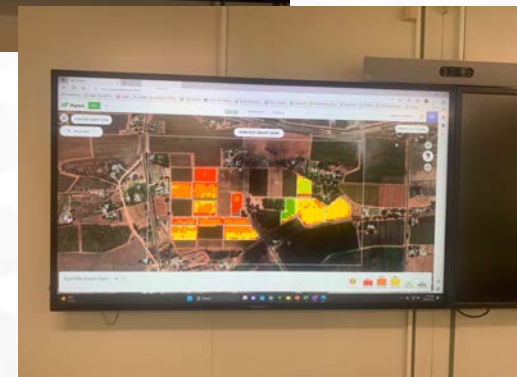



METHODOLOGY

- Interviews with growers, irrigation managers, advocates, peak bodies, innovation specialists
 - Systematically documenting existing practices
 - Exploring factors in decision-making
 - Detailing innovations and adaptations
 - Interrogating challenges
 - Investigating irrigation futures
- Cross-Hub analysis of trends, unique regional experiences, and emerging technologies

INITIAL FINDINGS

- Previous steps have resulted in wide-scale water use efficiency in the region
 - Move to drip widely embraced, new varieties introduced, increasing use of tech
- New innovations refining megalitre per tonne efficiency and improving time and labour efficiencies
 - Some potential challenges/concerns with integration of systems, serviceability, data ownership and management, infrastructure, costs, and knowledge sharing, human-tech relations
- Water availability and water policy remain key issues
 - Rather than water efficiency, water availability as a key future issue





“I don't know if there's much in the way that we can do from a software point of view without changing what we actually do on the field from an infrastructure angle. So, I guess I'm probably more looking at what can we do in the field to give us better data back to our computers...in terms of our automated farming, optimization, efficiency of delivering the water to the plant when it needs it. So, one of the key things is, I think they call it data fragmentation, or you got all these different providers and nothing talks to one another yet and trying to get API access is just, it becomes too hard for businesses and they just don't do it because of those challenges of getting all these different software providers to all talk to one another”

IRRIGATION MANAGER, WINE GRAPES

IMPACT AND BENEFITS

- Contribute to the development or enhancement of irrigation scheduling tools and solutions
 - Grower involvement in the study means that eventual solutions are more likely to be useful and relevant to a grower production context.
- Support perennial horticultural growers to optimise their irrigation decisions by improving tools, allowing for better adaptation to water scarcity
- Development of industry solutions and extension programs to support growers' adoption of new tools and/or adaptation strategies
- Feed into policy and industry supports to enable adaptations in irrigation management and infrastructure upgrades as well as inclusive design of policy interventions
- Contribute to knowledge sharing and backcasting for other regions



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This project received funding from the Australian Government's Future Drought Fund