

## **Towards a national geoscience education system - invigorating university geoscience**

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There is now widespread concern within the geoscience community and employer groups about the health of geoscience education in Australia and the demise of earth science educational opportunities, university earth science teaching departments and staffing levels. The concern is the ability of the higher educational system to provide the appropriately trained geoscientists required by the economy and Australian society.

To a greater degree than most developed nations, Australia's economy and ability to sustain society requires solutions that arise in the geosciences. Despite the economic significance of the resources industries, they are suffering a major shortage of geoscience professionals.

At the same time over the last 10 years the number of geoscience departments in Australia's universities and their staffing levels has decreased and the number of graduates has reduced, particularly at the Honours level where numbers have halved. The number of post graduate students is also diminishing.

Despite a recent upswing in numbers of undergraduates, the problem is structural with university teaching of geoscience being fundamentally uneconomic for most universities and has been dependant upon ongoing cross-subsidy within the universities – this position is unsustainable, particularly in a future industry downturn.

An Australian National Tertiary Geoscience Education System (ANTGES) is envisaged as 'A national cooperative program to build human capital and infrastructure in the geosciences from which all stakeholders in Australian geoscience will benefit'. It is envisaged as a devolved system of processes and institutional arrangements to achieve the following outcomes:

- Appreciation of geoscience as a Nationally Strategic Discipline.
- Geoscience is attractive for university administrations to support.
- Emergence of a number of larger departments with critical mass in teaching and research.

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- Differentiation and recognition of key strengths across the system amongst smaller and larger departments.
- Externally funded teaching /research positions to create independence and engagement with stakeholder groups.
- A systematic program to attract appropriate numbers and quality of personnel to the geosciences.

In order to provide a national oversight, recommend and facilitate programs of activity and advice on institutional arrangements, work with government(s) and stakeholder interests to achieve ANTGES, an Australian Tertiary Geoscience Education Council (ATGEC) is proposed. Its work program would focus on attracting students to the geosciences and on working with universities and government to establish the viability and excellence of university geoscience departments. Its aim would not be to duplicate existing activities but rather provide national oversight and coordination and to identify and work to fill gaps in addressing the issues. Membership of the council would comprise high level representation of the profession, employer groups (Minerals Council of Australia, Australian Petroleum Production and Exploration Association, Geological Surveys etc) and universities with a commitment to geoscience. It would be serviced by a small office.

Although national coordination of efforts is warranted, it will not of itself solve the problem. The full extent of the issue is only really understood by the geoscience profession and it requires the full engagement of the profession working with their local universities to achieve local outcomes. The University of Western Australia provides an excellent case history in this regard.