

# ADAPTING TO CLIMATE CHANGE

DAIRY FARMING WITH FLOODS, DROUGHTS AND A CHANGING CLIMATE IN THE HAURAKI AND MATAMATA PIAKO DISTRICTS, WAIKATO

## RESEARCH METHODS

This research interviewed 19 dairy farms (owners, sharemilkers, managers and board members) in the Hauraki and Matamata Piako Districts during April-May 2023. The interviews focused on understanding how dairy farmers are impacted by, and adapting to, climate change.



Stranded cattle during the 1985 floods, Te Aroha



*"Normally Dad's always seen a bigger and better one, but he said yeah that's the biggest flood I've seen since I bought the farm in the 1980s"*  
(second generation dairy farmer, Te Aroha on the Jan-Feb floods, 2023)

## WHAT CHANGES (IF ANY) ARE FARMERS NOTICING?

Farmers of the Hauraki Plains and Matamata Piako have a wealth of experience dealing with extreme weather events, such as droughts and floods. During the past three years, farmers have dealt with two consecutive summers of drought, followed by an extremely wet summer and sequence of large floods. Some (but not all) farmers agreed that they are already experiencing changes in climate and weather patterns, with the following trends:



Longer, drier summers (excluding the wet summer of 2023).



High intensity heavy rainfall events, with longer dry periods in between.



While the floods of early 2023 were particularly large, some farmers noted that they were not the largest on memory and recalled the 2017, 2014, 1996-97 events, and large floods of the 1980s and 70s.

## HOW ARE FARMERS ALREADY ADAPTING?

- ✓ Bringing calving dates forward.
- ✓ Planting more trees on farm for shade.
- ✓ Reducing stocking rates.
- ✓ Transitioning to once-a-day milking earlier in the year.
- ✓ Constructing covered standoff pads/cow sheds/self-composting barns to prevent heat stress and soil damage.
- ✓ Planting mixed variety summer crops or maize.
- ✓ Planting drought resilient grass varieties.
- ✓ Storing feed reserves for dry periods.
- ✓ Installing sprinklers.
- ✓ Not tilling the soil to retain moisture.
- ✓ Transitioning to more heat resistant cow varieties (jersey).
- ✓ Investing in a generator for extreme weather events.
- ✓ Increasing effluent storage facilities to control runoff during heavy rainfall and floods.
- ✓ Converting land unsuitable for dairying to alternate uses (i.e. blue berries, paludiculture on peat).



## WHAT ELSE IS NEEDED?

- Knowledge about how to make insurance claims following extreme weather events.
- Greater investment in rural wellbeing and social support. Levels of stress, existing social support mechanisms, and mental health all impact how farmers manage extreme events. The support of a partner, family member or close friend helps to overcome the impacts of drought and floods. There is also a growing need to bring farmers together in person socially.
- Opportunities to build relationships, trust and to share knowledge between Pākehā and Māori owned farms.
- More consultation with farmers and accurate advice around measuring and mitigating on-farm emissions so that farmers can prepare for legislative change.
- More knowledge about climate trends in the near term. Projections out to 2050 can be too far away to for some farmers (esp. sharemilkers) to plan for. Family farms and Māori owned farms are more likely to be in a position to act on longer-term projections.
- More support for on-farm citizen science projects (i.e. farmers trial new approaches on farm, results are monitored by scientists, and shared with other farmers).
- Ongoing investment in, and maintenance of, flood control schemes.
- A better public perception of the dairy industry, which would build morale and help motivate further change.

### ADDITIONAL RESOURCES:

Climate projections for the Waikato:

<https://environment.govt.nz/facts-and-science/climate-change/impacts-of-climate-change-per-region/projections-waikato-region/>

Coastal inundation for the Hauraki Gulf:

<http://www.creatingfutures.org.nz/assets/CF-Uploads/Case-Studies/HaurakiCoastal-InundationWISELandUseScenario-Initial-AnalysisJuly18.pdf>

### FOR MORE INFO:

Christina Griffin (social research lead):

[Christine.e.griffin@gmail.com](mailto:Christine.e.griffin@gmail.com)

Anita Wreford (Deep South project lead):

[Anita.Wreford@lincoln.ac.nz](mailto:Anita.Wreford@lincoln.ac.nz)