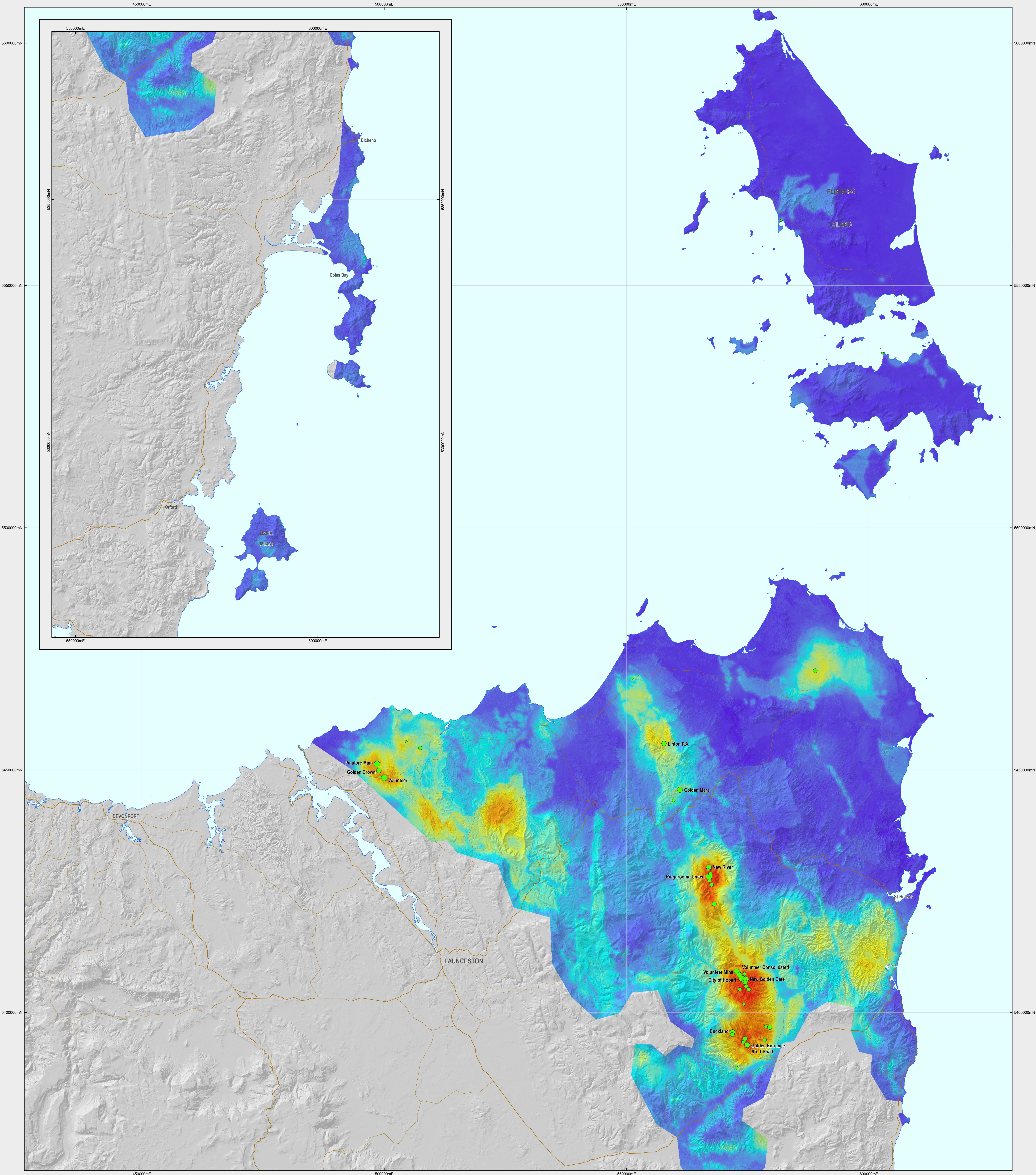




NORTHEAST TASMANIA - TURBIDITE-HOSTED GOLD-ANTIMONY PROSPECTIVITY



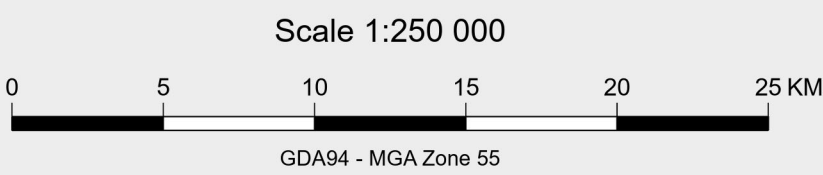
Data Specifications

This map displays the output of a random forest machine learning model trained to predict the prospectivity for turbidite-hosted gold-antimony mineralisation across northeast Tasmania. The model was developed at Mineral Resources Tasmania using geological, geophysical, and geochemical datasets. Input datasets include 1:250,000 geology mapping, geological point observations, airborne magnetics, gravity, radiometrics, digital elevation data, and stream sediment geochemical data. The model was trained on 40 known hard-rock gold deposit locations, weighted by produced tonnes.

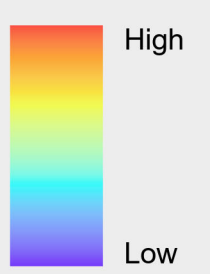
Several sets of random negative training points were generated across the study area, excluding a 1 km buffer around known deposits. An ensemble random forest method was implemented using the `scikit-learn` library in Python with 500 decision trees to produce a mean prospectivity prediction. The output is a probability grid with a grid size of 40 metres, where pixel values ranging from 0 to 1 represent the proportion of trees classifying each location as prospective.

Pixel colours are rendered using a standard blue-to-red heat map, where cool colours indicate low prospectivity and warm colours indicate high prospectivity. These colours represent the relative estimated prospectivity across the study area and do not indicate the presence of a deposit and provide no indication of economic viability of any potential mineralisation.

Mineral Resources Tasmania



Prospectivity



Training Points



Acknowledgements

Data used in the modelling were sourced from Mineral Resources Tasmania (MRT) and Geoscience Australia (GA). Some of the MRT datasets include compilations of data submitted by exploration companies. The prospectivity modelling was refined through consultation with the Geological Survey Team at MRT.

Modelling: T Czertowicz

Map produced by the Spatial Information Services Section of Mineral Resources Tasmania

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