



CEO comment



Neil Williams – CEO Geoscience Australia



Recent massive earthquakes and tsunami in our region have led to loss of life in Indonesia, Solomon Islands, Samoa and Tonga. This issue of *AusGeo News* includes a report on the development of the Australian Tsunami Warning System which is now a major contributor to earthquake and tsunami science and warning systems in our region. The system was developed using the scientific and technical expertise at Geoscience Australia, the Bureau of Meteorology and Emergency Management Australia.

North Queensland is one of the most richly mineralised regions of Australia, both in terms of total resources and the variety of commodities and deposit types. To better understand regional geological controls on these resources, especially energy resources, Geoscience Australia, in collaboration with the Geological Survey of Queensland and AuScope, undertook a deep crustal seismic survey in this region in 2007.

In this issue we report the most significant results of the survey and the complementary research and syntheses. The project, which also included university collaborators, identified fundamental new crustal boundaries and provinces in North Queensland and pointed to areas of previously unknown potential for iron oxide-copper-gold, lode gold, uranium and geothermal energy potential.

The predictive 3D geological models being developed to visualise subsurface geological features over a large area are an exciting new development for mineral explorers. Our article describes how inversion of the geophysical data constrained by known geological features is used to generate a model and reports on its application to data from the Perseverance mine in Western Australia.

There is also an article on the new 3D map of the Cooper Basin region which has been identified as highly prospective for geothermal energy. The new map defines the geometries of the Cooper and Eromanga basins and delineates potential heat sources and thermally insulating cover. When combined with the map of predicted temperatures at five kilometres depth, it can be used as a predictive tool for delineating potential geothermal plays.

This issue also includes an update on mineral exploration in Australia in 2008-09. Although Australian and global mineral exploration reached record highs during 2008 it dropped significantly in 2009 as a consequence of the Global Financial Crisis. Australian

mineral exploration expenditure fell by 9.7% from a record \$2461 million in 2007-08 to \$2223 million in 2008-09 according to data from the Australian Bureau of Statistics.

There has been continuing industry interest in the Australian Government's 2009 release of offshore petroleum exploration acreage in the Ceduna Sub-basin of the Bight Basin. This area has been a focus of studies by Geoscience Australia aimed at improving our understanding of its petroleum prospectivity over the last four years. A number of datasets and information products that underpin the release are now available (see the Product news section). Another product which will be of interest to explorers searching for nickel, platinum-group elements, chromium, titanium and vanadium is the Archean mafic-ultramafic magmatic events map. This dataset documents the 26 major Archean magmatic events and their associated mineral deposits across Australia.

Finally, I wish to thank all our readers for your continuing support and extend best wishes for the festive season and the New Year.