

# ADAPTIVE AI FOR CLIMATE RESILIENCE

## PARTNERS



## IN SHORT

This Food Agility CRC project identified a robust and repeatable framework by which agricultural AI models can be used to understand the implications of climate change and related risks on agricultural crop outcomes.

"This project improved the transparency of using AI, and in doing so has bridged the gap between complex technology and practical farming. This helps everyone in the agricultural industry make better, more confident decisions to safeguard our future".

**Dr. Victor Chu, University of Technology Sydney**

## THE CHALLENGE

Extreme weather events, such as heat waves, frosts, bushfires and unusual rainfall can impact the quality and yield of high-value specialty crops. Growers need timely information to manage production and mitigate risks. The use of historical data in machine learning means that current AI models are unprepared for long-term changes in climate and extreme weather events. There's also the need to better explain outputs from AI models to build consumer trust and grower confidence in the technology. This technology will be vital in implementing strategies to mitigate risks from oncoming climate change.

## OUR APPROACH

This project analysed trends across recent farming datasets and built in future climate change scenarios with known sectoral vulnerabilities in order to develop new, future-proofed frameworks for AI models on harvest outcomes. The work improved the robustness of existing harvest prediction platforms, helping to account for the increasingly volatile changes to climatic and weather phenomena that is already impacting farmers around the world. This technology has proved vital in helping Yamaha Agriculture, which has a footprint in Australia, New Zealand and the United States, to implement strategies to mitigate risks from climate change.

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