

## AFTER THE DELUGE, a post-disaster survey

Geoscience Australia is developing and piloting post-disaster surveys to understand a community's vulnerability.

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New post-disaster surveys will help us to better understand the major factors that influence a community's vulnerability to hazard events and the costs of such events. This effort is a response to the Council of Australian Governments' review, 'Natural Disasters in Australia', which found that only limited socioeconomic and damage data is consistently and comprehensively collected after natural disasters.

Geoscience Australia sent a team to survey businesses and households affected by flooding in northern NSW and southeast Queensland from 28 to 30 June 2005. Two people died in this event, many had to be evacuated, and businesses and residents suffered significant losses and disruption to normal activities.

Major objectives of the survey were:

- to gather data on damage, disruption and costs from flood and storm events across prepared and unprepared communities
- to gather data on the types of preparation that businesses and households carry out, and their effectiveness in reducing losses
- to pilot the business and household surveys (figure 1).

The survey included small businesses in Lismore and Billinudgel, a township two kilometres from the coast, and householders in three of the most severely affected localities on the northern NSW coastline—New Brighton, Ocean Shores and South Golden Beach (figure 2).

Levels of preparedness differed greatly between the surveyed communities, and depended on such factors as previous experience of flood events, warning time and the rate of flood-level rise.

Lismore, with a history of regular flooding, was the most prepared of the surveyed communities. A recently completed levee upgrade protected the city's CBD. Most businesses and households had either lifted or relocated their property, many doing so before official flood warnings were issued. Many surveyed businesses also used the Bureau of Meteorology website to monitor flood-level forecasts and develop evacuation plans.

Although Billinudgel experiences regular flooding, in this event the water rose faster and higher than in previous floods and cut road access to the township, preventing some owners from lifting or moving property.

In general, the surveyed northern NSW coastal communities have not experienced regular flooding. Because this flood reached its peak before sunrise, householders had limited opportunity to prepare for the event, and many surveyed households had not received an official warning.

**Cost of damage.** Surveyed households suffered an average \$27 000 in insured losses, including building, contents and vehicle damage. Floor coverings and furniture were damaged even in areas where floodwaters rose to relatively low levels (figure 3).

Surveyed householders reported initial stress over whether their losses were claimable, because insurance covers storm damage but not damage caused by riverine flood. On the coast, the event was classified as a storm, so insured households were able to claim. In Lismore, it was classified as a flood.

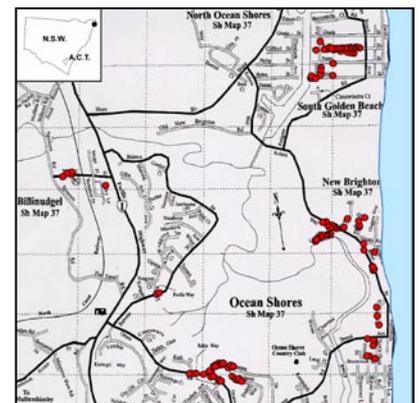
**Cost of disruption.** All surveyed businesses in Lismore were disrupted by the flood, regardless of whether water entered their premises. Relocating property to restore businesses at a time of limited road access for proprietors, staff and customers resulted in an average of two days of lost trading. Service providers believed that they would not be able to recoup losses; goods providers believed that transactions had merely been delayed by the event.

**Recovery period.** As a result of their high level of preparedness, small businesses in Lismore were soon back in operation. Even businesses that incurred water damage were operational after a few days.

In contrast, three months after the event, 50 per cent of surveyed households reported that repairs had either not started or were yet to be completed. About 60 per cent of the respondents identified a shortage of tradespeople as the major constraint to recovery.



▲ Figure 1. Surveying water depth in residential dwellings.



▲ Figure 2. Location of surveyed communities.



▲ Figure 3. Damaged household contents.

Geoscience Australia is continuing to collect recovery data for analysis and incorporation into the natural hazard risk models for estimating the socioeconomic costs of natural disasters.

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