Risk Frontiers'

HailAUS
Detailed Loss Model

Results with Impact

HailAUS 7.1 uses Risk Frontiers' own High Storm Potential Index to describe the probability of hailstorms nationwide. The model is built upon the Bureau of Meteorology's radar network, internal archives of historical hazard events and our PerilAUS database, along with reanalysis climate variables. Hail footprints are elliptical with concentric levels of estimated hail size, with damage estimates calculated for each exposure within this ellipse. The model parameters account for the density of cars based on time of year, time of day, and the nature of the location (e.g. car parks for airports, universities, or major shopping centers) for loss estimation.

Intelligently Designed. Location and Portfolio Level Intelligence.

For 25 years, Risk Frontiers has been leading the development of natural catastrophe models for the Asia-Pacific region. Available on our Multi-Peril Workbench, HailAUS is now offered through the Oasis loss modelling framework and commercially via Nasdaq Risk Modelling for Catastropes. HailAUS enables users unparalleled quantification of risk at the location and portfolio level, having full national coverage for property and motor insurance portfolios.

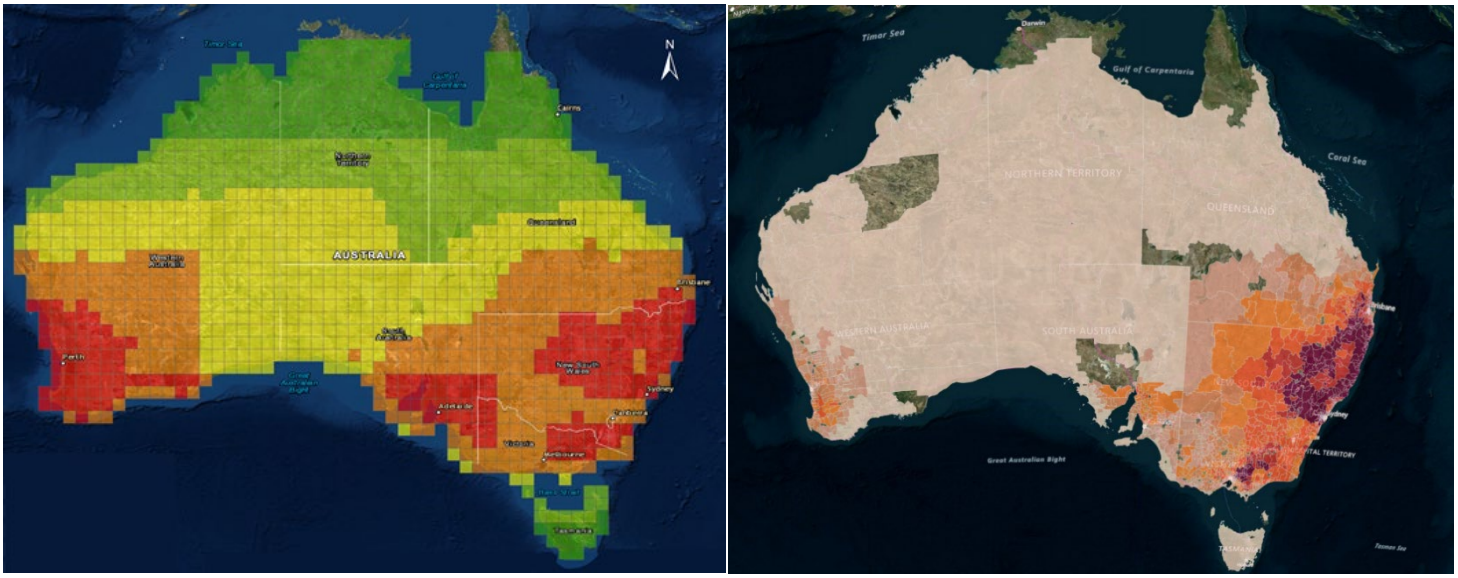

Figure 1: Expected Hail size for 100year Annual Return Interval (left) and relative Average Annual Loss (right) by postcode across Australia.

Model Overview

Hazard Resolution	Variable
Exposure Resolution	Location Address Level
Event Catalogue	50,000 years, 90 million storms
Line of Business	Residential / Commercial / Industrial / Motor
Business interruption	Commercial / Industrial
Coverage	All Properties on mainland Australia and Tasmania. 100% GNAF / Geoscape / Geovision

Post-Event Response Capabilities

Risk Frontiers has the ability to provide rapid damage estimates in the aftermath of a catastrophic hail event. Within 24 hours of an event, we are able to process radar data using peer-reviewed algorithms to determine event maximum expected hail size. Radar image processing techniques then produce the expected damage footprint for those estimated hail sizes and damage calculated against an exposed portfolio. Below is an example of the December 20th, 2018 Sydney hailstorm.

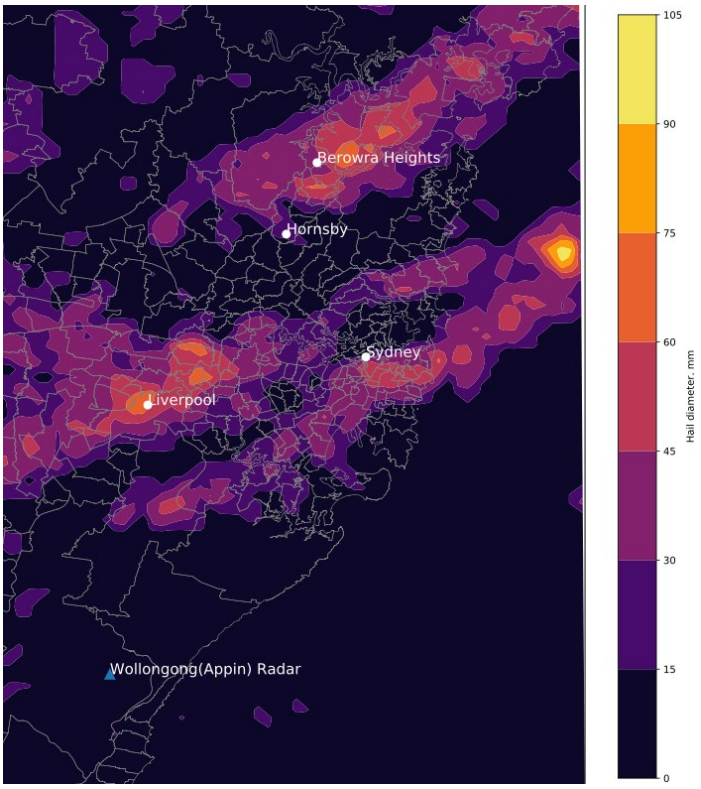

Figure 2: Mean Maximum Estimated Size of Hail from 02:00 to 10:00 UTC using the Wollongong Radar. White solid lines are postcode boundaries. Analysis used the second tilt (0.9 degrees from horizontal).

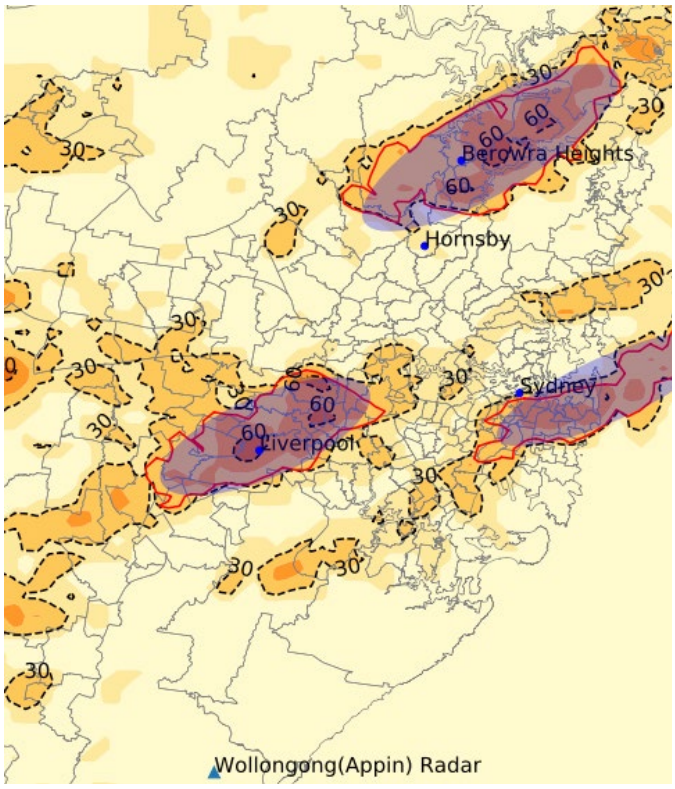

Figure 3: Storm footprints extracted from contours of mean Maximum Estimated Size of Hail algorithm output over the entire event. Dashed lines represent contour levels of 3cm diameter. The maximum predicted over the entire event was 10.4cm diameter hail.

Contacts:

Dr Ryan Crompton – ryan.crompton@riskfrontiers.com
Dr Foster Langbein – foster.langbein@riskfrontiers.com
info@riskfrontiers.com

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www.riskfrontiers.com