AUSGEO news ISSUE 77 March 2005

Australian Government
Geoscience Australia

In Brief

Science students visit GEOSCIENCE AUSTRALIA

In January, over sixty Year 11 students from Australia, New Zealand and South Africa spent two half-days prospecting for gold at Geoscience Australia.

Their visit was part of the annual National Youth Science Forum, which provides students with experience in science, engineering and technology through a series of workshops, lectures and social activities.

The students' visit to Geoscience Australia was a hands-on experience. They used geochemistry, geographical information systems, geophysics and geological mapping techniques to search for the elusive yellow metal.

The students studied the geochemistry of rock samples from the Leonora district in Western Australia. They employed a variety of lab equipment, and analysed rock core sections with a portable infrared mineral analyser.

The group also explored gravity/magnetics, radiometrics, radioactivity and gamma rays in the quest for gold, and ended the workshop with a presentation of their findings.

Geoscience Australia's scientists and education staff collaborated to develop the course content and run the workshop.

For further information about NYSF and the Geoscience Education Centre contact Kate List on +61 2 249 9571 or email kate.list@ga.gov.au

Remote sensing unit sets up *technical reference group*

Geoscience Australia's remote sensing unit, ACRES, has established a National Remote Sensing Technical Reference Group to advise on strategic positioning and on technical decisions about the provision of 'public good' satellite imagery.

The group held its first meeting in December 2004. Discussion focused on satellite data usage and access, agreement on the group's terms of reference and updating ACRES activities. The group also examined technical contingencies and strategies. Major discussion points included the following:

- ACRES requires input for its development of a LANDSAT contingency plan. LANDSAT is still the preferred data source in Australia for a wide range of environmental, agricultural, land-cover and vegetation monitoring and mining applications, at regional and national scales. The contingency plan is in response to concerns about LANDSAT data continuity, an aging LANDSAT 5 satellite, and the scan-line corrector anomaly on LANDSAT 7.
- National and international remote sensing activities by bodies such as the Australian Government Space Forum, the Committee on Earth Observation Satellites, the Group on Earth Observations and the Global Monitoring of Environmental Security group, and the series of Earth Observation Summits.
- Satellite data providers continue to experience increased demands from users, with satellite data being used in a new and broader range of applications. The shift from 'technology push' to 'user pull' of satellite data heightens the need for improved support and reliable data delivery, particularly for time-critical applications.
- The need for integrated products that provide solutions and decision-support systems, rather than just data, will continue to be a challenge for satellite data providers.
- Continual supply of data into forecast models and the increase in near-real time applications were identified as growth areas for satellite data usage.
- The critical importance of data archives such as the Advanced Very High Resolution Radiometer (AVHRR) and the LANDSAT archives is now being realised in applications such as national drought monitoring, land-cover change assessments and many other applications.
- An extension of X-band network stations to support the growth in near-real time applications and data access, especially in meteorology, means that X-band stations will be needed in Darwin, Casey (Antarctica) and Crib Point (Victoria).

Current members of the National Remote Sensing Technical Reference Group include Mr Max Bye, Mr Tim Danaher, Dr David Griersmith, Dr Alex Held, Dr Adam Lewis, Ms Elizabeth McDonald, Ms Alla Metlenko, Dr Shanti Reddy, Professor John Richards, Dr Kim Ritman and Dr Richard Smith. The group will reconvene in April 2005.

For further information about the group's activities, contact Adam Lewis on +61 2 6249 9353 or e-mail adam.lewis@ga.gov.au

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ACT Region map *updated after firestorm*

The new 1:100 000 scale topographic map of the ACT region covers a larger area than previous editions. The new map includes a Landsat image showing the state of vegetation after the January 2003 bushfires that claimed four lives and destroyed more than 500 houses in Canberra.

Geoscience Australia worked closely with the ACT Emergency Services Authority to produce the map and a Geographical Information System data product that will be a valuable resource for the region's emergency management workers and community.

The map is part of a cooperative pilot program being undertaken by Geoscience Australia in partnership with state and territory emergency management and mapping agencies. The program addresses issues raised by the House of Representatives Select Committee Inquiry into the Operational Response to the January 2003 Bushfires in the ACT and the Council of Australian Governments' (COAG) National Inquiry on Bushfire Management, Prevention and Mitigation in Australia.

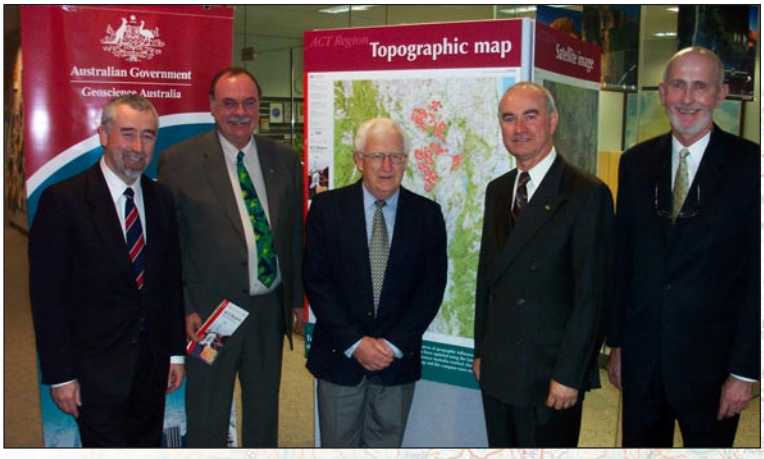
During a recent visit to Geoscience Australia's headquarters, Warren Entsch, Parliamentary Secretary to the Minister for Industry, Tourism and Resources, thanked the staff involved in production of the map and database. He pointed out the importance of accurate maps showing critical infrastructure such as roads, bridges, buildings and dams, for emergency management.

Mr Entsch said the project—a significant undertaking by Geoscience Australia on behalf of the Australian Government— had produced a map that gave emergency service workers this critical information and also provided a good overview of the 'bush capital'.

Gary Nairn, Parliamentary Secretary to the Prime Minister and chairman of the House of Representatives Select Committee, commended Geoscience Australia for its prompt response to the committee's recommendations.

Geoscience Australia initiated the $1 million pilot program in early 2004, in collaboration with state mapping agencies and the Emergency Management Spatial Information Network Australia. The pilot program was set up to improve national cooperation and achieve best practice in mapping and maintaining fundamental information needed for emergency management and other purposes. The findings of the pilot are being integrated into the 2005–06 program.

The COAG inquiry also identified the need for topographic data for operational use at 1:25 000 and 1:50 000 scales. The cooperative program with the states is already allowing Geoscience Australia to develop single 'point of truth' GIS databases that can be used to derive maps at a range of scales.



Left to right: Senator Gary Humphries, Senator for the ACT; the Hon. Warren Entsch MP, Parliamentary Secretary to the Minister for Industry, Tourism and Resources; Dr Trevor Powell, Chief, Spatial Information Sciences; The Hon. Gary Nairn MP, Parliamentary Secretary to the Prime Minister; and Mr Peter Holland, General Manager, National Mapping Division, following the launch of the new ACT Region map at Geoscience Australia on 15 February 2005.