Australian Government
Geoscience Australia

The Australian Landslides Data Model

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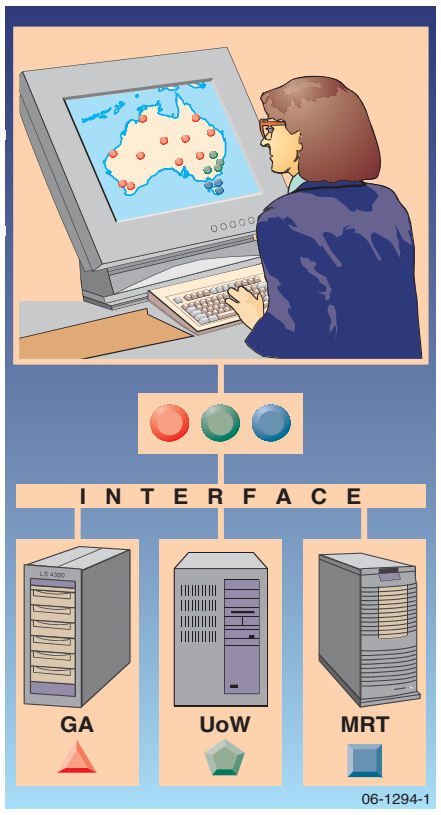
A number of different landslide inventories exist within Australia, and each uniquely addresses a specific purpose. These databases range in scale and detail, and although some similarities and a number of common themes are apparent between databases, the method in which information is organised and described varies considerably. This means information cannot be readily compared or aggregated with other sources and it is possible there is already duplication of effort in this area.



Landslide inventories are fundamental to the development of rigorous hazard and risk assessments. However, an agreed, systematic way of developing these inventories is presently not available. This limitation is being addressed by the development of the Australian Landslide Data Model through a collaborative project currently underway between Geoscience Australia (GA), Mineral Resources Tasmania (MRT) and the University of Wollongong (UoW).

Who is developing the model?

The development of the Australian Landslides Data Model is being coordinated by Geoscience Australia. Project partners, landslide consultants, interoperability experts and members of the Australian Geomechanics Society are contributing to this model through the development of a collaborative 'landslide inventory framework'. Consultations are still underway at present and it is expected they will continue throughout 2007.

What is the driver for developing the model?

The model was developed to provide best practise guidance in establishing landslide inventories to ensure that information is useful and relevant to decision makers. This model also demonstrates a way of utilising interoperability to:

"establish a nationally consistent system of data collection, research and analysis to ensure a sound knowledge base on natural disasters and disaster mitigation".

This was a recommendation made by the Council of Australian Governments in a report titled '*Natural Disasters in Australia: reforming mitigation, relief and recovery arrangements*' which emphasises that a more consistent approach to data research and analysis is needed across all levels of government for a greater understanding of natural disaster mitigation.

The project seeks to improve the historic record of landslide events in Australia and will demonstrate how three diverse landslide inventory databases being maintained independently by different organisations at different scales, can be seamlessly accessed via a standardised web interface as one 'virtual' database. The project will highlight the functionality and benefits of adopting this approach to manage and access landslide information in real time as well as the advantages in developing an agreed framework for the establishment of future landslide inventory databases in Australia.

How is the model being developed?

The model is an extension of GeoSciML, the International Union of Geological Sciences (IUGS) developed language for exchange of geological map features, and uses patterns and features common to GeoSciML. These patterns are based on ISO and Open Geospatial Consortium (OGC) standards using Geographic Mark-up Language (GML) as an eXtensible Markup Language (XML) encoding for geographic information. The Landslide Data Model is an example of a domain-specific schema.

What is the current state of play?

The Australian Landslide Data Model current at March 07 can be accessed on: **https://www.seegrid.csiro.au/twiki/bin/view/Geohazards/LandSlides.** The preliminary data model will be replaced with a new version in June 07. This data model is based on a draft version of the inventory framework. The model will be updated in 07/08 once the framework has been published.

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