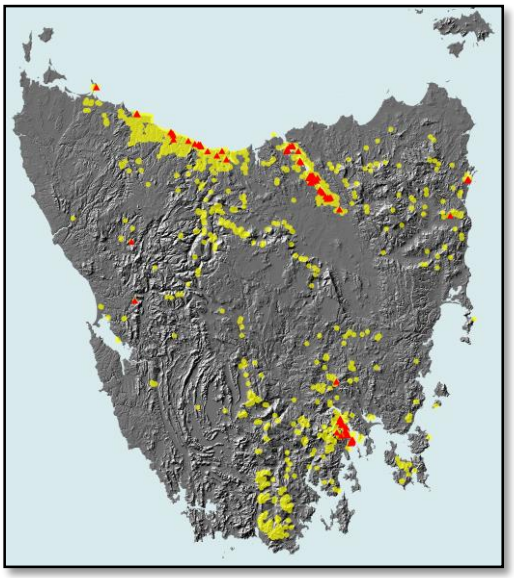
Landslides in Tasmania

Mineral Resources Tasmania (MRT) has for many years studied and mapped landslides throughout Tasmania in response to community concerns about the dangers posed by land instability.

This brochure provides information specific to Tasmania, but there are numerous general sources of information about landslide risk management also available.



Distribution of known landslides in Tasmania (yellow points) — about 2700 landslide occurrences are stored in the MRT landslide database (as of 2014). In reality many more will not have been reported or mapped. Red points are records of known damage to buildings and infrastructure, including at least 125 houses, caused by landslides.

Do landslides occur in Tasmania?

Landslides (or slope failures) are widespread in Tasmania and are typically the result of natural processes that have been occurring over long geological time scales.

Landslides occur in a range of sizes and types due to Tasmania's varied geology, topography and geomorphic (land forming) processes, including the effects of past and present climates.

Landslides can also be triggered by human activities and can occur in surprising and unexpected places.

Is there a serious landslide risk in Tasmania?

Research conducted by MRT shows that large tracts of land throughout Tasmania are susceptible to slope instability, including parts of all the major urban areas.

The nature and magnitude of the known past landslides indicate that similar events occurring today would have the potential for significant damage to property and, in some cases, may put lives at risk.

A building pushed off its foundations after a small, shallow slide caused failure of the adjacent retaining wall at West Hobart.

Over 150 buildings in Tasmania (including at least 125 houses) are known to have been damaged or destroyed by landslides since the 1950s — in all probability there are many more. As far as can be determined, no loss of life has occurred in this time, but such events can be highly traumatic to those directly affected. There is also considerable ongoing damage to infrastructure throughout Tasmania.

The financial cost of landslides to individuals and the community has run into many tens of millions of dollars. Property owners must be aware that in most cases **landslide insurance is not available anywhere in Australia**. Financial assistance from government to compensate for losses is generally not provided; therefore the **potential financial consequences to those affected may be significant**.

What types of landslides occur in Tasmania?

The five major landslide movement types (slide, flow, fall, topple and spread) all occur in Tasmania, with slides (both shallow and deep-seated) and flows being the most common types. Many landslides are actually a combination of movement types.

The material that moves is classed as rock, earth or debris (debris being earth plus coarse material, with over 20% of stones, boulders, timber, etc.).

Some of the landslides identified in the MRT landslide database are known to have moved since the time of European settlement or are moving at present (Recent or Active). For many there is no known evidence of recent movement (Activity Unknown).

Existing landslides present a danger in that they have the potential to reactivate, but there is also the danger that some previously unfailed slopes have the potential to fail as first-time landslides.

A near-new house being demolished (one of 15) after movement of a previously unknown deep-seated slide at Rosetta, Hobart.

Recent, shallow earth slide at Evandale

Active, slow moving, deep-seated slide at Taroona

Active rock fall processes at Fossil Bluff, Wynyard

Recent debris flow near Philps Peak, western Tasmania

Can the occurrence of landslides and the level of risk be identified?

The risk posed by landslides to any particular site can be assessed by weighing the potential consequences against the likelihood of a landslide occurring.

By studying past landslides and the damage caused, it is possible to identify areas that are susceptible to future slope failure. To establish the level of likely risk for people, property and assets in those identified areas requires a landslide risk assessment and expert judgement.

Landslide-related disasters can be avoided by understanding the ground conditions and the susceptibility to landslides before development proceeds.

Mineral Resources Tasmania has produced the ***Tasmanian Landslide Map Series*** with the aim of improving landslide risk management in Tasmania (an introduction to this map series is provided in the *Tasmanian Landslide Map Series* brochure). These maps inform planning overlays used to make decisions in relation to landslide hazards.

Further Information

Further information is available on the Mineral Resources Tasmania web site (www.mrt.tas.gov.au — Geoscience — Engineering Geology — Landslides), or by contacting MRT directly. Available information includes:

- the complete maps of the ***Tasmanian Landslide Map Series*** (downloadable in PDF and geo-referenced formats);
- an **online map viewer** (choose *Database Search* then *Landslides — Browse Map*) provides summary information from the MRT landslide database and map images from the *Tasmanian Landslide Map Series*;
- the document ***Tasmanian Landslide Map Series: User Guide and Technical Methodology*** which highlights the need for landslide risk management, provides guidance on the use of the available information, and details the methodology used to create the maps;
- general information on landslides in Tasmania and copies of the landslide brochures.

The Australian Geomechanics Society web site (www.australiangeomechanics.org — Resources — Public Resources) provides links to the Australian Geomechanics Society (2007) *Landslide Risk Management Guidelines*, which includes the *Australian GeoGuides* information sheets, and provides best practice for both geotechnical practitioners and regulators.

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