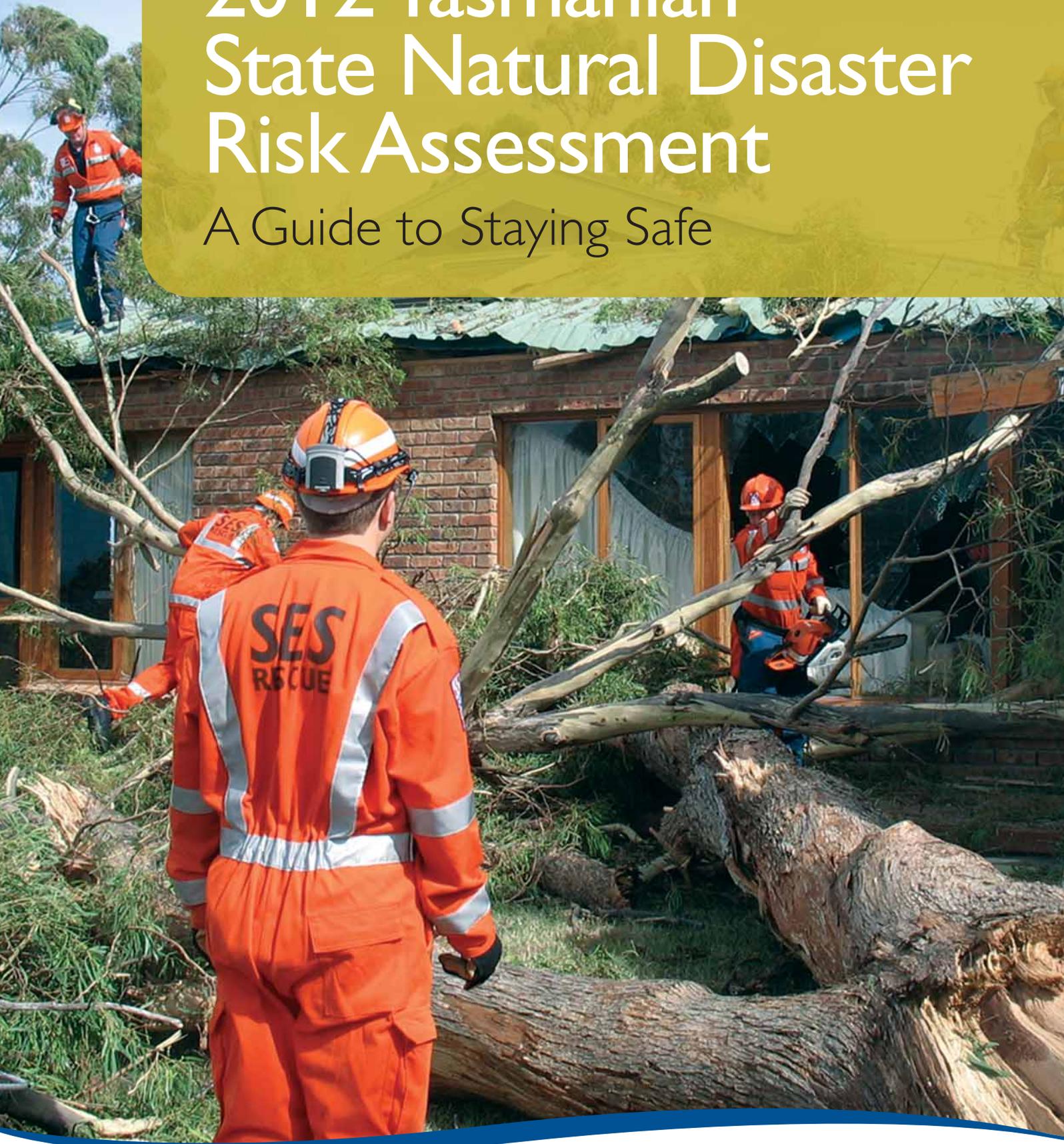


2012 Tasmanian State Natural Disaster Risk Assessment

A Guide to Staying Safe



Australian Government



2012 Tasmanian State Natural Disaster Risk Assessment: A Guide to Staying Safe

The 2012 Tasmanian State Natural Disaster Risk Assessment was undertaken by the Tasmanian Government to gain an increased understanding and awareness of natural disasters that have the greatest potential to impact the State. The results of the risk assessment are now being used to help Tasmanian communities prepare for natural hazard disaster events. All Tasmanians play a role in preventing or minimising the impacts of natural hazards. Understanding the risks and preparing for hazards facing your community are essential. This brochure contains specific information about how you and your community can work with Government to better understand, prepare for, and respond to natural disasters.

The Tasmanian State Natural Disaster Risk Assessment established panels of experts to identify, analyse and evaluate risks associated with priority natural hazards for Tasmania. The panels considered a worst-case scenario for each hazard type and determined the consequences according to its impact across the following categories:

People: the number of fatalities and injuries that are directly attributed to the event.

Environment: damage to marine life, air quality, forests, flora and fauna.

Economy: the financial loss due to assets being damaged or destroyed.

Public Administration: the ability of government to manage the event and provide critical services.

Social Setting: disruption to people's daily lives, such as the inability to access health care or schools, and emotional/psychological impacts.

Infrastructure: damage to roads, utilities and other lifelines.



What are Tasmania's risks?

The assessment found that the following hazards have the most potential to cause significant impacts for the State:

- Bushfire
- Flood
- Storm
- Landslide
- Tsunami
- Earthquake

Bushfire and flood were identified as Tasmania's most significant natural hazard risk types. Bushfires generally have greater consequences in the south-east of the State, whereas flooding is usually more frequent, and impacts more heavily, in the north-east and north-west.

Severe storms were also found to pose potential risks in Tasmania. While the island is not exposed to cyclonic winds, it has experienced destructive localised tornadoes in the past.

Low to medium risks were identified when assessing worst-case scenarios for earthquake and tsunami and fast-moving landslide events. Landslides have caused a significant amount of property damage in Tasmania over many years, but the majority of those landslide events did not pose a threat to life or require an emergency response. However, some types of fast-moving landslide events do occur in Tasmania and potentially pose a threat to life.

The graph below shows each of the identified risks for Tasmania, their likelihood and level of impact. For example, the previous section identified bushfires and floods as Tasmania's most significant natural hazard risk types and the graph below illustrates that statement.

A copy of the 2012 Tasmanian State Natural Disaster Risk Assessment can be downloaded from the State Emergency Service website www.ses.tas.gov.au.

Role of Government, communities, individuals, businesses and not-for-profit organisations

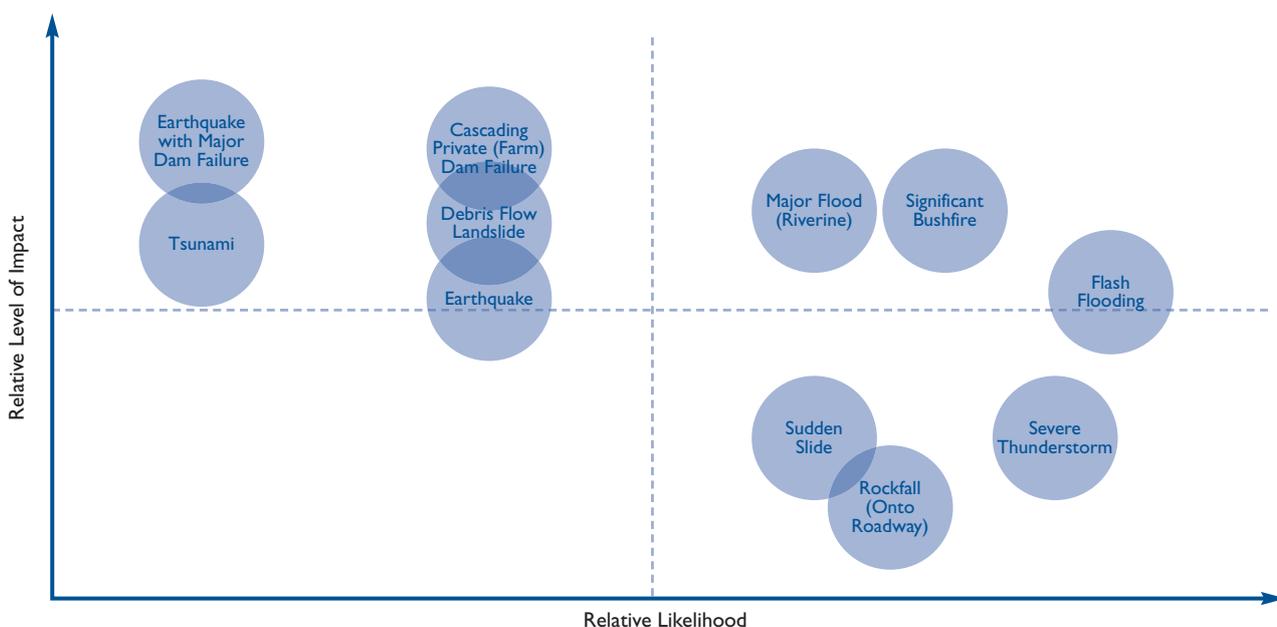
While disasters are inevitable, the Government recognises the importance of working with communities to better withstand such events and promote understanding and awareness of local disaster risks.

This document provides information on bushfires, floods, storms, landslides, tsunamis and earthquakes, including background, historical events, what the Government is doing and what you as an individual, community, business owner or not-for-profit organisation can do to prepare for, and reduce the impact of, disasters. To learn which of these risks has been identified for your community, please contact your local council.

In the event of **any** disaster, it is crucial that everyone has an Emergency Kit ready to go. The last page of this brochure lists items that should be included in an Emergency Kit, however, take the time to think of your personal situation, make it fit **your** needs and prepare it **today**.

Natural Disaster Risks in Tasmania

(based on the expected worst-case scenario)



BUSHFIRES

Bushfire has been the most costly natural disaster hazard, in both human and economic terms, in Tasmania's history. Bushfire has claimed more lives than any other natural hazard and carries an average annual cost of \$11.2 million. The State's exposure to bushfires is greatest during the dry and windy conditions of summer and autumn. The south-east of Tasmania is considered more at risk of bushfire than other parts of the State.

Increases in population, particularly in rural and urban fringe areas, have led to increased levels of exposure to bushfire. This was demonstrated in January 2013, when bushfires across the State threatened lives and destroyed property. The fires had a devastating impact on the Forestier and Tasman Peninsulas, where residents were cut-off from essential supplies and support. The fire in and around Dunalley in January 2013 destroyed approximately 110 homes and many other structures, including the Dunalley Primary School and Police Station.

The bushfires that swept through Hobart and surrounding areas on Tuesday 7 February 1967 resulted in the deaths of 62 people. Until the Black Saturday bushfires in Victoria in 2009 (173 deaths), this was the highest number of fatalities from bushfire in a single day in Australia. Tasmania continues to experience similar weather conditions to those of 1967, especially in the south-east.



Government, communities and individuals all have a role to play in preparing for bushfires

What is the Government doing?

Government is currently undertaking the following activities to help reduce the likelihood or impact of bushfires:

- Community Protection Planning within communities.
- Providing awareness information to help individuals and businesses understand and address their risks.
- Targeted community engagement programs focused on collaboration within communities.
- Fuel reduction activities, such as planned burns.
- Protection of vulnerable critical infrastructure, such as schools, power and water supplies and sewage treatment plants.
- Land use planning strategies.
- Maintenance of emergency response capability.
- Fire Protection Planning at a landscape level.

What can you do?

Communities and individuals cannot rely on the Government alone to prepare for and respond to bushfires. You can help reduce the effects of future bushfires by knowing what to do. The Tasmania Fire Service's key message for all Tasmanians is: **'know your bushfire risk, make a plan'**. There are a number of actions you can take before, during and after a bushfire to protect yourself.

BEFORE

- Prepare a bushfire survival plan – Be Bushfire Ready.
- Prepare your home – create a defensible space.
- Provide access for firefighters.
- Provide water for firefighting.
- Decide whether to leave, or stay and defend your property.
- If you decide to leave, leave early. Consider:
 - When to go;
 - Where to go and how to get there;
 - Who to tell; and
 - What to take.
- Staying to defend a well prepared property during a bushfire always carries the risk of injury or death. However, defending your home is a reasonable choice if:
 - Your home is well prepared;
 - You are physically fit and emotionally prepared; and
 - Fire conditions are less than 'extreme'.
- Most people who die in bushfires are caught in the open, either in their car or on foot, because they leave their property too late, when the fire is approaching.

- Learn about your bushfire risk and build a more resilient community by working together, within the community, to prepare for bushfires. This may include activities such as:
 - Conducting a community resilience workshop.
 - Inviting the Tasmania Fire Service (TFS) to present bushfire awareness and education sessions.
 - Preparing a personal bushfire survival plan.
 - Learning from past bushfire experiences.

DURING

- Follow your Bushfire Survival Plan.
- Monitor your local ABC Radio station.
- Pack your Emergency Kit into your car.
- Prepare your property, even if leaving:
 - Block drainpipes and fill gutters with water; and
 - Remove flammable items from the exterior of the house (blinds, outdoor furniture, doormats, hanging baskets).
- If staying, actively defend your home.

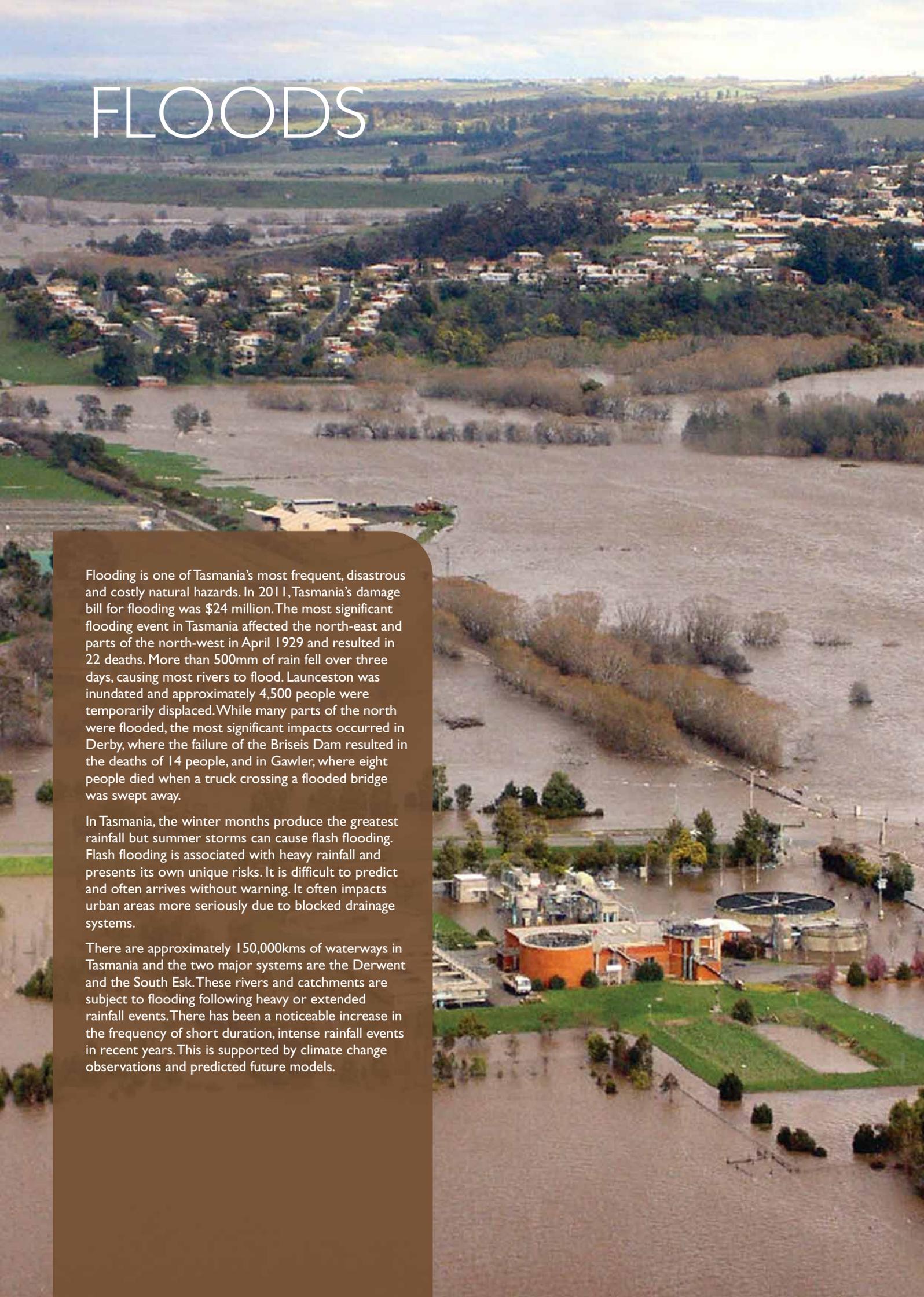
AFTER

- Keep listening for radio updates, road re-openings, community meetings, etc.
- If you were evacuated, do not return home until authorities tell you it is safe.
- Be aware of road hazards, such as trees or powerlines on the road, damaged roads/bridges or crews working on clean-up and repairs.
- If you are fire-affected:
 - Do not turn on your gas and electricity until you are sure it is safe to do so.
 - Have all wiring, gas and electrical equipment tested by an electrician.
 - Wear strong boots, gloves and other protective clothing during clean-up.
 - Boil all drinking water until authorities say the water supply is back to normal.



For the most up-to-date information on reducing bushfire risk refer to the 'publications' section of the Tasmania Fire Service website www.fire.tas.gov.au

FLOODS



Flooding is one of Tasmania's most frequent, disastrous and costly natural hazards. In 2011, Tasmania's damage bill for flooding was \$24 million. The most significant flooding event in Tasmania affected the north-east and parts of the north-west in April 1929 and resulted in 22 deaths. More than 500mm of rain fell over three days, causing most rivers to flood. Launceston was inundated and approximately 4,500 people were temporarily displaced. While many parts of the north were flooded, the most significant impacts occurred in Derby, where the failure of the Briseis Dam resulted in the deaths of 14 people, and in Gawler, where eight people died when a truck crossing a flooded bridge was swept away.

In Tasmania, the winter months produce the greatest rainfall but summer storms can cause flash flooding. Flash flooding is associated with heavy rainfall and presents its own unique risks. It is difficult to predict and often arrives without warning. It often impacts urban areas more seriously due to blocked drainage systems.

There are approximately 150,000kms of waterways in Tasmania and the two major systems are the Derwent and the South Esk. These rivers and catchments are subject to flooding following heavy or extended rainfall events. There has been a noticeable increase in the frequency of short duration, intense rainfall events in recent years. This is supported by climate change observations and predicted future models.

Government, communities and individuals all have a role to play in preparing for floods

What is the Government doing?

Government is currently undertaking the following activities to help reduce the likelihood or impact of floods:

- Engaging the community in awareness programs that encourage individual awareness and preparedness.
- Managing flood levees.
- Monitoring flood systems.
- Reviewing and exercising flood response and evacuation plans.
- Maintaining emergency response capability.
- Land use planning strategies.
- Maintaining emergency planning protocols.
- Review of flood studies.

What can you do?

Communities and individuals cannot rely on government alone to prepare for and respond to floods. You can help reduce the effects of future floods by knowing what to do.

BEFORE

- Learn about your flood risk from your local council.
- Develop a flood emergency plan.
- Invite the State Emergency Service to present an awareness and education program to your community group.
- Put together an Emergency Kit (contents to include are listed on the last page of this brochure).
- Understand the Flood Warnings issued by the Bureau of Meteorology:

Flood watch – notifies specific regions of a potential flood threat from a developing weather situation. A Flood Watch means a flood is possible in those areas and is issued 24-36 hours before any likely flooding. People living, camping or working along rivers or streams should regularly check weather forecasts, rainfall totals and river levels and be ready to take action.

Flood warning – issued when flooding is imminent, or already happening. The Bureau of Meteorology predicts the height of a river at a town or other important locations along a river, and the time that this height is expected to be reached. When flood warnings are issued, people in low-lying areas that are prone to flooding need to activate their flood emergency plan immediately.

Flash floods – can happen after very heavy rain that causes a rapid rise of water over a short period of time, sometimes just minutes. There may be little or no warning, so watch the weather and be prepared to act quickly.

DURING

- Check that family and neighbours are safe and aware of what's happening.
- Bring pets inside.
- Place important papers, photos, identification and valuables into your Emergency Kit.
- **NEVER** walk, play, ride or drive in floodwater. You can't always see what is under the water or how deep or fast-moving the water is. It is easy to be swept away and drown in as little as 20cm of fast-moving water.
- Keep people, particularly children, clear of flooded areas such as drains.
- Beware of fallen powerlines.

EVACUATION: Tasmania Police may advise at-risk areas to prepare for evacuation. Police aim to keep you safe, so it is important to follow this advice. Act early, as conditions can change rapidly and roads or escape routes can close.

When you leave – What to take – Where to go:

- Turn off the electricity, gas and water at the mains.
- Take your Emergency Kit.
- Take your pets with you.
- Move to friends or family in safer areas, or to an Evacuation Centre if advised by authorities. Wherever you go, let others know.

For the most up-to-date warnings go to your local ABC radio or the Bureau of Meteorology's website.

AFTER

- Keep listening for radio updates, road re-openings, community meetings, etc.
- If you were evacuated, do not return home until authorities tell you it is safe.
- Be aware of road hazards, such as mud or debris on the road, damaged roads/bridges or crews working on clean-up and repairs.

If you are flood affected:

- Do not turn on your gas and electricity until you are sure it is safe to do so. Have all wiring, gas and electrical equipment tested by an electrician.
- If entering flood-affected buildings, use a torch, never matches or candles.
- Floodwaters pick up sewage and chemicals, so wear strong boots, gloves and other protective clothing during the clean-up.
- Boil all drinking water until authorities say the water supply is back to normal.



For the most up-to-date information on reducing flood risk refer to the 'Public Safety Advises' section of the State Emergency Service website www.ses.tas.gov.au

STORMS

Tasmania lies in the pathway of the 'Roaring Forties' wind that encircles the globe. The Tasmanian climate is influenced by the interaction between westerly winds and the mountain ranges near the west coast and the central plateau. The cycle of westerly winds is a key driver of the seasonal rainfall. The persistent westerly systems mean that Tasmania is regularly subjected to storms and severe weather. Weather systems known as 'east coast lows' often bring intense rainfall and strong winds.

Storms affect all parts of Tasmania but different areas experience varying storm scenarios. For example:

- The north-east of the State is exposed to east coast lows, westerly frontal systems and sometimes fronts that move up from the south.
- The south-east is reasonably protected from the prevailing westerlies due to the mountain ranges in the west but may be influenced by intense low pressure systems that move south of the State.
- The west and north-west coasts are particularly exposed to the prevailing storm weather.

The Tasmanian State Natural Disaster Risk Assessment has identified that the highest storm risk is likely to come from a broad-scale front moving in from the west, bringing severe thunderstorms and the possibility of tornado winds. In such a scenario, there is the potential for loss of life and significant damage to properties.



Government, communities and individuals all have a role to play in preparing for storms

What is the Government doing?

Government is currently undertaking the following activities to help reduce the likelihood or impact of storms:

- Land use planning strategies.
- Compliance with building design standards.
- Maintenance of infrastructure.
- Protection of vulnerable critical infrastructure such as powerlines.
- Maintaining emergency response capability.
- Community awareness programs encouraging individual awareness and preparedness.

What can you do?

Communities and individuals cannot rely on government alone to prepare for and respond to storm events. You can help reduce the effects of future storms by knowing what to do.

BEFORE

- Understand the impacts of severe weather on you.
- Trim or remove trees and branches overhanging your home, business or powerlines on your property.
- Put together your Emergency Kit (contents to include are listed on the last page of this document).
- Invite the State Emergency Service to present an awareness and education program to your community group.
- Understand the Storm Warnings issued by the Bureau of Meteorology. Storm warnings cover a range of dangers: thunderstorms, lightning, hail, damaging winds, tornadoes, heavy rain and flash flooding.

DURING

- To reduce the impact of storms on you, SES has several key messages for you to follow when a storm warning is issued:
 - Bring children and pets indoors.
 - Check that neighbours know about the warnings and are prepared.
 - Shelter indoors while the storm passes. Stay clear of windows in case they break.
 - Get your Emergency Kit ready to go.
 - Test batteries in radios and torches.
 - Power blackouts can occur during storms. Turn off and unplug all non-essential electrical items.
 - Secure outdoor furniture and play equipment.
 - Lightning can be deadly. If outdoors, seek shelter immediately in a building or vehicle. NEVER shelter under a tree.

If driving:

- Be alert and watch for hazards: powerlines, fast-flowing water; washed away roads or bridges, tree branches and roofing iron.
- Slow down, drive to suit the conditions and turn your headlights on.

For the most up-to-date warnings, go to your local ABC radio or the Bureau of Meteorology's website:

AFTER

- Make sure children are ALWAYS well supervised.
- Stay well clear of swollen creeks, drains, fallen trees, powerlines and damaged buildings.
- Always assume fallen powerlines are dangerous.
- Check that neighbours are okay, especially the elderly.
- Do not go 'sightseeing'. Sightseers delay emergency services and cause accidents.

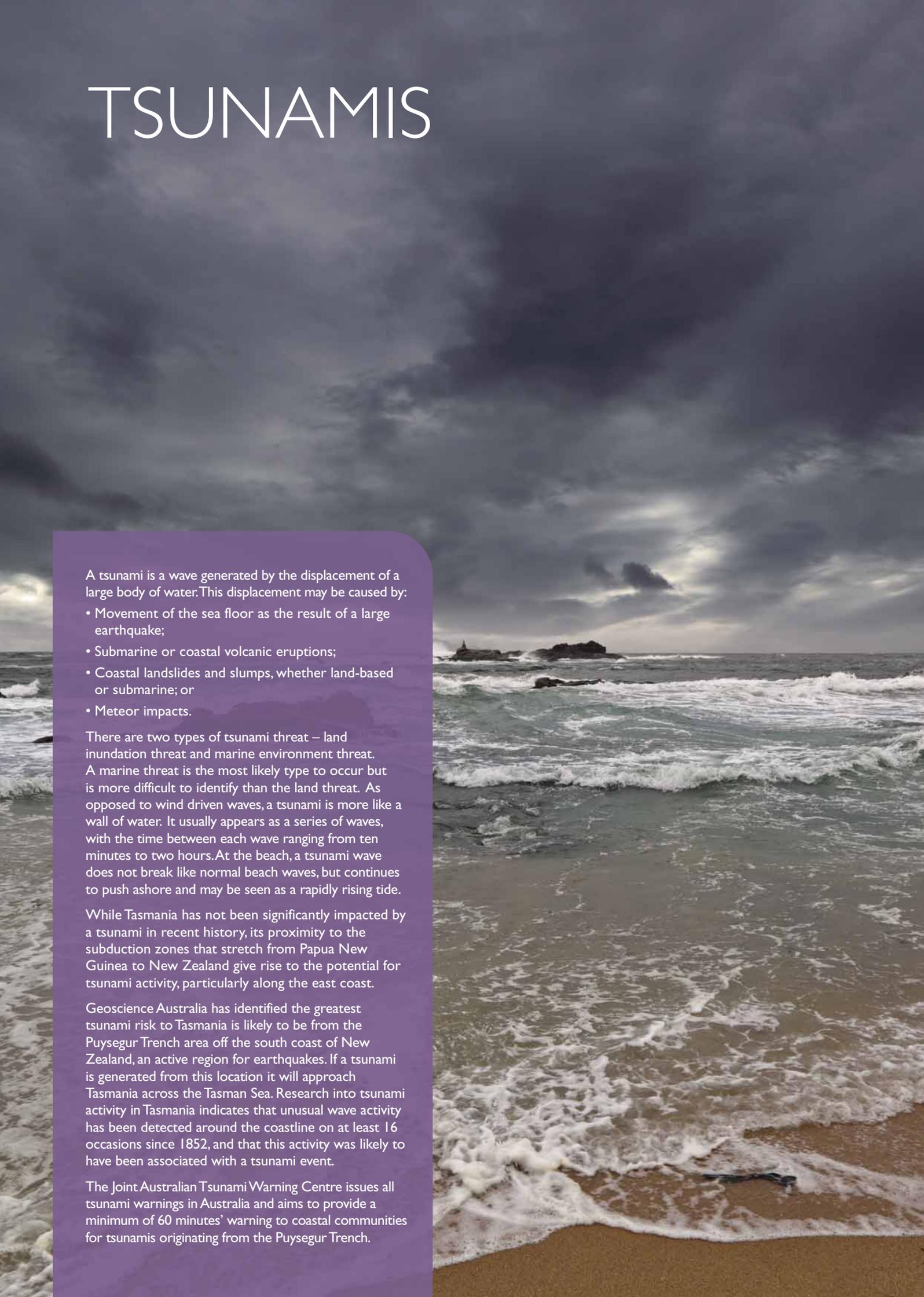
If your home or property is damaged:

- Stay at ground level while checking for damage. Look out for broken glass, loose tiles or roofing iron, damaged powerlines and other debris.
- Contact your insurance company immediately. Take photos of the damage.
- If trees or branches have fallen around your yard and are not dangerous (eg over the driveway), contact your local tree service. Your insurance may cover these costs.
- Have storm or wind damaged wiring or other electrical equipment checked by an electrician.
- If your home is badly damaged and you need to relocate, take your Emergency Kit and pets with you.



For the most up-to-date information on reducing storm risk refer to the 'Public Safety Advice' section of the State Emergency Service website www.ses.tas.gov.au

TSUNAMIS



A tsunami is a wave generated by the displacement of a large body of water. This displacement may be caused by:

- Movement of the sea floor as the result of a large earthquake;
- Submarine or coastal volcanic eruptions;
- Coastal landslides and slumps, whether land-based or submarine; or
- Meteor impacts.

There are two types of tsunami threat – land inundation threat and marine environment threat. A marine threat is the most likely type to occur but is more difficult to identify than the land threat. As opposed to wind driven waves, a tsunami is more like a wall of water. It usually appears as a series of waves, with the time between each wave ranging from ten minutes to two hours. At the beach, a tsunami wave does not break like normal beach waves, but continues to push ashore and may be seen as a rapidly rising tide.

While Tasmania has not been significantly impacted by a tsunami in recent history, its proximity to the subduction zones that stretch from Papua New Guinea to New Zealand give rise to the potential for tsunami activity, particularly along the east coast.

Geoscience Australia has identified the greatest tsunami risk to Tasmania is likely to be from the Puysegur Trench area off the south coast of New Zealand, an active region for earthquakes. If a tsunami is generated from this location it will approach Tasmania across the Tasman Sea. Research into tsunami activity in Tasmania indicates that unusual wave activity has been detected around the coastline on at least 16 occasions since 1852, and that this activity was likely to have been associated with a tsunami event.

The Joint Australian Tsunami Warning Centre issues all tsunami warnings in Australia and aims to provide a minimum of 60 minutes' warning to coastal communities for tsunamis originating from the Puysegur Trench.

Government, communities and individuals all have a role to play in preparing for tsunamis

What is the Government doing?

Government is currently undertaking the following activities to help reduce the impact of tsunamis:

- Tsunami inundation modelling.
- Tsunami detection buoys between Tasmania and New Zealand.
- Tsunami monitoring and warning service.
- Seismic monitoring.
- Community awareness programs.

What can you do?

Communities and individuals cannot rely on government alone to prepare for and respond to tsunamis. You can help reduce the effects of future tsunamis by knowing what to do.

BEFORE

- Understand tsunami:
 - It's not a single wave but generally a series of waves.
 - It may be a fast-moving wall of water.
 - Sometimes the only impact of tsunami will be dangerous rips and currents.
- Be aware of the natural warning signs of tsunami:
 - earthquake, rumbling or sudden changes in the behaviour of coastal seas.
- If you live on, or regularly visit the coast, get to know the tsunami history and the coastal flood-prone areas of your community.
- Decide where you will go if a tsunami warning is issued for your community.
- Invite the SES to present an awareness and education program.

DURING

- If you receive an official tsunami warning, you may be asked to move away from the water's edge or move to higher ground inland.
- For your own safety you should follow the advice given by emergency services personnel when a tsunami warning is issued.
- Never go the beach or stay and watch once a tsunami warning has been issued.
- Listen to local radio for further information.
- The authority responsible for issuing tsunami warnings to Tasmania is the Joint Australian Tsunami Centre, not the Pacific Tsunami Warning Centre. For more information about tsunami warnings in Australia go to the Bureau of Meteorology website, www.bom.gov.au/tsunami.

AFTER

- Rips and currents may affect the marine environment for a period up to 48 hours after impact.
- Do not go to the beach or into the water until you are told it is safe to do so.



For the most up-to-date information on reducing tsunami risk refer to the 'Public Safety Advice' section of the State Emergency Service website www.ses.tas.gov.au

EARTHQUAKES



An earthquake is the result of a sudden release of energy in the earth's crust that creates seismic waves. In Australia, earthquakes are usually caused by movements along fault lines. While Australia does not sit on a plate margin, where earthquakes are more frequent, it is vulnerable to intraplate earthquakes.

Although Tasmania has not experienced any previous earthquakes that are considered to have had a significant impact, it is clear that Tasmania has an earthquake risk. Current research, the existence of known recently active faults, and the lessons learned following intraplate region earthquakes in other parts of the world demonstrate the potential for a major earthquake to impact Tasmanian communities.

There are only a few faults in Tasmania that have been identified as having evidence for relatively recent activity. Most have not been studied in detail, but several geological studies have been undertaken in respect to the Lake Edgar Fault, which is located 80kms west of Hobart.

Geoscience Australia has records of 46 earthquakes above magnitude 3.0 in Tasmania since the late 1800s, including earthquakes that caused building damage in Launceston, and smaller ones felt in other populated areas. The nature of the soils in some areas may increase the susceptibility to shaking as a result of an earthquake – some parts of Launceston have been identified with these soils. While instrumentally recorded seismicity is low, there is evidence that Tasmania has previously experienced earthquakes up to 7.0 in magnitude.

Other recorded events include a magnitude 5.0-5.6 earthquake east of Flinders Island in 1929. This event caused damage to the Launceston Hospital, a church and houses in the area. It was also felt in Hobart.

More recently, in 2004, there was a magnitude 4 earthquake at Mole Creek that was felt in towns in the north-west, as well as the Hobart area.



Government, communities and individuals all have a role to play in preparing for earthquakes

What is the Government doing?

Government is currently undertaking the following activities to help reduce the impact of earthquakes:

- Compliance with building design standards.
- Seismic monitoring.
- Fault studies.
- Installing earth movement sensors in critical infrastructure such as dams.

What can you do?

Communities and individuals cannot rely on government alone to prepare for and respond to earthquakes. You can help reduce the effects of future earthquakes by knowing what to do.

BEFORE

- Know your local area, particularly if there is a history of earthquakes.
- Put together your Emergency Kit (contents to include are listed on the last page of this document).

DURING

If an earthquake strikes:

- If indoors, **Drop, Cover and Hold**. Stay indoors until the shaking stops and you are sure it is safe to exit.
- If outdoors, move no more than a few steps away from buildings, trees, streetlights, and powerlines, then **Drop, Cover and Hold**.
- If you are driving, pull over to a clear location, stop and stay there with your seatbelt fastened until the shaking stops. Once the shaking stops, proceed with caution and avoid bridges or ramps that might have been damaged.

AFTER

- Expect aftershocks.
- Keep your radio tuned to local media.
- Watch for hazards and check for injuries or damage.
- Turn off electricity, gas and water.
- Only use telephones in an emergency.
- Avoid driving unless for emergency.
- Stay calm and help others if possible.



For the most up-to-date information on reducing Earthquake risk refer to the 'Public Safety Advice' section of the State Emergency Service website www.ses.tas.gov.au or the Geoscience Australia website www.ga.gov.au

LANDSLIDES



A landslide is generally defined as the movement of earth, debris or rock down a slope. Several different types of landslides can occur anywhere across Tasmania but have been particularly noticeable in several areas of the north-west landscape and the Tamar Valley, as well as specific areas in and around Hobart, Launceston and St Helens.

Mineral Resources Tasmania, a division of the Department of Infrastructure, Energy and Resources, has documented many landslide events across Tasmania and a significant amount of associated property damage. However, the majority of this property damage is caused by slow-moving slides, which generally do not pose a threat to life.

The types of landslide that are most likely to pose a threat to life are the sudden impact, fast-moving types:

Fast-moving, or sudden, slides (shallow or deep-seated)

- Generally associated with heavy rainfall, and often with prolonged wet periods.
- Can be initiated by human modification of slopes (excavations, construction, drainage modification).

Fast-moving Debris Flows or Earth Flows

- Generally associated with heavy rainfall, and often with prolonged wet periods.
- Debris Flows can be particularly destructive and life threatening.

Falls (rock, earth or debris)

- Can occur as a single mass or, less commonly, as an avalanche of multiple masses.
- Rock falls are relatively common in mountainous areas where few people live, but also occur along coastal cliffs and various artificial cuttings.

Large, sudden impact landslide events are relatively uncommon in Tasmania, particularly in populated areas. One significant example of such an event occurred in 1872 at Humphreys Rivulet, Glenorchy, where a large slide occurred on the flanks of Mt Arthur and the subsequent debris flow and flood travelled a total distance of about 8.5km, from Mt Arthur to the River Derwent. It is believed that this event created a debris dam that then burst and caused a flash flood comprising water, earth and debris.

Government, communities and individuals all have a role to play in preparing for landslides

What is the Government doing?

Government is currently undertaking the following activities to help reduce the likelihood or impact of landslides:

- Land use planning strategies.
- Landslide research, mapping and zoning.
- Monitoring landslide prone areas.
- Management of proclaimed landslip zones.
- Plantations and vegetation planted to stabilise land.
- Community awareness programs.

What can you do?

Communities and individuals cannot rely on government alone to prepare for and respond to sudden impact landslides. While planning controls will often mitigate some types of landslide hazard, there are other types that may pose a threat and have not been considered in the planning process. You can help reduce the effects of future sudden impact landslides by knowing what to do.

BEFORE

- Learn about the landslide risk in your area and consult available landslide mapping/zoning.
- Be aware that landslide insurance is not available anywhere in Australia.
- Comply with planning controls in relation to slope stability.
- Ensure that any construction work does not increase the landslide risk by having a landslide risk assessment undertaken by a suitably qualified practitioner.
- Learn how to recognise initial signs of slide failure – these may include:
 - Movement of structures such as decks and patios in relation to the house.
 - Sticking doors and windows, indicating distorted jambs and frames.
 - Tilting or cracking of concrete floors and foundations.
 - Offset fences or retaining walls.
 - Breaks in services, such as water pipes and sewers.
 - Long, continuous cracks (often curved) opening in the ground.
 - Ground subsiding in some parts and possibly rising in others.

DURING

- If in an area of identified landslide hazard, then be aware that during storm events sudden impact landslides may occur.
- Alert proper officials if a landslide movement has occurred or imminent failure is suspected.
- Alert neighbours, especially those downslope, if they may also be affected by the landslide.
- If initial signs of a slide failure are developing rapidly then leave the area.

AFTER

- Expect ongoing movement of a slide or continuing falls or flows of material.
- Stay clear of unstable areas, which can continue to expand in all directions.
- Turn off water, gas and electricity if affected by the landslide.
- Ensure others are aware of the danger (eg rock fall onto a road).



Refer to the 'Geological Hazards' section of the Mineral Resources Tasmania website for additional information on landslides www.mrt.tas.gov.au

Home or Business Emergency kit for any emergency.

Your emergency kit includes items you, your family or workmates will need during and after most emergencies.

1. A battery or wind-up radio



2. A battery or wind-up torch



3. Spare batteries to fit radio and torch



4. A first aid kit



5. Rubber gloves and strong leather work or garden gloves



6. Mobile phone and charger



7. A waterproof bag or container

for valuables, important papers, identification ID, wills, photographs, phone numbers (family /friends), back-up copy of computer files etc



8. A good supply of everyone's medicines and prescriptions



9. Strong shoes or boots



10. A copy of your home or business emergency plan



11. Special needs for babies, the disabled or elderly



12. Enough non-perishable food and drinking water for every person (and pets) for 3 days

