Australian Government
Geoscience Australia

Australian Flood Studies Database

A FREELY AVAILABLE NATIONAL CATALOGUE

Floods can have both positive and negative impacts: they can bring welcome relief for people and ecosystems suffering from prolonged drought, but they are also the most costly natural hazard in Australia.

Every year floods cause millions of dollars damage to buildings and infrastructure, as well as to agricultural land and crops. They also disrupt business, and affect the safety and health of communities. The losses due to flooding vary widely from year to year and are dependent on a number of factors such as the severity of a flood and its location. Between 1967 and 2005 the average annual direct cost of floods in Australia has been estimated at AUD$377 million (BITRE 2008). This figure is likely to have risen following the widespread and devastating floods across eastern Australia that occurred over the summer of 2010–11.

AUSTRALIAN FLOOD STUDIES DATABASE

The Australian Flood Studies Database was developed in 2003–2004 and was made available online by Geoscience Australia in 2006. The database provides metadata on Australian flood studies and information on flood risk, where available. It contains general information for all studies, including:

- name and location of the study
- commissioning organisation
- lead consultant
- date of the study

Additional information is collected where available and reflects the scope of a flood study. Some examples of the types of information captured in the database are included.

Figure 1. *Flood damaged house, Ipswich 2011 (M. Middelmann-Fernandes).*

Figure 2. *Bench lodged in tree following flooding, Ipswich 2011 (N. Bartzis, IAG).*

Hydrological estimates and hydraulic modelling

- method(s) and software package(s)
- events modelled
- data custodian

Damage assessments

- method(s) and type of damage considered
- number of buildings inundated by flood event
- cost of flood damages by flood event
- average annual damage estimates

Terrain survey and survey of building floor levels

- method(s) of data collection
- format and datum of data
- data accuracy and data custodian

Maps of inundation extent and flood hazard

- events mapped
- main purposes of mapping
- hazard guidelines

Flood mitigation strategies

- recommended in the flood study
- adopted in response to a flood study

Attachments

- reports of studies

The database of flood studies enables consultants tendering and undertaking work for local government, to learn quickly, and from a single source, what work has been done previously in their area of interest, and to identify what datasets are available for use in future

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studies. The database also enables organisations wishing to commission a flood study (particularly small councils with less experience with flooding or risk analysis) to learn from the work that has been undertaken in other regions. The database acts as an information management tool for all levels of government and contributes to flood intelligence.

A comprehensive design has been adopted to encourage important metadata and other information to be documented in future reports. For example, historically information on data accuracy (e.g. horizontal and vertical accuracy of terrain surveys) has seldom been recorded in reports despite its importance as metadata.

The Australian Floods Studies Database is accessible from: <www.ga.gov.au/hazards/flood.html>.

DATA ENTRY AND MAINTENANCE TOOL

In 2010 Geoscience Australia developed a web-based data entry and maintenance tool to make future data entry efficient and readily accessible to stakeholders. The tool allows registered stakeholders to add information on new studies remotely; edit existing information and upload attachments to the database via the internet. State and territory governments have assumed responsibility for updating the database and are now working with local government and relevant agencies to facilitate this. Geoscience Australia maintains a custodian role which includes responsibility for database enhancements and development.

REFERENCE

BITRE (2008) *About Australia's Regions—June 2008,* Department of Infrastructure, Transport, Regional Development and Local Government, Canberra, Australia.

Figure 3. *Screenshot from data entry and maintenance tool.*

Figure 4. *Building destroyed by flash flood, Grantham, 2011 (M. Middelmann-Fernandes, Geoscience Australia).*

Figure 5. *Flood damaged house, Brisbane, 2011 (S. Canterford, Geoscience Australia).*

Figure 6. *Aerial view of floods, Lismore 2005 (P. Campbell, NSW SES).*