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New Minister and changes to the Department

Over recent months there has been a reorganisation of the NSW public service in response to a cabinet reshuffle. In January, Don Harwin was appointed as Minister for Resources, Minister for Energy and Utilities, and Minister of the Arts. As of 1 April, the Geological Survey now resides within the Department of Planning and Environment, under Secretary Carolyn McNally. We form part of the Division of Resources and Geoscience (DRG), with Kylie Hargreaves as Deputy Secretary. The internal structure and management of the Geological Survey has not been affected by the changes. Integration of the Branch into the new department will continue for several months, but we will continue business as usual and provide the same services to clients.

New products

Cobar Basin study featured in latest Quarterly Note

[Quarterly Note](#) 148 presents a reassessment of burial and inversion-related regional metamorphism in the Cobar Basin, including discussion on the relationship between metamorphism, hydrothermal alteration and mineralisation. The key findings include features most consistent with a syn-rift, intrusion-related mineral system that has undoubtedly undergone reactivation, remobilisation and potentially subsequent mineralisation during basin inversion and orogeny.

New products for Captains Flat and Moss Vale areas

The [Captains Flat Special 1:50 000 explanatory notes](#) have arrived! This 234 page full colour book costs \$35 and outlines the geological history and mineral systems of the area, and contains detailed descriptions of all stratigraphic units. The [Captains Flat 1:50 000](#) and [Moss Vale 1:100 000](#) geological maps are also now available.

Seven new statewide geophysics maps

A comprehensive [suite of maps presenting geophysical data](#) for the entire state was released in February. The airborne magnetic data is presented in three separate maps: total magnetic intensity, which has been processed to remove the effects of varying magnetic latitude; first vertical derivative, which enhances low amplitude anomalies; and a tilt-filtered image, which removes variations due to source depth, allowing features to be traced beneath non-magnetic cover. The suite also includes a ternary radioelement map, a gravity map which has been processed to remove the effects of isostatic crustal thickness, a digital elevation map derived from survey aircraft altimeter data, and a geothermal temperature map derived from drillhole temperature measurements.

XplorPak 2017 on DVD – a directory for NSW explorers

[Xplorpak 2017](#) provides concise information on the geology, and mineral and energy resources of NSW to assist explorers and attract investment. As well as information on metallic minerals, industrial minerals, geothermal resources and coal and petroleum in NSW, it lists active exploration companies in the state, and all information can be filtered by commodity type. There is an overview of the state's geology, free statewide GIS data, GSNSW project updates, links or information about our products and services, and current NSW government policy information.

Contact: geoscience.products@industry.nsw.gov.au 02 4931 6426 for all product information.

Project Updates

Research projects support the Southern Thomson Orogen Drilling Project

New university research projects are generating fresh data and ideas to improve the understanding of provenance, geological evolution and tectonic setting of the southern Thomson Orogen. Australian Research Council Linkage funding is supporting Honours, Masters and PhD studies by three earth sciences groups - University of Newcastle (UoN), Queensland University of Technology (QUT), and University of Queensland (UQ) – within a three year research program titled [Southern Thomson Orogen: a missing link in the Tasmanides](#).

GSNSW geoscientists continue to assist by providing data and information, access to drillcore and supporting field studies by the students. Results from completed Honours projects have firmed up age constraints for several rock units, including some unexpected age dates. Areas of focus within NSW include Louth, Brewarrina, Yancannia and Fords Bridge.

Staff and students from UoN, QUT and UQ joined geoscientists from GSNSW, GSQ and GA for a day of presentations in Brisbane in January 2017, followed by a half-day planning session. This provided an opportunity to share results and to find synergies between these research projects and other activities underway for the National Collaborative [Southern Thomson Orogen Project](#). This project includes a program of stratigraphic drilling, with two holes completed in Queensland during 2016 and drilling within four key NSW areas to commence in mid-2017.

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Hawkins–Rumker Drilling Project completed

In 2006 the planning was finalised for a regional assessment program in the northern part of the Western Coalfield in the Rylstone/Bylong/Wollar/Gulgong area. Drilling commenced in early 2007 in the Cobbora area, west of Dunedoo. This was followed by the Western North, North Rylstone and Kains Flat programs. The recently completed Hawkins–Rumker program consisted of 24 cored holes totalling 3252m of drilling and was the culmination of a 10-year drilling program. Identifying coal resources that may be suitable for release as new exploration areas involves an initial regional assessment and then progressively zeroing in on prospective areas.

The Hawkins–Rumker program delineated two large, adjacent export quality thermal coal resources. One resource is in the Ulan Seam (the 'D' ply) in the Hawkins area, northwest of Rylstone; and the other in the Rumker area, northeast of Rylstone in the Lidsdale Lower seam.

The Hawkins–Rumker program was the first GSNSW drilling program where groundwater monitoring equipment was installed. At four locations vibrating wire piezometers collect baseline water data from various depths.

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Warrumbungle National Park in 3D

The GSNSW has ventured into the world of 3D printing, with the first attempt to produce a 3D print of the Warrumbungle National Park, based on 1m LiDAR data supplied by the National Parks & Wildlife Service (NPWS). GSNSW is working with NPWS to produce a new geological map of the park, and the aim is to possibly have a larger-scale coloured 3D geological model of the park in the visitors centre. This collaborative project is part of the NPWS revitalisation project for the Warrumbungle National Park Visitors Centre, which was destroyed by fire in 2013.

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Coonabarabran geophysical survey delayed

Issues with aircraft availability have delayed the planned commencement of acquisition of magnetic, radiometric and elevation data over the [Coonabarabran Project](#) area. We hope to announce a survey date soon.

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Online resources

Common Ground receives international praise

In a recent report prepared by an independent organisation for the Mexican Government's National Hydrocarbons Commission on [International Best Practices for Transparency in Contract Management](#). Common Ground is featured as a rare example of a government organisation providing information that clearly explains the regulatory process and the "dense terminology that permeates the sector". Common Ground was described as 'an excellent example of a regulator using plain language explain complex processes related to mining and production activities'.

Common Ground (www.commonground.nsw.gov.au) was upgraded in late December, based on feedback from stakeholders representing the community and industry. The upgrades include the addition of water data-related map layers, a property (cadastre) based search tool, the ability to turn off title maps in the map window, a map layer showing NSW fossicking districts and improved 'How to Use' information.

More improvements to Common Ground are planned and any feedback and suggestions are invited.

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Progress on new map viewer

The redevelopment of the GSNSW web map application MinView3 has commenced, with the contractors demonstrating an early prototype to GSNSW staff and industry representatives on 10 March. The new application uses data services to deliver an expanded range of geological and geoscientific datasets that can be displayed and queried, along with relevant reference layers such as exploration and mining licences and applications, and landuse planning and administration boundaries. It is anticipated that the new MinView will be available in July.



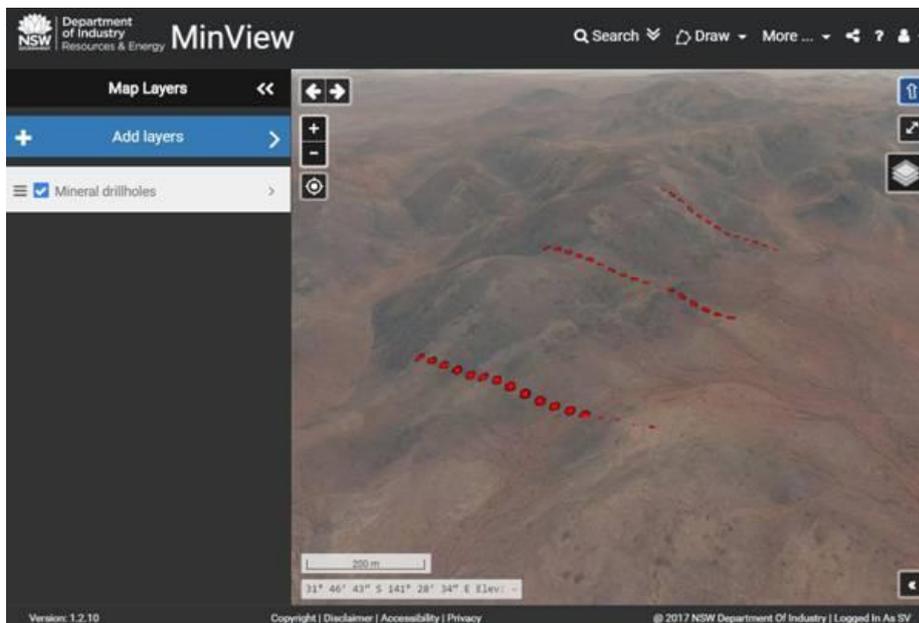


Image: MinView 3 prototype displaying mineral drillholes

What's new in the Geoscientific Data Warehouse?

The download facility of the [Geoscientific Data Warehouse](#) (GDW) has been significantly expanded to include statewide geology, geophysical imagery and NSW title datasets. You can now 'clip and ship' these statewide datasets to your area of interest in NSW, and choose the data format required.

New datasets available for download include:

- NSW titles data (current tenure, applications, historic exploration licences, blocks and units)
- Seamless geology (Zone 56) and statewide simplified geology
- 7 statewide geophysical images

GDW datasets can be downloaded as text files or GIS formats in either MapInfo TAB file or shapefile format. Esri® geodatabase format is available for the seamless geology dataset. Geophysical imagery can be downloaded in ECW, JPEG or GeoTIFF file formats.

Other improvements to the system include:

- Whole rock geochemistry search page – new drillhole filter to assist searches, new report to summarise analyses of drillhole samples
- New Google Earth sub-layer to display whole rock drillhole samples

Contact geoinfo.admin@industry.nsw.gov.au

AusGIN and the Geoscience Portal: new and improved

A new [Australian Geoscience Information Network \(AusGIN\)](#) website has been launched by the Australian state, territory and federal geological surveys. The flagship of AusGIN is a completely revamped [Geoscience Portal](#) — now a state-of-the-art online mapping application that brings together spatial geoscientific data from all Australian government jurisdictions. Recently the GSNSW uploaded Cobar Hylogger™ data to the portal.

All data in the [Geoscience Portal](#) is delivered via live web services in standard formats from locations around Australia. Data layers may be viewed, manipulated, analysed and downloaded. The portal also provides access to data registries from six state and federal government agencies, allowing users to search across thousands of geoscience datasets and publications. Featured datasets in the new portal include boreholes, mineral occurrences and mineral tenements; and national geophysical datasets including new onshore seismic and rock properties data.

The AusGIN website provides links to established geoscience information hubs, such as the [Geophysical Data Delivery System \(GADDS\)](#), and links to state, territory and federal geoscience organisations. AusGIN also links to a new and improved [Australia Minerals](#) website, which now contains all legislative, regulatory, and reporting information relevant to mineral resources investment, exploration and mining in Australia.

Latest online publications by GSNSW

Some of our published books that are over 5 years old have recently been made open file in [DIGS](#). These include Manilla and Angledool explanatory notes, as well as bulletins 33 (Industrial minerals of NSW), 34 (Coastal Quaternary geology) and 35 (Koonenberry Belt).

External journal articles:

P.M. Downes, D.B. Tilley, J. Fitzherbert & M.E. Clissold 2016. Regional metamorphism and the alteration response to selected Silurian to Devonian mineral systems in the Nymagee area, Central Lachlan Orogen, New South Wales — a HyLogger™ case study. *Australian Journal of Earth Sciences* **63**, 1027–1052.

P. K. Seccombe , Z. Jianga & P. M. Downes 2017. Sulfur isotope and fluid inclusion geochemistry of metamorphic Cu–Au vein deposits, central Cobar area, NSW, Australia. *Australian Journal of Earth Sciences* online.

Y.Y Zhen & I.G. Percival 2017. Late Ordovician conodont biozonation of Australia – current status and regional biostratigraphic correlations. *Alcheringa* **41**, 1–21.

Drillcore news

Drillcore recently accepted at our core libraries

More than 26 000 m of drillcore from AGL, Lucas Energy, Pacific Power and Climax Mining has been accepted from October 2016 to January 2017. View the [list of recent drill core accepted](#) at the [Londonderry Drillcore Library](#). No core was accepted between October and January at the [EC Andrews drill core facility](#), Broken Hill.

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Drillcore sampling policy

To maximise the use of our core, sampling must ensure that 25% of core (measured in cross-section) remains with the Department. Companies must assay for at least 1 suite of elements per sample using the multi element scans available commercially. For more information, see [Annex 6](#) of the drillcore policy.

<http://www.resourcesandenergy.nsw.gov.au/miners-and-explorers/geoscience-information/services/drill-core-libraries>

Hylogger™ activity

National Virtual Core Library (NVCL)

HyLogging of drillcore from Northparkes mine is well underway and is on track for completion by June. The data being gathered will be used to compare and contrast the E26 and E48 copper–gold porphyry deposits. National Collaborative Research Infrastructure Strategy (NCRIS) funds assisted with the transport of 5000 m of core from Northparkes to our facility at Londonderry. The GSNSW has also provided resources to the project through the New Frontiers Initiative.

Additional NVCL drillhole datasets are continually becoming available. To date, there are 250 HyLogger drillhole datasets available for download from the AusGIN Geoscience Portal at <http://portal.geoscience.gov.au/gmap.html>

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Diary and contacts

Upcoming conferences

[NSW Minerals Council Forum](#) 8 May, Sydney

[GSNSW Data Workshop](#) 9 May, Sydney

[Exploration in the House](#) 9 May, Sydney

[Sydney Resources Roundup](#) 10–11 May, Sydney

GSNSW Data Workshop and CWEDG technical talks, 24 May, Orange

[APPEA](#) 14–17 May, Perth

[FUTORES II](#) 4–7 June, Townsville

[AMEC Convention 2017](#) 7–8 June, Perth

Uncover Curnamona, 25–28 July, Broken Hill

[Discoveries in the Tasmanides](#) 6–8 September, Orange

Staff movements

Jenn Warner accepted the position of Geoscientist with the Land Use team

Michael Nelson finished work as a Graduate Geologist and now works for Regis Resources

Charlotte Barry finished work as a Graduate Geologist and now works for Lincoln Minerals

Jamie Robinson has left the position of Senior Geologist 3D Modelling

Glen Phillips left the position of Senior Geoscientist, Seamless Geology

Chris Folkes accepted the position of Senior Geoscientist, Seamless Geology

Trevor Barlin left the position of Project Manager, Geoscience Information Gateway

Bronwyn Witham accepted the temporary position Project Manager, Geoscience Information Gateway

Lee Scott accepted the position of Geoscientist, Mining and Exploration Assessment

Karen Montgomery accepted the position of Geoscientist Minerals with Strategic Resource Assessment & Advice

Products

[Digital Imaging Geoscientific Systems \(DIGS\)](#)

[Geophysical images and data](#)

[Geoscientific Data Warehouse](#)

[Online sales: \[www.shop.nsw.gov.au\]\(http://www.shop.nsw.gov.au\)](#)

[OTO](#)

[Quarterly Notes](#)

Product enquiries

Maps and data packages: geoscience.products@industry.nsw.gov.au Tel: 02 4931 6426

Geophysical images and data: geophysics.products@industry.nsw.gov.au Tel: 02 4931 6717

Counter sales: mineralpublication.orders@industry.nsw.gov.au Free call: 1300 736 122 Tel: 02 4931 6666

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Information

Web: www.resourcesandenergy.nsw.gov.au

GSNSW: www.resourcesandenergy.nsw.gov.au/miners-and-explorers/geoscience-information

Visit the [Geoscience Information webpages](#) where you will find access to online systems DIGS[®], MinView, EROL, GDW and GPC, upcoming GSNSW events, news, publications and product information.

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