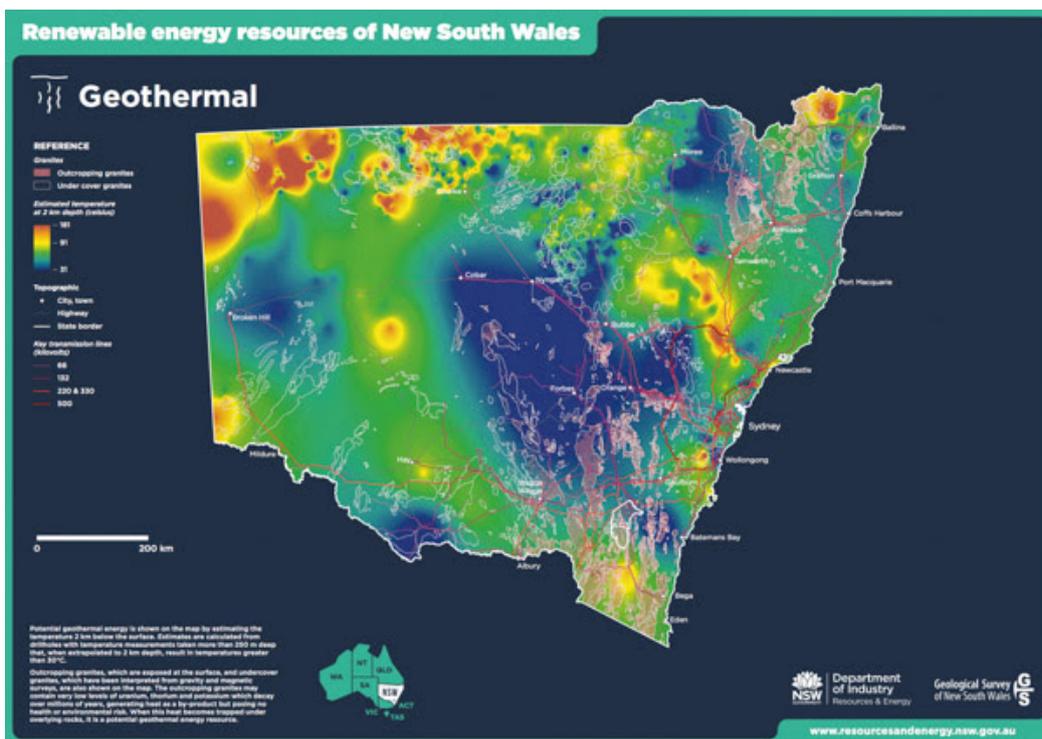


## Statewide renewable energy resources map released

On July 27, Minister Anthony Roberts launched the NSW Government’s first ever [Renewable Energy Resources Map](#) and online database. The tools provide project developers, students and the general public with free access to geospatial data and information on the state’s renewable energy resources, including solar, wind, bioenergy, wave hydro and geothermal. These products will help to foster a more specific geographic focus on renewable energy opportunities by helping to industry to identify areas that have the greatest potential. The map also provides the most comprehensive database for existing renewable energy projects showcasing over 210 projects over 100 kilowatts.

It is the first time that such data has been made public, most notably statewide high-resolution wind speed data, which is one of the best freely available wind data in Australia. As well as being a useful tool for investors, the products will assist the next generation of renewable energy innovators and those teaching them.

The project has also published updated geothermal temperature layers at depths of two km, three km and a national depth comparison of five km. The borehole data set that underpins these layers will soon be available from the Geoscientific Data Warehouse, but is currently in DIGS.



*A component map of the new product showing geothermal resources.*

## Enhanced geophysical images now available online

More than 7300 geophysical images are now available for online delivery as image suites prepared for each of the sixty-one 1:250 000 map sheets within NSW. These are useful for geological interpretation, desktop studies and survey planning. They can be downloaded through the [new spatial DIGS report and publication portal](#) as both geographic coordinates and MGA projection and as .ecw, .jpeg and .tiff formats. Search publications tab for “geophysical imagery”.

## GDW now includes whole rock geochemistry data

Recently released updates to the [Geoscientific Data Warehouse \(GDW\)](#) include the addition of the NSW whole rock geochemistry dataset. On-demand access is available to search, discover and download this important dataset.

## Yathong Trough deep seismic reflection survey released

Early to Late Devonian sedimentary sequences of the Yathong Trough cover about 15 000 km<sup>2</sup> in central NSW. The trough is one of 10 sub-basins within the Darling Basin. Two survey lines of deep (20 and 22 second) seismic reflection data were acquired as part of the New Frontiers Initiative. The east–west line GA13-YT02 was extended ~50 km eastward into the Lachlan Orogen to provide data for mineral systems studies in the broader Cobar Basin region. The [survey data](#) is available from the GA website.

Contact: [rosemary.hegarty@industry.nsw.gov.au](mailto:rosemary.hegarty@industry.nsw.gov.au), 02 4931 6597

## Cobar explorers' event

A new Cobar map will be showcased at Cobar Bowling & Golf Club on the evening of 20 September, along with technical talks about results of recent GSNSW studies in the region.

The Cobar 1:500 000 metallogenic map to be released covers deposits of the Cobar Basin and adjacent rocks south to the Lake Cargelligo area. Associated studies have redefined our understanding of metamorphism and heat flow in the area and their relationship to formation of these enigmatic deposits. High temperature alteration associated with the main deposits are currently the focus of age dating, radiogenic and stable isotopic studies to better characterise fluid and metal sources. The HyLogger™ team has also scanned 9000 m of core from the major mines at Cobar to characterise alteration around these systems and develop mineralogical alteration vectors.

Contact: [john.greenfield@industry.nsw.gov.au](mailto:john.greenfield@industry.nsw.gov.au), 02 4931 6696

Event information: [jodi.birch@industry.nsw.gov.au](mailto:jodi.birch@industry.nsw.gov.au), 02 4931 6592

## Cobar data workshop - expressions of interest sought

If there's sufficient interest, a workshop will be run in Cobar before the technical talks. It will guide exploration and mining professionals in using Geological Survey online systems to access data to enhance their work. Specialist presenters from the GSNSW will lead participants in using their own computers for comprehensive hands-on sessions. Please register your interest.

Contact: [jodi.birch@industry.nsw.gov.au](mailto:jodi.birch@industry.nsw.gov.au), 02 4931 6592

## East Riverina Mapping Project update

Mapping continued on the Temora, Coolamon, Narrandera and Wagga Wagga 1:100 000 sheets, with field trips in April, May and June. The trip in April incorporated palaeontological and SHRIMP U-Pb age dating sampling.

Four reports outlining mapping activities and preliminary findings from the 2015 field season have been published (GS2016/0395 to GS2016/0398 inclusive). A [quarterly project update](#) is now also available. New field observations for the April–June quarter were released mid-July and can be downloaded from the Geoscientific Data Warehouse.

Contact: [phil.gilmore@industry.nsw.gov.au](mailto:phil.gilmore@industry.nsw.gov.au), 02 4931 6533

## Updated products

The July 2016 [Advanced Mineral Projects & Exploration Highlights Map](#) is now available:

An updated [XplorPak2016](#) will shortly be released that incorporates the updated map. The pack provides information, links and data on mineral, geothermal, coal and petroleum, potential, exploration and production in NSW to help prospective explorers and other stakeholders.

Contact: [geoscience.products@industry.nsw.gov.au](mailto:geoscience.products@industry.nsw.gov.au) for your free DVD.

## Drill core recently accepted at our core libraries

More than 1391 m of drill core from Endeavor mine (CBH Resources) and Porters Mount, about 50 km northwest of Grenfell (Capital Mining Limited) has been accepted from February 2016 to May 2016. View the [list of recent drill core accepted](#) at the [Londonderry Drillcore Library](#). No core was accepted at the [EC Andrews drill core facility](#), Broken Hill.

## Palaeontological research

Drs Yong Yi Zhen and Ian Percival recently attended the [Palaeo DownUnder2 Conference](#) in Adelaide, where they presented results of some of their current palaeontological research. The information they gathered from the conference and field trip will be of direct relevance to a project they are working on to define biostratigraphic zones across the Cambro-Ordovician boundary in the southern Koonenberry Belt of far-western NSW. This will increase the precision of correlation with rock units in the Delamerian Orogeny and intracratonic basins of central and northern Australia.

Contact: [ian.percival@industry.nsw.gov.au](mailto:ian.percival@industry.nsw.gov.au), (02) 4777 0315

## AusLAMP long-period MT acquisition program announced

GSNSW and Geoscience Australia signed a National Collaborative Framework agreement in June 2016 to fund and support statewide coverage for the Australian Lithospheric Architecture Magnetotelluric Project (AusLAMP). The acquisition of continental-scale coverage is an UNCOVER priority and the new data will greatly improve our understanding of the fundamental deep crustal



As each survey is completed the data has been made open file and turned into a new product. Of the many products generated, the main ones are:

**Regional geophysics** (on DVD for \$110 per survey)

These DVDs contain the flight line data/point data collected in the survey, the grids generated from this data and images of the grids. The flight line/point data allow the fitting of high-precision geophysical models along the flight lines, while gridded data allows lower precision modelling for any orientation.

**Statewide merges** (on a 4 DVD set for \$110)

This DVD set contains statewide grids that are made from government regional projects and some large open-file surveys from private industry. Geophysical modelling can be done using these grids, but using the flight line/point data from the regional DVDs provides greater data density relative to the coarse grid size, and thus will generate more accurate results.

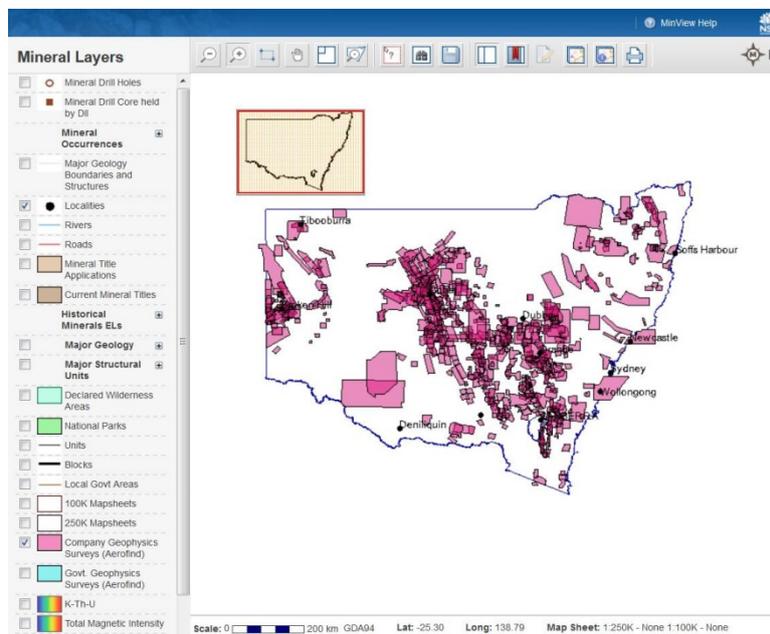
**250K GPX imagery suites**

These are available for free through the [new spatial DIGS report and publication portal](#) and consist of statewide merged geophysical grids clipped to 1:250 000 map sheet areas. Images have been generated using an equalised colour stretch to best enhance the subtle features within dataset. Images generated from the statewide grid generally have larger range of values and the colour stretch cannot enhance all features adequately. Twenty different types of geophysical imagery have been generated – each available in three formats (jpg, ecw & tif) and georeferenced in two coordinate systems (GDA94 & MGA94). Metadata about the imagery colour schemes, units and preparation are provided as ANZLIC compliant XML.

**AEROFIND** is provided by GSNSW and is a repository of private company geophysical surveys across the state. Exploration and mining title holders must submit all geophysical data acquired to GSNSW. Open file company data can be delivered to customers for free over the internet. All private sector surveys have a five year confidentiality sunset clause (as of 2016). Prior to 2015, company geophysical data only became open file as the title was relinquished.

These surveys commonly have higher resolution than regional government surveys – the more recently acquired the data, the more likely it is to be high resolution and in standard formats. A few large open file surveys have been merged into our statewide grids.

- View areas with private company geophysical coverage in [MinView](#).



### Find private company geophysical data over your area of interest:

- Google search NSW [MinView](#)
- Launch MinView (as a guest if you don't have a login)
- Accept the conditions
- Choose your view – minerals
- Zoom to your area of interest
- Turn off the other layers
- Turn on Company Geophysics Surveys (Aerofind)
- Use the question mark tool to draw a box over your area of interest.
- A new window with a results table will open. Send a screen shot or copy results into a spreadsheet and email to: [geophysics.products@industry.nsw.gov.au](mailto:geophysics.products@industry.nsw.gov.au)

The confidentiality status of the files will be assessed and if the data is open file, it will be sent to you.

**Contact:** [geophysics.products@industry.nsw.gov.au](mailto:geophysics.products@industry.nsw.gov.au), 02 4931 6666

## Have your say!

If you would like to have your say in where regional government geophysical acquisition is needed please fill out a [Survey](#). This survey also covers various geophysical techniques and how we deliver geophysical data to you.

## New Director heads Geoscience Information business unit



Sam Wilkin has accepted the position of Director, Geoscience Information. Originally from Adelaide where he studied Geographic Information Systems at the University of South Australia, Sam recently

came across from Department of Primary Industry - Lands where he worked as the Group Leader Spatial Management. During his time at DPI – Lands, he was responsible for coordinating the maintenance and delivery of their corporate spatial datasets and systems. He also worked closely with his team to provide spatial analysis on a range of topics.

Sam is very passionate about all things spatial, in particular web-based systems and open data. He is looking forward to working with GSNSW's very skilled team, and finding new ways to empower the mineral exploration and geoscientific community through innovative GIS solutions.

Contact: [sam.wilkin@industry.nsw.gov.au](mailto:sam.wilkin@industry.nsw.gov.au), 02 4931 6588

## Staff movements

A branch restructure effective 1 July 2016 has seen a number of staff directly appointed into new/renamed roles in the new Geological Survey structure.

**Cressida Gilmore** was appointed Manager, Land Use

**Robert Larkings** was appointed Manager, Coal Resource Assessment

**Guy Fleming** was appointed Manager, Geospatial Information and Visualisation

**Trisha Moriarty** was appointed Manager, Data Management and Delivery

**Phil Blevin** was appointed Manager, Mineral Systems

**Lynn Fletcher** was appointed Administrative Support Officer, Land Use & Titles Advice

**Karen Horne** was appointed Administrative Support Officer, Geoscience Acquisition & Synthesis

**Simone Meakin** has accepted the position of Manager, Publications & Outreach

**Phil Gilmore** has accepted the position of Manager, Regional Mapping

**Felix Shelton** has accepted the position of Geoscience Data Systems Developer

**Nicole Watt** has accepted the position of Administrative Support Officer, Strategic Resource Assessment & Advice

**Jodi Birch** has accepted the position of Administrative Support Officer, Geoscience Information

**Robyn Merchant** finished her contract as Administration Assistant

**Meagan Clissold** finished her contract as Geoscientist - NVCL

**Malcolm Osborn** resigned from the position of Geologist, Geoscience Information

**Joan Henley** retired from the position of Geoscientist, Geoscience Information

**Lyn Douglas** retired from the position of Administrative Officer, Land Use & Titles Advice

## Obituaries

### Stephen Dick

On 12 April 2016 popular GSNSW geologist Steve Dick passed away after saving two of his sons from a rip at Boomerang Beach, NSW. Steve is survived by his wife Marianne and his six children. Steve commenced with the GSNSW in December 2006 as part of the Regional Mapping team. In 2011 he took the opportunity to work on sedimentary basin geology for the Coal & Petroleum Geoscience unit, as a senior geologist specialising in seismic interpretation. He made a significant contribution, mostly in the area of 3D geological modelling. His 3D models span NSW and include work on orogens and sedimentary basins, with a strong focus on the Darling Basin over the last three years. His work will remain an important legacy for many years to come.

### Erwin Scheibner

On 14 June 2016, eminent former employee Erwin Scheibner passed away. Erwin was born in NSW Department of Industry, Skills and Regional Development, August 2016

Czechoslovakia but left soon after Soviet tanks rolled into Prague to quell the 1968 uprising. He came to Australia where he joined the GSNSW in the late 1960s and was initially involved in mapping the first edition of the Taralga 1:100 000 sheet. In the 1970s, he became a Research Scientist and was responsible for the first plate tectonic interpretation of NSW (Scheibner, 1974 and 1976) and many other papers on tectonics of the Tasmanides over the next 2 decades, including some with distinguished international co-authors. Shortly before his retirement in the late 1990s, Erwin was responsible for compiling the monumental 2 volume Geology of NSW (Scheibner & Basden 1996) and its accompanying 1:1 million stratotectonic map of NSW. These are still standard reference works on NSW geology.

## Products

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

[Geophysical images and data](#)

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

[Quarterly Notes](#)

## Enquiries

**Maps and data packages:** [geoscience.products@industry.nsw.gov.au](mailto:geoscience.products@industry.nsw.gov.au) Tel: 02 4931 6426

**Geophysical images and data:** [geophysics.products@industry.nsw.gov.au](mailto:geophysics.products@industry.nsw.gov.au) Tel: 02 4931 6717

**Sales:** [mineralpublication.orders@industry.nsw.gov.au](mailto:mineralpublication.orders@industry.nsw.gov.au) Free call: 1300 736 122 Tel: 02 4931 6666

**General product enquiries:** Gavin Ayre, [gavin.ayre@industry.nsw.gov.au](mailto:gavin.ayre@industry.nsw.gov.au) Tel: 02 4931 6426

## Contacts

**Email:** [geoscience.info@industry.nsw.gov.au](mailto:geoscience.info@industry.nsw.gov.au)

**Web:** [www.resourcesandenergy.nsw.gov.au](http://www.resourcesandenergy.nsw.gov.au)

**GSNSW:** <http://www.resourcesandenergy.nsw.gov.au/miners-and-explorers/geoscience-information/about/geological-survey-of-nsw>

**Newsletter compilation:** Joan Henley, [outcrop.newsletter@industry.nsw.gov.au](mailto:outcrop.newsletter@industry.nsw.gov.au)

**View previous issues:** [www.resourcesandenergy.nsw.gov.au/miners-and-explorers/geoscience-information/products-and-data/books-and-brochures/newsletter](http://www.resourcesandenergy.nsw.gov.au/miners-and-explorers/geoscience-information/products-and-data/books-and-brochures/newsletter)

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

**To subscribe to Quarterly Notes:** Geneve Cox, [geneve.cox@industry.nsw.gov.au](mailto:geneve.cox@industry.nsw.gov.au)

### [Privacy](#)

Correct your recorded details by sending information to [outcrop.newsletter@industry.nsw.gov.au](mailto:outcrop.newsletter@industry.nsw.gov.au)

ISSN 1835–2200

**Disclaimer:** The information contained in this publication is based on knowledge and understanding at the time of writing (August, 2016). However, because of advances in knowledge, users are reminded of the need to ensure that information on which they rely is up to date and to check the currency of the information with the appropriate officer of NSW Department of Industry, Skills & Regional Development or the user's independent advisor.

Copyright © State of New South Wales through the Department of Industry, Skills and Regional Development 2016. You may copy, distribute and otherwise freely deal with this publication for any purpose, provided that you attribute Department of Industry, Skills and Regional Development as the owner.