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## Australia's geological provinces revealed

Geoscience Australia has released a new, preliminary 2013 edition of its Australian Geological Provinces GIS dataset. The dataset provides a perspective of Australia through geological time which will help researchers, legislators, and resource exploration companies develop a greater understanding of what lies beneath the continent and its offshore jurisdiction.

The Australian Geological Provinces dataset contains descriptions and spatial extents of Australia's fundamental geological elements, such as sedimentary basins and tectonic provinces, including cratons and orogens, as well as igneous and metallogenic provinces from the Archean to the present day.

Information has been captured for each province on their respective age, geological history, contained stratigraphic units, relationships to other provinces and mineral resources, along with material from selected published references. Links in the dataset allow users to navigate to more detailed information about the stratigraphic units in a province via the Australian Stratigraphic Units Database.

The full 2D spatial extent of each province has been captured and includes the extent of a province under any overlying cover material, as well as the extent of outcrop of many provinces. Where possible, the outlines of provinces have been attributed with information about the source, accuracy, and interpretation method of those lines. The spatial data has been captured mainly at 1:1 million scale for intended use at 1:2.5 million scale or less.

Significant collaboration was undertaken with the State and Northern Territory geological

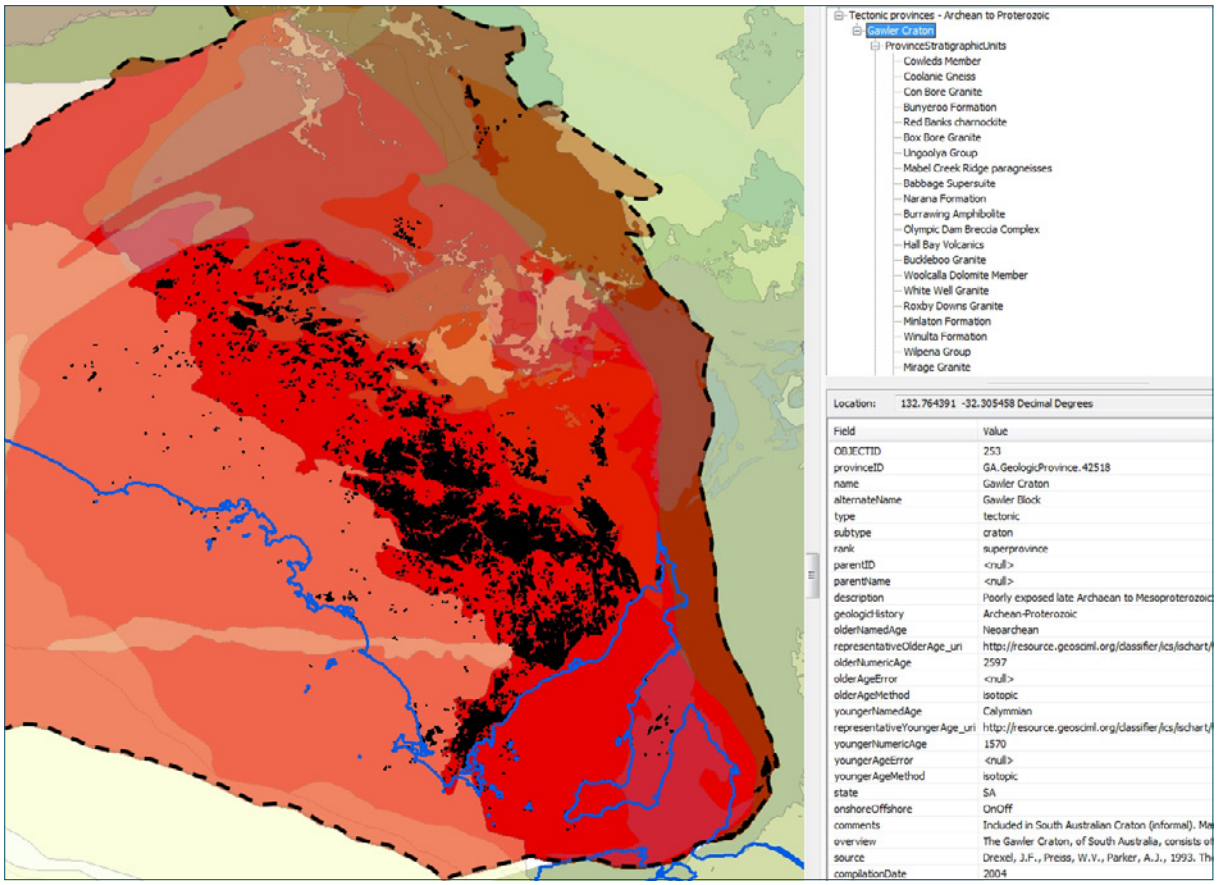


**Figure 1.** Screen-shot of example data for the Gawler Craton, showing the full extent of the craton (red with dashed outline), overlying sedimentary basins (various yellows and greens), and outcrop (black). The information on the right of the figure shows a summary description of the craton and a list of stratigraphic units with links to detailed unit descriptions.

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surveys to achieve a consensus definition and extent of each province. Many provinces extend over large areas of Australia, resulting in some challenging rationalisation of existing mapped boundaries across several State and Territory borders. Every effort has been made to record the most up-to-date and agreed interpretation of all provinces, but the definition of some may still be contentious.

It should be noted that this preliminary edition (version 2013.01) of the dataset is not a complete representation of all of Australia's geological provinces. However, it is the most comprehensive national dataset available. Further work is underway at Geoscience Australia, in cooperation with the State and Territory geological surveys, to complete the national coverage of all of Australia's geological provinces. Additionally, not all the provinces descriptions in this preliminary edition have undergone a rigorous quality assurance check to ensure the accuracy and completeness of their descriptions.

The dataset is available in shapefile and ESRI geodatabase formats as a free download. This new dataset replaces Geoscience Australia's 1998 Australian Sedimentary Basins dataset, and supersedes the previous, and incomplete, 2004 version of the Australian Geological Provinces dataset.

## Related articles and websites

Australian Stratigraphic Units Database
www.ga.gov.au/products-services/data-applications/reference-databases/stratigraphic-units.html

Australian Geological Provinces, 2013.01 edition
www.ga.gov.au/metadata-gateway/metadata/record/gcat_74371

## For more information

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