in brief

Improving spatial data quality and access in the Philippines

The Philippines experiences a variety of natural hazards such as frequent earthquakes, volcanic eruptions, cyclones and annual monsoons (figure 1). These natural disaster events often have a significant social and economic impact.

Analysis of data relating to natural hazards is an essential tool in the mitigation of risks associated with natural hazards. Base data such as topography, bathymetry and digital elevation models at appropriate resolutions and in suitable formats are essential inputs to analytical work. However, availability and accessibility to these fundamental data are major challenges for emergency and disaster risk managers in the Philippines.

Geoscience Australia has been working in partnership with AusAID, Australia's Agency for International Development, and the Government of the Philippines since November 2008 to develop the capacity of the Government of Philippines' technical agencies to analyse and assess natural hazard risk and impact. This project is known as 'Enhancing Natural Hazard Risk Capacity in the Philippines' and is supported and funded by the AusAID Disaster Risk Reduction Unit in the Humanitarian Policy Section based in Canberra. This project also receives significant support and engagement from AusAID staff working at the Australian Embassy in Manila and on the Country Program Desk in Canberra.

Figure 1. Mount Pinatubo is a well-known dormant volcano in the Philippines. The project will help provide fundamental data needed by emergency managers for the mitigation of risks associated with natural hazards.

Working through existing Government of the Philippines mechanisms, this project has engaged with multiple agencies that are part of the Collective Strengthening of Community Awareness for Natural Disasters (CSCAND) agencies, a group that directly supports the National Disaster Risk Reduction and Management Council. The National Mapping and Resource Information Authority (NAMRIA) is responsible for acquisition, management and provision of much of the country's base data. NAMRIA is one of the CSCAND agencies and as part of this project, Geoscience Australia has recently provided technical assistance to NAMRIA as one component of the three-year project.

The NAMRIA work program

The project commenced with a scoping mission in May 2009 to identify specific areas where Geoscience Australia could provide technical assistance to NAMRIA. The scoping mission was a precursor to a work program conducted over the following 12 months. Areas identified for technical assistance included:

- A review of NAMRIA's data validation process to improve the speed of data production throughput and allow access to quality base data by CSCAND.

in brief

- Development of an internal NAMRIA Spatial Data Infrastructure (nSDI) strategic and implementation plan to provide a blueprint for efficient management and dissemination of spatial data across NAMRIA.
- Establishment of a small topographic spatial database and internal web-map interface to this data as a pilot scheme to demonstrate the capability available to NAMRIA to enable online data delivery.

Geoscience Australia officers were embedded for total of six weeks in NAMRIA's headquarters in Fort Bonifacio and the office of the Hydrography Department in Binondo, Manila. In addition NAMRIA staff participated in a working visit to Geoscience Australia and the New South Wales Land and Property Management Authority (LPMA) in Bathurst. Geoscience Australia already has a strong collaborative relationship with the LPMA.

Improving access to spatial data

The nSDI Strategic Plan forms the centrepiece of this work. It was developed by establishing high-level baseline enterprise architecture and identifying key issues in relation to spatial data management and access in NAMRIA. The Plan also proposes a number of possible costed technology solutions and a governance framework around their implementation. If nSDI is adopted, the key benefits to NAMRIA would be:

- reduced duplication of data within the agency
- increased availability and accessibility of data to the CSCAND stakeholders
- a whole-of-enterprise view of data and approach to management of that data and supporting infrastructure
- increased ability to respond to the needs of stakeholders
- development of internal capability and leadership to undertake extension of the nSDI into the national spatial data infrastructure (NSDI).

The work completed for NAMRIA has multiple flow-on benefits and provides opportunities for all stakeholders. Greater access to data within a country prone to a variety of natural disasters will improve the ability to reduce disaster risk, prepare for disasters, respond and support relief and recovery efforts. The work has provided a platform to allow new projects to develop capacity, information and relationships between Geoscience Australia and the CSCAND agencies. In a broader sense Geoscience Australia's engagement in the region has strengthened the ties between the two countries.

For more information

email ausgeo@ga.gov.au

Related articles/websites

AusGeo News 90: Assessing natural disaster risk in the Asia-Pacific region

www.ga.gov.au/ausgeonews/ausgeonews200806/disaster.jsp

Natural Hazards Online

www.ga.gov.au/hazards/

in brief

Update on 34th International Geological Congress—AUSTRALIA 2012

Australia, on behalf of the Oceania region, is hosting the 34th International Geological Congress (IGC), in Brisbane from 5 to 10 August 2012. The Congress is being held at the highly acclaimed Brisbane Convention and Exhibition Centre (figure 1). The IGC represents a once-in-a-generation opportunity for Australia to showcase its geoscience strengths and fascinating geology to the world.

The 34th IGC will feature a wide ranging scientific program, with field trips, a large exhibition, training workshops and an education and outreach program. The Congress will also be the venue for the 2012 meetings of the International Union of Geological Sciences' Commissions, Task Groups and Joint Programs. In addition, the 34th IGC will incorporate the 2nd Young Earth Scientists (YES) congress and benefit from UNESCO patronage.

Sponsorship for the IGC is gathering momentum with commitments now in place from the Australian Agency for International Development (AusAID) and Vale, the world's second largest mining company.

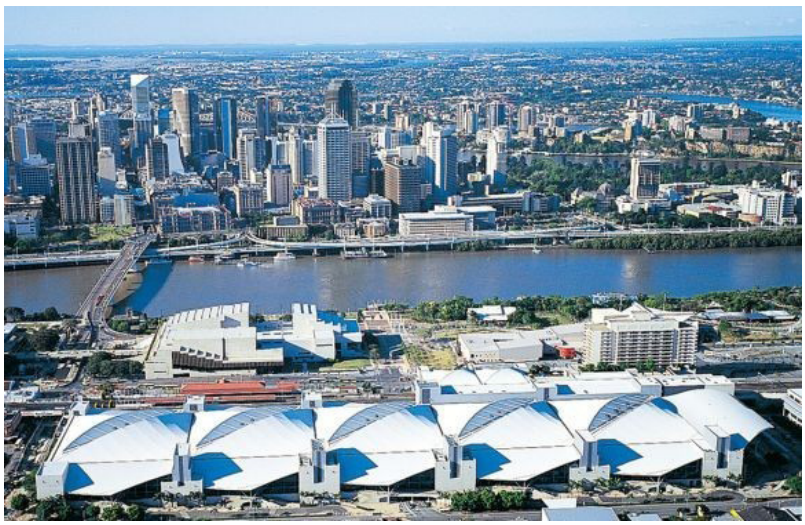

Figure 1. The Brisbane Exhibition and Convention Centre is the venue for the 34th International Geological Congress—AUSTRALIA 2012.

Scientific Program

The overall Theme for the Congress is 'Unearthing our Past and Future – Resourcing Tomorrow'. This encompasses the crucial contributions of the geosciences in meeting societal needs and sustaining planet Earth.

Australia's experience in developing a strong and sustainable mineral and energy resources sector will underpin a program emphasising future mineral and energy supplies. Other major themes, which also reflect major challenges for countries in the Oceania region, will be climate change and its impacts on natural resource management and communities, and understanding and mitigating geohazards. A geoscience 'information supersession' —covering a range of topics from OneGeology (the online worldwide geological map) to data information/standards—is currently the most advanced element of the program.

There will be public lectures, student events and media engagement opportunities to ensure the main messages from the Congress reach the general public. The scientific program remains open for comment and we invite your suggestions.

Field trips

The 34th ICG is planning approximately 30 to 35 pre- and post-Congress field trips which will offer diverse opportunities to experience the fascinating geology of the region. These field visits will include all Australian states and the Northern Territory. In addition, field trips to New Zealand,

in brief

Malaysia and New Caledonia and Papua New Guinea are being planned. There will also be a range of one-day tours available during the conference. The list of proposed field trips is available on the IGC website. Geoscience Australia will directly support two field trips (Mt Isa and Flinders Ranges) and provide advice for many others.

Workshops

Workshops held in conjunction with the IGC will be of two types: Professional fee-based workshops and training will reflect Australian and New Zealand international assistance objectives. The latter are aimed at attracting funding to support attendance by delegates from developing countries. Workshop topics being considered include sustainable mining, carbon sequestration, geohazards and groundwater. Geoscience Australia is playing a key role in securing funding for and organising these workshops.

Congress publications

Abstracts of papers presented at the Congress will be available through the IGC website, GeoRef and in DVD format. Although full papers will not be published by the Congress convenors may elect to arrange publication of papers in their symposia.

Products to be featured at the 34th IGC

Among the products planned for the Congress are:

- a book produced by Geoscience Australia entitled 'Shaping a continent-building a nation: a geology of Australia' an updated version of the digital 1:1million (and derivative) geological map of Australia
- new maps and books on the geology of several Australian states
- 3D maps of selected regions
- a structural map of the Pacific region (coordinated by the Commission for the Geological Map of the World).

Consideration is also being given to a structural/geodynamic/natural risks map of the South Pacific.

Congress website

The First Circular for the 34th IGC was released in October and can be accessed through the 'News' tab on the Congress website. Any readers who would like to make suggestions, volunteer their services, organise business meetings during the event, or simply register interest in attending should do so through the 34th IGC website (see below) using the 'Register your interest' tab.

For more information

email ausgeo@ga.gov.au
visit www.34igc.org

in brief

Shaping a continent–building a nation: a geology of Australia

Geoscience Australia is preparing to publish a new book on Australia's geology for the 34th International Geological Congress (IGC) to be held in Brisbane in 2012. **Shaping a continent–building a nation: a geology of Australia** will tell the story of Australia's geological evolution through the lens of human impacts–illustrating both the challenges and the opportunities presented by the 'lucky country'. The book is not proposed as a definitive authority on all aspects of Australia's diverse geology, nor will it follow the 'traditional' time-based treatment of the topic.

The underlying theme will be how Australia's unique geology has shaped the continent and thus impacted on the Australian people. The book will showcase the excellence of Australian geoscience and will integrate many geoscience disciplines into a systems framework to address many of the 'big questions' relevant to Australians. The book will be a high-quality product written for the broader geoscientific community which will include enduring and topical messages to society as a whole.

The opening two chapters will define Australia and Australians, and will set the spatial and temporal as well as cultural contexts for the remainder of the book. The following eight chapters will be arranged into themes around geological influences on society, environment and wealth.

- ***Living Australia*** is about the emerging understanding of how Australia's biosphere evolved through time and shaped Australia.
- ***Out of Gondwana*** considers the break up and creation of unique Australia as an island continent, and the northward drift towards Asia. The location of the various break-up basins hosting hydrocarbon resources has profoundly influenced the energy source choices made by Australians.
- ***Old, flat and red*** considers the formation of the unique Australian landscape and regolith, which has influenced the fertility of soils and water availability.
- ***Living on the edge–waterfront views*** explores the geological processes that shaped the iconic Australian coastline, and ultimately determined the location of population centres and associated infrastructure.
- ***Water–the nation's life blood*** considers why Australia is the driest inhabited continent and the role aridity has played in shaping the landscape, soils and demography.
- ***Foundations of wealth*** considers the mineral systems and the great wealth of resources which shaped early cultural Australia, economically drove the country, and developed much of the dry interior.
- ***Sustaining the wealth*** outlines the impact of bulk commodities, such as iron ore, hydrocarbons, coal and aluminium, through their enormous export earnings, job creation and effect on regional development.
- ***Deep Heat: meeting future energy needs*** considers geothermal and also nuclear options for energy in a carbon constrained world.
- ***The Epilogue*** ties the main themes of the book together.

The hardback book will be larger than A4 size with more than 500 pages printed in full colour. The beauty of the visual images of Australia's geology will be used extensively to illustrate the text. This book will make a significant contribution to promoting the theme of the 34th IGC meeting which is 'Unearthing our Past and Future – Resourcing Tomorrow' as well as presenting Australia's unique geology in a new light.

For more information

email ausgeo@ga.gov.au

Related articles/websites

34th International Geological Congress (IGC) AUSTRALIA 2012
www.34igc.org