



Next HEDG presentation:  
Tuesday May 7th 2013  
Customs House, Newcastle

*Three presentations on coastal geology and geomorphology  
— mapping and applications*

**National Coastal Geomorphic Information Framework** (Martyn Hazelwood)

In 2007, Geoscience Australia entered into a collaboration with the then Department of Climate Change and Energy Efficiency, to deliver a national programme of work that focused on assessment of the vulnerability of Australia's coastline to the impacts of natural hazards under current and future climate. Initially, this involved the development of a nationally consistent geomorphic classification and a map of coastal landform types in the coastal zone. However, this work did not consider a mechanism for the distribution and management of this valuable national product. The **National Coastal Geomorphic Information Framework** was developed for this purpose, and to provide an overarching conceptual framework to direct further investment by the Commonwealth of Australia in the coastal zone. This talk will provide a brief overview of the activities undertaken by Geoscience Australia and outline our current coastal mapping program.

*Martyn Hazelwood is the Assistant Director - Climate Hazard & Risk Section, Geoscience Australia. Martyn joined Geoscience Australia through the Graduate Program in January 2008, upon the completion of a Bachelor of Environmental Science (1st class honours) from the University of Wollongong.*

**NSW Coastal Quaternary Mapping Project** (Alexa Troedson & Riko Hashimoto)

The main purpose of the **NSW Coastal Quaternary Mapping Project** was to produce new, seamless 1:25 000-scale geological mapping of the Quaternary deposits of regional coastal New South Wales in support of coastal land use, natural resource management and resource assessment studies. The project was funded jointly by the NSW Government's Comprehensive Coastal Assessment (CCA) and the then NSW Department of Mineral Resources, and was undertaken by the Geological Survey of NSW from 2002–2004. The project resulted in a revised geological classification scheme for mapping NSW coastal Quaternary sediment deposits. This scheme was used within a digital map product with a novel GIS data structure enabling the representation of near-surface stratigraphy. Outputs from the project to date include a DVD product, a published report, and a paper map series based on the north coast mapping. A paper map series based on the south coast mapping is due for release soon. Alexa will discuss the project background, methodology, results and products.

*Dr Alexa Troedson currently works as a geologist at Douglas Partners Pty Ltd. From 2002–2005, she was Geologist then Acting Senior Geologist within the Strategic Assessments Group, Geological Survey of New South Wales, with responsibility for the Coastal Quaternary Mapping Project. Alexa has a PhD in Geology.*

**Coastal and Estuary Mapping and Management** (Verity Rollason)

Novocastrians love the beach, that thin strip of sand separating the ocean from the land, where waves break and rush up at our feet. Coastal geomorphology describes the formation of coastal landforms such as beaches, rock platforms and coastal lakes. The formation of these features are controlled by the underlying geology and the action of waves, tides and sea level to shape the available sediments. Coastal hazards occur where natural coastal processes interact with the way we use and inhabit the coast; or where our development impedes natural coastal processes. At the shoreline, erosion is observed as a loss of sand from the beach and dunes, and land and buildings may be undermined and lost. With sea level rise, it is expected that the existing coastal hazards will be enhanced. Forecasting the impact to the coastline from sea level rise is needed, given that > 80% of Australia's population lives within 50 km of the coast. Newcastle's coastline offers very different beach morphologies north and south of Newcastle Harbour. The recent geologic formation of Newcastle's coast will be discussed, and the forecast for the coastline with sea level rise will also be outlined in Verity's talk on.

*Verity Rollason is a Senior Coastal Scientist with environmental consultancy BMT WBM. Verity specialises in coastal hazard assessment and management, assisting local councils to manage these hazards at present, and in the future with sea level rise. Locally, she recently completed coastal hazards and management studies for the coastlines of Newcastle and Lake Macquarie.*

*Drinks and nibbles at the downstairs bar from 6.00pm. Presentation upstairs at 6.30pm.*

*Please RSVP by COB Monday 6th May to [phil.gilmore@industry.nsw.gov.au](mailto:phil.gilmore@industry.nsw.gov.au)*



Resources  
& Energy

HEDG is sponsored by the  
Geological Survey of NSW  
(Resources & Energy NSW) and the  
Geological Society of Australia, Hunter Valley Branch



## About HEDG

HEDG formed in 2008 with the aim to increase the interaction between geoscientists in the Lower Hunter, promote geoscience, provide a platform to learn about current research, and provide an opportunity for student and professional networking.

# HEDG

HUNTER EARTH SCIENCES DISCUSSION GROUP

## 2013 HEDG program (all Tuesday evenings)

- 2nd July**                      **Hard rock geology talk - TBA!**  
*TBA*
- 13th August**                **National Science Week - 2013 Theme 'A century of Australian Science'**  
*This presentation will be tweaked to be on 'A century of NSW Earth Science' to highlight advances in our understanding of the geology of NSW.*
- TBC**                              **Geoscience careers night**  
*A series of talks on career opportunities for future graduates. Will be held at the University of Newcastle. Speakers and titles to be finalised.*
- 15th October**                **Earth Science Week - 2013 Theme 'Mapping our world'**  
*Speakers and titles to be finalised.*
- 26th November**              **New earth science research in NSW**  
*Speakers and titles to be confirmed*

### Links to other (local) geoscience resources:

Geological Survey of NSW:

<http://www.dpi.nsw.gov.au/minerals/geological>

NSW Trade and Investment, Mineral Resources

& Energy: <http://www.trade.nsw.gov.au/> and

<http://www.resources.nsw.gov.au/minerals>

Sydney Mineral Exploration Discussion Group

SMEDG: <http://www.smedg.org.au>

Amateur Geological Society of the Hunter

Valley: <http://agshv.com>

AusIMM – Hunter Region Branch:

<http://www.ausimm.com.au/content/default.aspx?ID=213>

### Geological Society of Australia (GSA), Hunter Valley Branch



GSA provides an opportunity to keep in touch with scientific developments, present the results of work, and contribute to discussions on vocational and scientific topics. See: <http://www.gsa.org.au>

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Dep. Chair John Watkins

Secretary   Phil Gilmore

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