

Australia's mineral resources maintain world status

A new publication, *Australia's Identified Mineral Resources 2008*, reveals that Australia's minerals reserves continue to ensure that the mining industry is the most important export earning sector of the Australian economy.

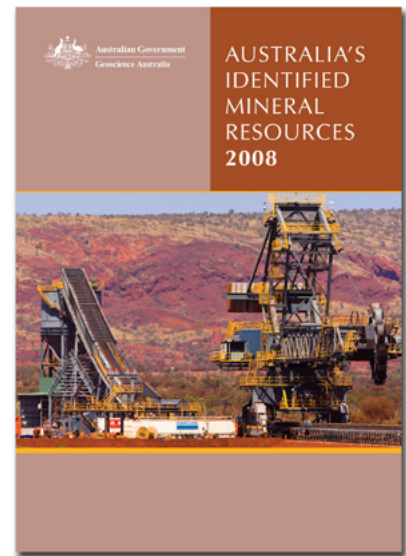
The report, compiled by Geoscience Australia, shows that at December 2007, Australia had the world's largest economic demonstrated resources of mineral sands (rutile and zircon), nickel, uranium, zinc, lead and brown coal. The country also ranks among the top six worldwide for resources of bauxite, black coal, copper, gold, iron ore, industrial diamond, ilmenite, lithium, manganese ore, niobium, silver, tantalum and antimony.

Australia's Identified Mineral Resources 2008 also reveals that during 2007, Australia's economic demonstrated resources increased as a result of ongoing drilling and reassessment of known deposits and the discovery of new deposits.

Over the year, Australian mineral exploration spending increased by 41 per cent to more than \$2061 million. This increase reflected strong growth in prices for many commodities on the back of anticipated strong and growing demand, particularly from China, as well as major increases in the cost of exploration. There were significant numbers of intersections in extensions of known deposits and several new discoveries in Western Australia, South Australia and New South Wales.

Australia's Identified Mineral Resources 2008 provides government, industry, the investment sector and the general community with an informed understanding of Australia's known mineral endowment and the level of exploration activity. The assessment includes data on mining company estimates of ore reserves as well as evaluations of long-term trends in mineral resources, international rankings, summaries of significant exploration results, mining industry developments and an analysis of mineral exploration expenditure.

A free download of *Australia's Identified Mineral Resources 2008* is available through the Geoscience Australia website and other fundamental data on the minerals sector can be accessed through the *Atlas of Australia's Mineral Resources, Mines and Processing Centres*.



For more information

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Related websites/articles

Australia's Identified Mineral Resources 2008

www.ga.gov.au/image_cache/GA12116.pdf

Atlas of Australia's Mineral Resources, Mines and Processing Centres.

www.australianminesatlas.gov.au

Tracking water flow made easier with new national elevation database

Understanding how Australia's precious water drains across the surface of the continent will be dramatically improved thanks to a new national Digital Elevation Model (DEM). The new data will contribute significantly to water accounting, catchment management, modelling the impacts of climate change projections and a broad range of other applications.

Researchers from the Australian National University (ANU) and Geoscience Australia have recently released this new version of their GEODATA 9 Second Digital Elevation Model (DEM-9S). Version 3 marks the culmination of more than a decade of work, providing a grid of ground-level elevation points covering the whole of Australia, with a grid spacing of nine seconds in longitude and latitude, or roughly every 250 metres.

The core data underpinning the new database include:

- revised versions of elevation points, streamlines, cliff lines, and water-bodies
- trigonometric points from the National Geodetic Database
- additional elevation, streamline and sink point data digitised from source material.

The work also incorporated major upgrades to the ANUDEM modelling software to improve the representation of streamlines, lakes, cliff lines and the coastline. According to Professor Michael Hutchinson from ANU 'while there are many locations where higher accuracy data are available, this product provides the only nationally consistent data for modelling across the entire continent'.

Accompanying the elevation data is a corresponding Flow Direction Grid (D8-9S) which describes the principal directions of surface drainage across the whole of Australia. It can be used to delineate streamlines and associated catchment boundaries. This is particularly useful in low-relief areas where drainage structure is not reliably defined by elevations alone. The new data shows that only around 50 per cent of Australia's drainage basins actually flow to the sea.

This work will underpin the Australian Government's Water for the Future program and the Australian Water Resources Information System being developed by the Bureau of Meteorology. Work has



begun already on the next generation of a national DEM which will improve the resolution from 250 metres to less than 90 metres.

Both datasets can be downloaded free-of-charge from the Australian governments' Geophysical Archive Data Delivery System (GADDS). The dataset is also available on CD ROM from Geoscience Australia's Sales Centre for \$99.00.

For more information

To order copies of the CDs

phone Freecall 1800 800 173
(in Australia) or
+61 2 6249 9966

email sales@ga.gov.au

phone Phil Tickle on
+61 2 6249 9769

email phil.tickle@ga.gov.au

Related websites

GEODATA 9 Second DEM
and D8: Version 3 and Flow
Direction Grid 2008

www.ga.gov.au/nmd/products/digdat/dem_9s.jsp

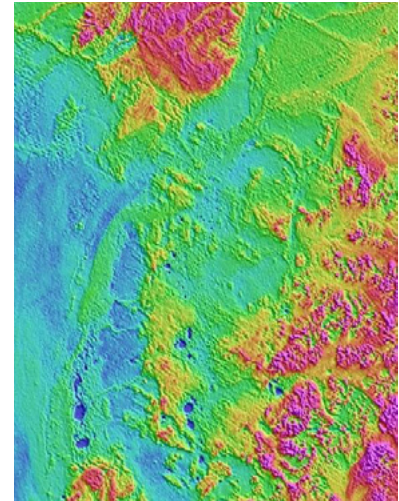
New geophysical datasets released

Datasets from two new airborne magnetic and radiometric surveys, covering the Lower Balonne in southern Queensland and the Byro region in Western Australia, have been released since September 2008.

The Lower Balonne airborne magnetic and radiometric survey was managed by Geoscience Australia under the auspices of the National Action Plan for Salinity and Water Quality. This project was undertaken by the Queensland Department of Natural Resources and Mines, the Cooperative Research Centre for Landscape, Environments and Mineral Exploration and the Australian Government's Bureau of Rural Sciences.

The Byro airborne magnetic and radiometric survey was managed by Geoscience Australia on behalf of the Geological Survey of Western Australia. The survey provides basic geophysical data which can be interpreted to reveal the sub-surface geology where the Gascoyne Province meets the Yilgarn Craton and importantly to stimulate mineral exploration.

The data have been incorporated into the national geophysical databases and will be a valuable tool in assessing the mineral potential of the respective survey areas. The point-located and gridded data for the surveys can be obtained free online using the Australian government's Geophysical Archive Data Delivery System (GADDS).



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Related websites

Geological Survey of Qld
www.dme.qld.gov.au/mines/about_us.cfm

Geological Survey of WA
www.doir.wa.gov.au

Table 1. Details of the airborne surveys.

Survey	Survey type	Date	1:250 000 map sheets	Line spacing/ terrain clearance/ orientation	Line km	Contractor
Lower Balonne (Qld)	Magnetic, Radiometric, Elevation	April – August 2001	Dirranbandi (pt), St George (pt), Homeboin (pt), Surat (pt)	100 m, 400 m 60 m 137°	60 605	Tesla Airborne Geoscience
Byro (WA)	Magnetic, Radiometric, Elevation	April - July 2008	Wooramel (pt), Glenburgh (pt), Yaringa (pt), Byro (pt)	400 m 60 m east - west	83 855	GPX Surveys Pty Ltd