



# Oasis Conference 2024

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# Risk Frontiers



Catastrophe  
Loss Modelling

- Developing Catastrophe Loss Models since 1994
- Team of 15 professionals dedicated to building models in the Australian and New Zealand region
- Our models:
  - have national coverage
  - cover the top five perils in the region
  - generate detailed loss simulations
  - are adaptable for future climate scenarios
  - are naturally correlated



HailAUS



FireAUS



FloodAUS



CyclAUS



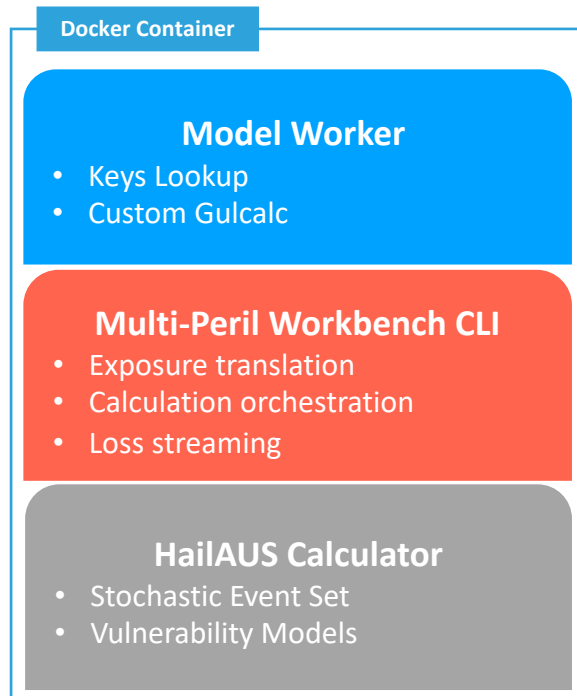
QuakeAUS



QuakeNZ



# Risk Frontiers on Oasis



- Oasis Loss Modelling Framework:
  - Open source model development, deployment and execution platform
  - Open Data Standard
  - Oasis Financial Module
- Complex Model Integration
  - Grid-less hazard definition
  - Dynamic motor exposure
  - On-the-fly damage calculation
  - Machine Learning-based vulnerability models
- **HailAUS, FireAUS and FloodAUS** will be deployed through Oasis



**HailAUS**



**FireAUS**



**FloodAUS**



**CyclAUS**



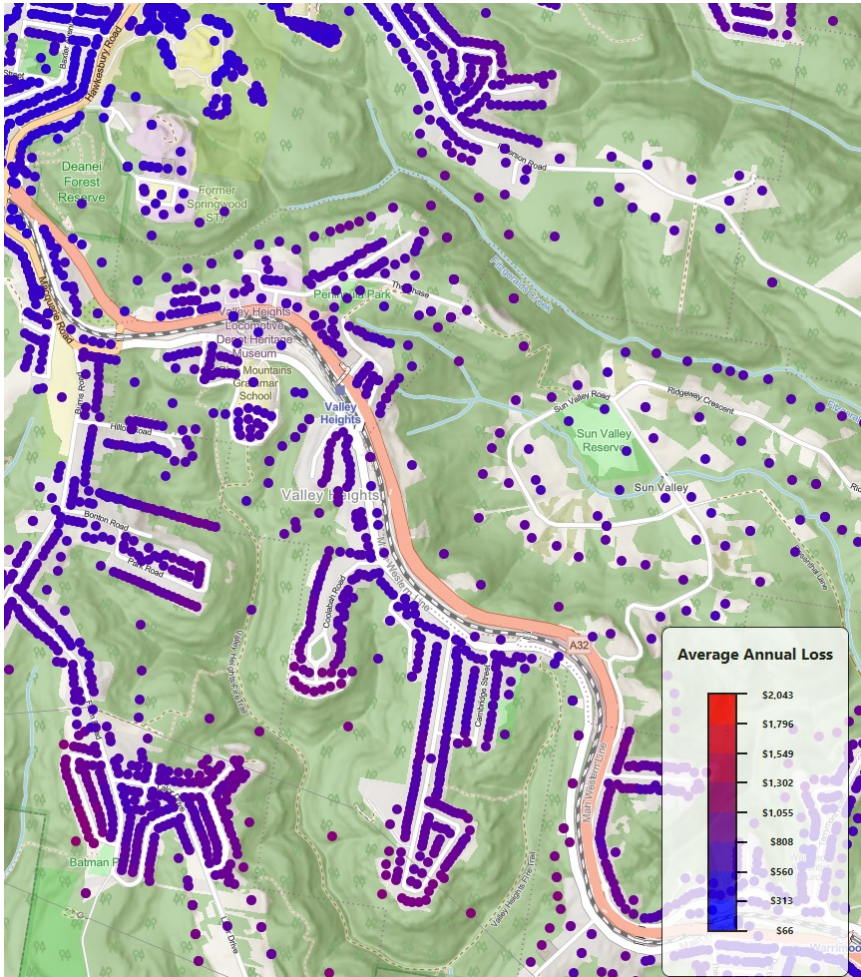
**QuakeAUS**



**QuakeNZ**



# FireAUS 4.0 Oasis Integration



- Hazard
  - Built using the MODIS burnt area product and Machine Learning
  - Stochastic fire ignitions (50,000 simulation years)
  - Dynamic fire propagation accounting for weather, topography and built-environment
  - High resolution hazard (1km)
- Damage
  - Detailed address level loss data collected over an extended period
  - High resolution damage simulation (100m)
- Extra
  - Future climate analysis (RCPs and SSPs)
  - Peril correlation on event sets



HailAUS



FireAUS



FloodAUS



CyclAUS



QuakeAUS



QuakeNZ

# Take Aways

- Risk Frontiers provides Catastrophe Loss Models for the Australian and New Zealand region
- Our models:
  - have high hazard and loss resolution
  - are enabled for future climate analysis
  - are correlated through the common underlying climate dataset
- Integration on Oasis:
  - **HailAUS** is available
  - **FireAUS** integration is underway
  - **FloodAUS** integration will follow soon



**HailAUS**



**FireAUS**



**FloodAUS**



**CyclAUS**



**QuakeAUS**



**QuakeNZ**

