

Flood guide

Helping you to understand, prepare for and respond to a flood emergency

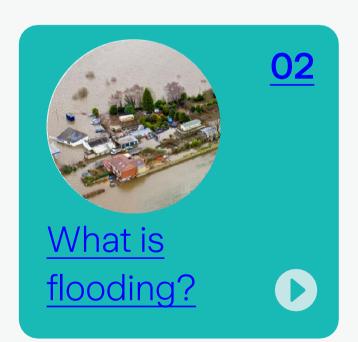


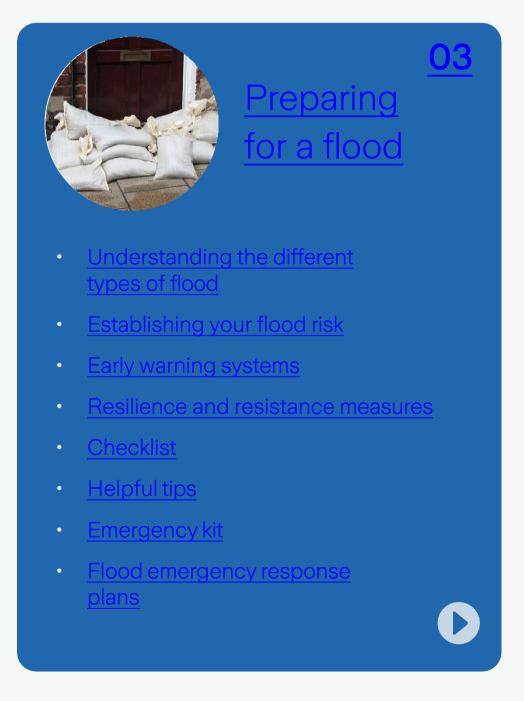


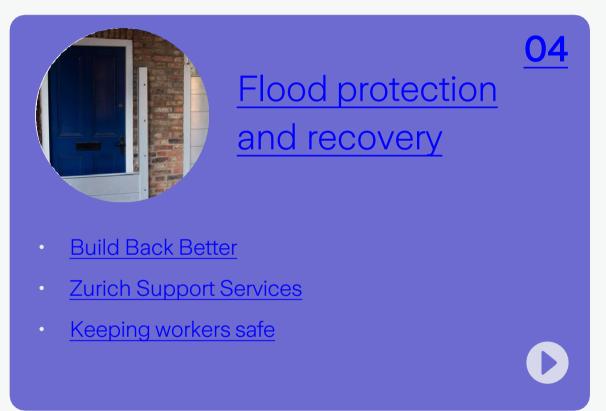
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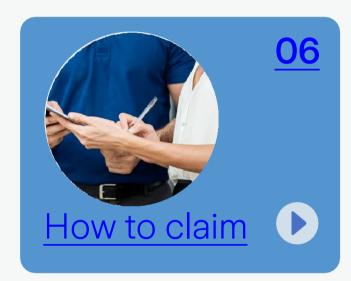


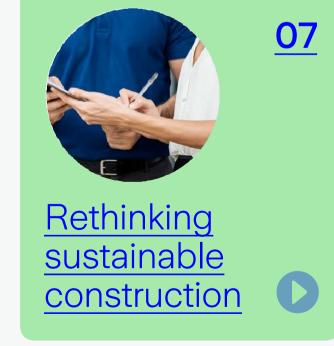














Introduction

Flooding poses a significant risk to millions of homes, businesses, and communities across Australia and New Zealand. Whether caused by rivers, coastal storm surges, intense rainfall, or groundwater, floods can lead to widespread damage, disruption, and emotional distress.

Both the Australian and New Zealand governments recognise flooding as a major natural hazard with serious consequences for people, ecosystems, infrastructure, and the economy. In national risk assessments, flood events are consistently rated among the highest-impact natural disasters, reflecting their potential to cause long-term harm and require substantial recovery effort.



A changing climate: Rising Flood Risks in Australia and New Zealand

The impacts of climate change are contributing to more frequent and severe flooding events across Australia and New Zealand. From tropical cyclones and atmospheric rivers to intense rainfall and rising sea levels, the region is experiencing increasingly unpredictable and damaging flood patterns..

In Australia, the <u>State of the Climate 2024</u> report by the Bureau of Meteorology and CSIRO highlights that heavy rainfall events are becoming more intense, and sea levels are rising at an accelerating rate—both contributing to increased flood risk.

Recent flood events across Queensland, New South Wales, and regions of Aotearoa New Zealand have underscored the scale of the challenge. For example, the NSW Flood Impact and Risk Management Measures Report (2022) found that the intensity and rarity of recent floods were unprecedented.

Despite these warnings, experts caution that many organisations still respond reactively—after the flood has occurred—rather than investing in forward-looking resilience and preparedness. A proactive approach is essential to avoid future disasters.

To build resilience, we must act now. At every level—government, business, community, and individual—we need to strengthen flood preparedness, invest in adaptation strategies, and shift from reactive recovery to proactive planning.

Floods cost Australia billions each year 2022 events alone caused AUD \$5B+ in insured losses.

850k

Properties in Australia are currently exposed to flood risk, with numbers expected to rise due climate change and urban expansion

Since 1970, total incurred claims from floods have exceeded

\$21.3 billion.

Long-Term Cost of Extreme Weather

Over the past five years, the average annual cost of extreme weather claims has more than doubled to \$4.5 billion, with flood being the costliest natural peril.

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What is flooding?

A flood is an overflow of a large amount of water beyond its normal limits, especially over what is normally dry land.

When is it 'critical'?

A "critical" flood hazard is the point at which mitigation measures are recommended, however it's definition can differ from country to country as well as regionally within the same country.

It is generally recommended that if a site has a 0.2% annual probability of floods occurring, or a 500-year return period, then the site should consider mitigation measures.

Areas impacted by wind-driven flood zones, for example, typhoon, tropical cyclone or hurricane, as well as regions prone to flash floods, are recommended to develop an emergency response plan.

What is the 'return period'?

The 'return period' is the statistical likelihood that an event of a given magnitude will occur within a given year.

As an example, the term "100-year flood" refers to a flood event that has a 1% probability of occurring in any given year. It is important to recognize that this does not mean that the event will happen only once in a 100 year period.

Rather, a 100-year flood event can happen more than once in any given year, it can occur annually over several years concurrently, or once in a given time period.

Since the definition of an event of a given return period relies on historical occurrences, the longer the historical database, the more accurate the probability.





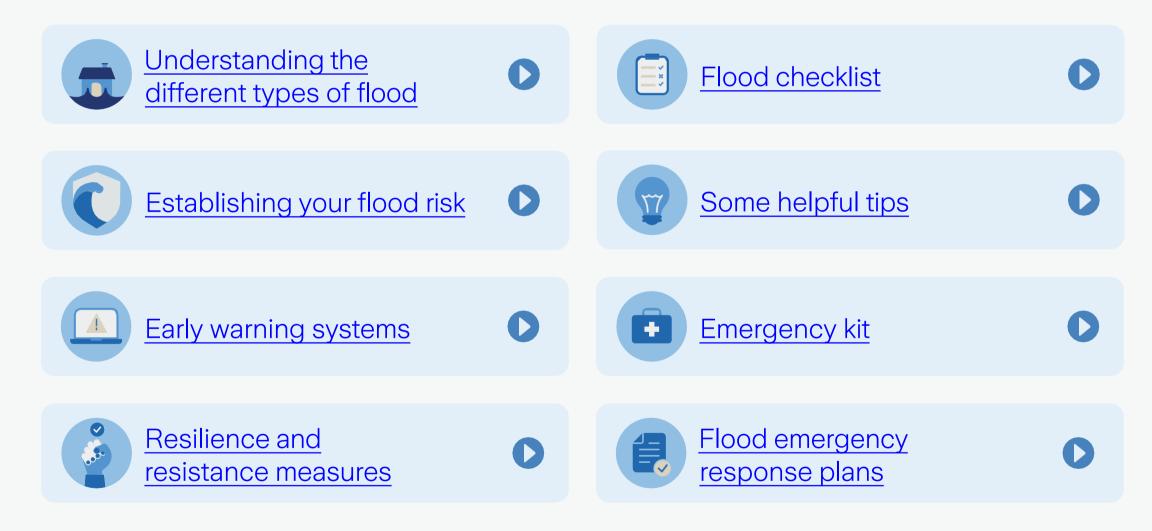
Preparing for a flood

The starting point to preparing for flooding and actions to implement as part of an Emergency Response Plan are highlighted below.

The time frame for these activities is typically several months before a potential event.

- Identify and understand the sources of flooding and how these can impact your property.
- Undertake a flood risk assessment to identify the site's vulnerability to flooding and what controls are available or are required.
- Sign-up for early warning systems.
- Implement a flood emergency response plan.
- Implement flood resilience and resistance measures.

Click on the different sections below to find out more:



The Australian Institute for Disaster Resilience's *Flood Emergency Planning Handbook* provides practical guidance and downloadable resources for everything from flood risk mapping and warning systems, to flood plan templates and community engagement strategies.

Click here to see more: Flood Emergency Planning Handbook – AIDR

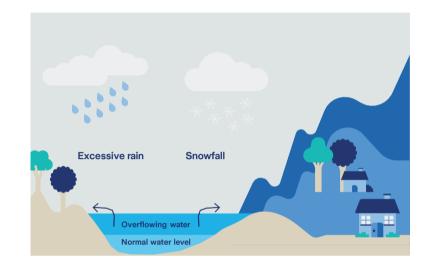
Understanding the different types of flood

To plan for floods, it's important to understand the type (or types) of flood you may face. But why?

There are several different kinds of flood, and each one bears a different impact in terms of how it occurs, how it is forecast, the damage it causes, and type of protection you need.

Fluvial floods

River floods



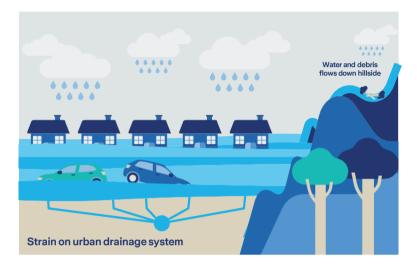
A fluvial, or river flood, occurs when the water level in a river, lake or stream rises and overflows onto the neighbouring land.

The water level rise of the river could be due to excessive rain or snowmelt.

To determine the probability of river flooding, models consider past precipitation, forecasted precipitation, current river levels, and well as soil and terrain conditions.

Pluvial floods

Flash floods and surface water



A pluvial flood occurs when extreme rainfall creates a flood separate to an overflowing water body, such as a river or lake. Properties don't need be located near a body of water to be at risk.

Two common types of pluvial flooding:

- Surface water floods occur when an urban drainage system is overwhelmed and water is unable to drain, instead flowing along the streets into nearby structures.
- Flash floods characterized by an intense, and fast flow of water triggered by torrential rain falling within a short amount of time. Flash floods are very dangerous and destructive not only because of the force of the water, but also the hurtling debris that is often swept up in the flow.

Coastal floods

Storm surge



Coastal flooding is the flooding of land areas along the coast by seawater.

Common causes:

- Intense windstorms happening at the same time as high tide (storm surge)
- Tsunamis.

A **storm surge** is created when high winds and low pressure forces water onshore. This is the leading cause of coastal flooding and often the greatest threat associated with a hurricane or typhoon.



Establishing your flood risk

At Zurich, we want to increase understanding and awareness of the changing risk landscape. Flooding can not only cause significant risks of property damage, but it can also cause significant disruption.

Too often, buildings are constructed with designs and materials that offer little protection against flooding. When building in flood-prone areas, planners assume that the proposed flood mitigation measures will be done correctly and in a way that reduces current and future flood risks, but this isn't always the case.

Where do you start with understanding your flood risk?

To ensure appropriate flood protection and response planning is in place, the best place to start is to understand what flood risk your property is exposed to.

Accurately gauging future flood risk can be challenging but it is an important step to understanding whether an organisation or community is as prepared as it can be.

Flood Risk Assessment

A flood risk assessment can help to identify the risk of an area by assessing the source of flooding, its likely impact and what can be done to reduce the impact and increase resilience to flooding. These assessments should be completed by qualified organisations and are typically required for planning permission.

Historical Flood Risk

Whilst historical flooding is not an indication of what can happen in the future, being aware of past events can still be useful. If the area around a property has previously been flooded, knowing how this occurred can help to plan and build resilience. You can find out historical flood events from online historical records or you can request information from the risk management authorities.

Sources for historical flood data in Australia

Bureau of Meteorology – Climate
Data Online: Climate Data
Online - Map search

NSW Flood Data Portal: <u>NSW Flood Data</u> Portal - Dataset - <u>Data.gov.au</u>

Data.gov.au – Flood Datasets: <u>Datasets - Page 1 - Data.gov.au</u>









Early warning systems

Flood warnings give you time to prepare, helping reduce damage, cost, and stress. In Australia, you can receive flood alerts via SMS, phone call, email, app notifications, and radio broadcasts, depending on your location and preferences.

Warnings are issued by the Bureau of Meteorology, State Emergency Services, and the Emergency Alert system.

Click on the buttons below to find out more:

Fluvial flood warnings

Pluvial flood warning systems

Bureau of Meteorology Flood Warning Systems Overview

Flood Watch

The Bureau issues a Flood Watch to provide early advice of a developing situation that may lead to flooding. A Flood Watch is not a warning of imminent flooding.

What to do:

- look out for future Flood Watch updates and heed Flood Warnings
- follow the advice of the local emergency services
- If flooding develops, consider making preparations to move livestock, family and possessions to higher ground

Flood Warning

A Flood Warning is issued when the Bureau is more certain that flooding is expected, often when rainfall has started to fall. Flood Warnings are more targeted and are issued for specific catchments or even subcatchments in some of the larger river basins. Flood Warnings will generally include specific predictions of the severity of expected flooding.

A quantitative or qualitative flood warning of Minor, Moderate or Major flooding is provided in areas where the Bureau has specialised warning systems. They provide advanced warning about the locations along river valleys where flooding is expected, the likely class of flooding and when it is likely to occur. Predictions of expected water levels and the timing of flood peaks are provided at key forecast locations

Get your emergency kit together.

Flood Warning Symbols & Classifications

Symbol/Level	Meaning	Description
Minor Flooding	Low impact	Water may cause inconvenience (e.g. roads closed, low-lying areas affected).
Moderate Flooding	Medium impact	Flooding of homes, businesses, and infrastructure possible. Evacuation may be required.
Major Flooding	High impact	Widespread inundation, significant evacuations, and potential for serious damage.



More information about the Bureau's flood warning service and general flood preparedness can be found t: www.bom.gov.au/australia/flood/otherlinks.shtml





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Click on the buttons below to find out more:

Fluvial flood warnings

Pluvial flood warning systems >

Unlike fluvial flooding, there are no national pluvial flood warning systems in place. However, here are some sources which can help you in preparing for potential pluvial flooding.

Flash flooding guidance for customers and businesses

Flash floods can be very dangerous and destructive, not only because of the force of the water, but also the hurtling debris that is often swept up in the flow. Sadly, these weather events are no longer exceptional weather events.

When a flash flood happens, the water has nowhere to go and overwhelms drainage causing flooding and serious damage to properties and businesses. During heatwaves, the problem is exacerbated, where the very dry ground becomes incredibly compacted, and rainfall struggles to soak into the ground and instead sits on top resulting in a flash flood.

While there is no national pluvial flood warning system, you can prepare using:

- BoM Severe Weather Warnings
- Local Council Alerts Many councils offer flood risk maps and community alerts
- State Emergency Services (SES) Provide localised flood advice and emergency support.

Stay informed and act early.

- Tune in to local radio
- **■** Use the **BoM Weather App**
- ln an emergency, call 000





Flood resilience and resistance measures

Water can enter your property through several different routes. These include:

- Walls
- Windows
- Drains

Sewers

Floors

Doors

- Airbricks

- Vents
- Pipework

By implementing flood resilience and resistance measures, you can reduce property damage and business interruption.

There are two types of flood defence:

Wet proofing (flood resilience)

Resilience focuses around accepting the ingress of water but utilising resilient design and materials to reduce the impact and speed up recovery.

Examples of resilience measures include:

- Raising critical infrastructure
- Tiling floors and walls
- Raising floor levels
- Utilising water resilient materials
- Laying plasterboard horizontally instead of vertically

Dry proofing (flood resistance)

Resistance is centred around putting measures in place to reduce the ingress of water into a property.

Examples of resistance measures include:

- Flood doors and barriers
- Self-closing air bricks
- Portable pumps and sump pumps
- Non-return valves on wastepipes

Flood Resilient Home Design Guidance - Australia (State & **National Overview**

Across Australia, a range of state-specific and national resources provide guidance on flood-resilient home design. In New South **Wales**, the *Flood Resilient Design Guide for Homes* outlines comprehensive strategies for improving residential flood resilience, supported by local planning instruments such as LEPs and DCPs. **Queensland** offers the *Flood Resilient Building Guidance for* Queensland Homes, developed by QRA and Brisbane City Council, along with the Logan Flood Resilient Design Guideline, which provides localised advice on drainage and waterproofing. In **Victoria**, the *Design Guidance for Flood Resilient Homes* from the VBA recommends resilient materials and retrofitting techniques for flood-prone areas. **Western Australia** supports flood resilience through its Floodplain Management Guidelines, local planning schemes, and strategic advice from the State Emergency Management Committee. Nationally, NEMA's Build Flood Resilient Homes offers practical retrofitting and material selection advice, while the National Construction Code, ABCB Standard for Construction in Flood Hazard Areas, and AS/NZS 3500 provide regulatory and technical frameworks to ensure safety and durability in flood-prone developments. Together, these resources form a robust foundation for enhancing flood resilience across jurisdictions...

Maintaining drainage systems

Drainage systems exist to store and transport water. They can be human-made, like sewer systems or gutters and downpipes for roof drainage. Or they can be natural, like rivers, ditches, brooks, or streams.

If drainage systems aren't maintained, they can stop working correctly, and this can lead to an increased risk of flooding. Regular maintenance is, therefore, the best way to reduce the impact of flooding. Permission should be obtained from the relevant risk management authority before undertaking works to maintain watercourses.

Drainage systems must be fully mapped from roof to underground drainage, as well as the connectivity of the system. The drainage system should be inspected and maintained regularly as part of a proactive maintenance schedule.

The importance of regular drain maintenance

- 1. Preventing blockages and overflows: Regular drain clearance prevents blockages that can cause overflows, leading to property damage and health hazards.
- 2. Cost-effective management: Proactive maintenance is cost-effective, preventing expensive emergency call-outs and extensive damage repairs.
- 3. Enhancing longevity of plumbing systems: Regular clearing of drains extends the life of plumbing systems, saving long-term costs.
- 4. Health and Hygiene: Blocked drains can lead to unsanitary conditions, which are detrimental to occupant health. Regular clearance ensures a hygienic environment.





Flood checklist

Understanding the flood risk and what you can do if you are at risk is the starting point to preparing for a flood.

Using this checklist should help you with this.

Establish the risk of flooding:

Is the property at risk of flooding?

Do you know what the source of flooding is?

Does the site have a history of flooding?

If you are at risk:

Do you have a flood risk assessment?

Have you signed up to a flood warning system?

Do you understand what the alerts mean?

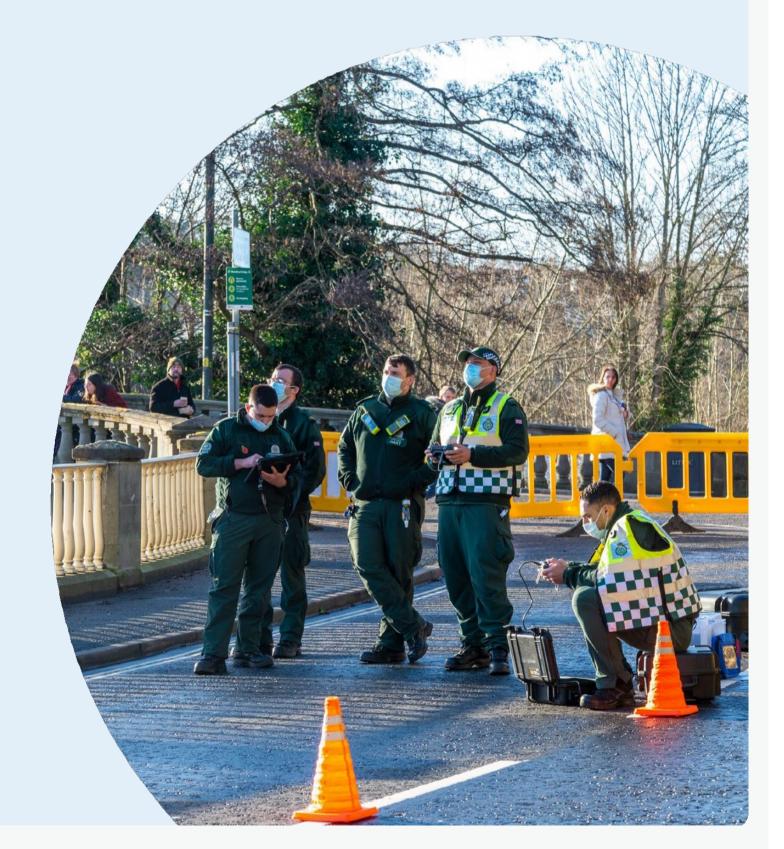
Do you have a plan to respond to a flood alert?

Have you trained your staff on how to act in the event of a flood?

Consider measures to protect your property:

Can you install any flood resistance measures?

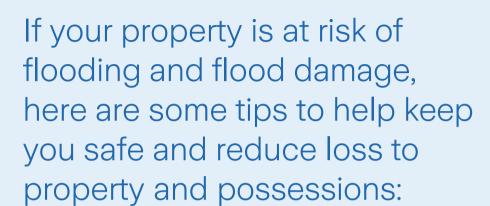
Can you implement flood resilience measures?







Some helpful tips



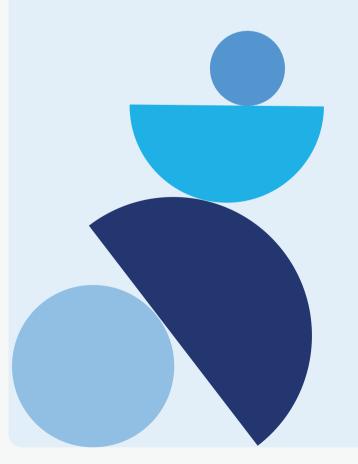


Measures to take indoors:

- Turn off electricity, gas and mains water supplies.
- Move as many possessions as possible/expensive equipment to higher floors.
- Remove critical or valuable smaller items from the property.
- Ensure that equipment that cannot be moved is tied down to prevent it from floating and damaging other belongings.
- · Elevate stock which may be prone to flood damage.
- Back-up critical data.
- Disconnect appliances connected by rigid pipes to the mains supply. This prevents the pipes from snapping if the appliances float off.
- Use weighed down plugs for sinks as plugs can let in floodwater.
- Install non-return valves, to stop sewer backing up.



- Prepare for flooding with a Personal Flood Plan.
- Keep extension cables out of water and wear rubber boots.
- Avoid enclosed areas which may not be ventilated and where hazardous fumes may build (e.g. garages and cellars).
- Notify employees / visitors if flooding is imminent.
- Prepare an emergency flood kit.





Measures to take outdoors:

- Your local authority may provide flood boards or sandbags. They can be used to cover the building's vents, doors, lower windows and air bricks to reduce the amount of water that gets in.
- Once the flood has passed, remove all coverings to allow air to circulate as soon as possible.
- Flow valves for propane gas or oil storage tanks should also be shut off.



Do not:

- Walk through floodwater, along riverbanks or cross river bridges if avoidable. As little as 15cm of fast-flowing water can knock you over and banks or river bridges may collapse in extreme situations.
- Avoid flood water or contaminated belongings.
- Re-enter your property unless you are sure it is safe to do so.





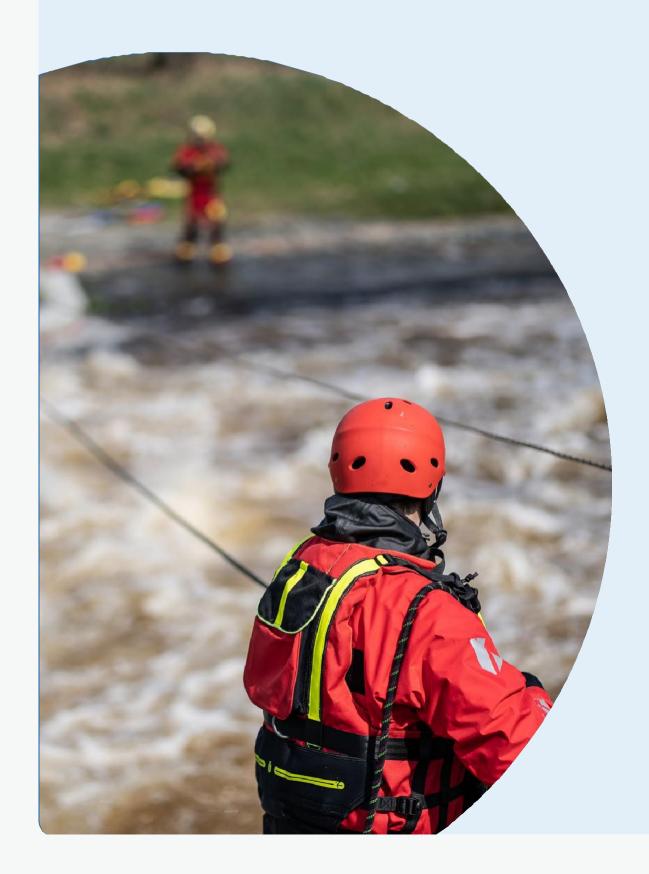
Emergency kit

Use the checklist below to ensure you have all the items you're likely to need if yo	ou're affected by flooding.		
Torch	Wash kit and essential toiletries (including toilet paper and wet wipes)		
Batteries (not rechargeable)	Children's essentials if appropriate (milk, baby food, sterilised bottles and spoons, nappies, wipes, nappy bags, clothing, comforter, teddy or favourite toy) Important documents including insurance documents, as well as insurance emergency helpline, local council and emergency services numbers, family and friends' telephone numbers, local radio frequencies.		
Portable radio			
Mobile phone			
Bottled water			
First-aid kit with essential medication, prescription items, and repeat prescription form	Camera to record damage for insurance purposes		
Non-perishable food items (including energy or cereal bars)	Emergency cash		
Blankets and warm clothes	Additional items for flood kit such as wellington boots, waterproof clothing, rubber gloves.		
You may find it useful to complete these contact numbers which you should find in your telephone directory or online.			
Emergency services (if life is at risk)	Gas leaks		
State Emergency Service (SES)(non-emergency	Electricity faults		
Local Police Station (non-emergency)	Your water company		
Fire and Rescue Services	Your doctor		
Local Council	Your nearest hospital		
State Government Emergency Websites	Your insurance emergency helpline		
Health Services	Policy number		





Flood emergency response plans



A flood emergency response plan is an important tool to help reduce the damaging impact of a flood to your property, business and employees.

To create your emergency response plan, you'll be using information such as understanding of different flood types, warning systems and resilience measures in the preparation phase.

With most flood events, there is usually an adequate warning period to apply an effective emergency response plan. This warning period is an important factor to consider when developing your plan.

Once created, it is important to train all staff, practice the plan, and learn from what works well and what doesn't. The plan's effectiveness is dependent on support from business leaders. External emergency response services should be involved in the planning and training.

Typically, a flood emergency response plan includes the following phases:



Preparation

This phase is mostly around planning for the flood event and should be part of a comprehensive risk assessment analysis.

The time frame for this phase is typically several months before a potential event.



Response

Once the flood trigger levels and corresponding time-frame for each level have been identified, you can allocate the corresponding actions and resources at each level.

Activate the emergency response plan according to the defined hazard and action levels.



Recovery

Once the authorities have confirmed the flood event has ended, recovery actions can be taken, and the site may be safely accessed.



Download our Flood Emergency Plan guide here



Flood protection and recovery

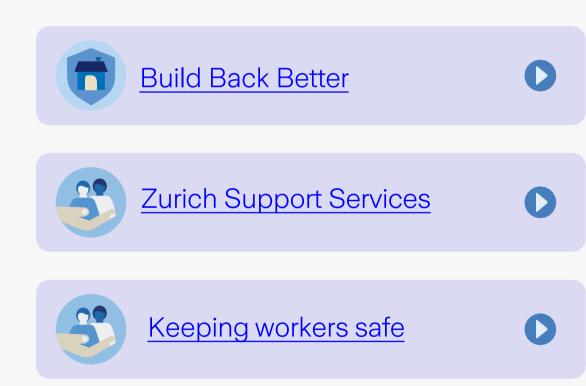
We believe in pre-emptive action – reducing flood risk before an event happens for long-term resilience.

However, we understand that as flooding events become more frequent and severe, it is important to know how best to recover following a flood.

Here are some helpful tips on recovery after a flood:

- · Contact your insurer as soon as possible following a flood event.
- If you've been affected by a flood, one of the first steps is to connect with local support networks.
 In Australia, you can contact your local council or the State Emergency Service (SES) on 132 500
 to find community-led flood action groups or wardens. These groups often provide practical help
 and local knowledge during recovery. You can also explore national resources like Emergency
 Recovery Victoria or Thriving Communities Australia, which offer directories and support services
 tailored to disaster recovery.
- It's important to document the damage thoroughly. Record the time your property was flooded and how long the water remained inside. Take clear photos and videos of all affected areas and items. Make a detailed list of damaged belongings, and avoid discarding anything until your insurance provider has assessed the situation. This documentation will be crucial for insurance claims and government assistance.
- Before starting any repairs, seek advice from specialists. Most clean-up and restoration work will be coordinated by your insurer, including drying out the property and structural repairs. Contact your insurance company as soon as possible, and for general insurance advice, you can reach out to the Insurance Council of Australia on 1800 734 621.
- If you have questions about disposing of damaged furniture, sandbags, or other debris, your local
 council is the best point of contact. They can advise on waste collection services and any special
 arrangements for flood-affected areas. You can also check your state's emergency website for
 updates and guidance—Emergency Victoria, NSW SES, and QLD Disaster Dashboard are
 excellent resources.
- Government support is available to help you recover financially. Services Australia offers
 payments such as the Disaster Recovery Payment and Disaster Recovery Allowance. These can
 assist with immediate needs and income support. Visit servicesaustralia.gov.au for eligibility and
 application details.
- For urgent help, call Triple Zero (000) if life is at risk. For flood and storm assistance, contact the SES on 132 500. If you're feeling overwhelmed, mental health support is available through Lifeline (13 11 14) and Beyond Blue (1300 224 636). For financial counselling, the National Debt Helpline (1800 007 007) can provide free, confidential advice.

Click on the different sections below to find out more:







Building Back Better Without Betterment

Insurers look to reinstate properties to their pre-flood position, and that could mean the property could be vulnerable if flooded again.

Not only can this lead to huge financial costs to householders and insurers, but this can negatively impact the mental health and wellbeing of families who are affected.

In Australia, flood recovery efforts increasingly focus on resilience and sustainability, aiming to reduce future risk while respecting insurance boundaries. The principle of "building back better" encourages homeowners to incorporate flood-resilient measures during repairs, but care must be taken to ensure these upgrades are considered reasonable and necessary, not luxury improvements.

When repairing a flood-damaged property, insurers typically restore it to its pre-flood condition. However, this can leave homes vulnerable to future events. To avoid this, homeowners can work with insurers and builders to integrate resilience measures that are cost-effective and practical. Examples include raising electrical outlets above flood levels, using water-resistant materials for walls and floors, installing flood barriers or air brick covers, and choosing robust doors and sealants. These measures help reduce damage and speed up recovery in future floods.

To avoid the risk of betterment, it's essential that any upgrades are:

- Directly related to flood resilience
- Comparable in cost to standard repairs
- Approved by the insurer or part of a recognised resilience program

In some states, such as Victoria and Queensland, local councils and emergency recovery agencies may offer grants or subsidies for flood-resilient upgrades. These can help cover the gap between standard repairs and resilience improvements without affecting insurance claims.

Homeowners should also consult with their insurer early in the recovery process to discuss what resilience measures can be included within the scope of their policy. The Insurance Council of Australia and State Emergency Services (SES) can provide guidance on approved practices and funding options.

Ultimately, building back better in Australia means making smart, durable choices that protect homes from future floods—without exceeding what's reasonable under insurance terms. It's about breaking the cycle of repeat damage while ensuring recovery remains fair, affordable, and sustainable.





Zurich Support Services

Beyond the financial and structural impacts of flooding, the stress and upheaval from a flood event can significantly impact a person's mental health.

We're here for you when you need us.

If you're struggling or having difficulties following a flood event, our free of charge counselling service could help you to make sense of what you're feeling. Thoughts and feelings can be complex, and you don't need to navigate this alone.



Confidential

We'll always treat your concerns with the utmost sensitivity and confidentiality. Speaking to friends and family about how we are feeling can often be helpful, but sometimes you may require some extra support from a qualified counsellor.



Professionally trained counsellors

Many people find counselling an effective way to focus on the problems we're facing, in a non-judgemental way. With Zurich Support Services you'll always speak to someone who is highly-skilled and has the relevant qualifications.



How can they help me?

Counsellors will let you talk through emotions and experiences without judgement, whether that's face-to-face, by phone and through video.

You can call for free on 0800 542 559 or find out more here.



50%

more likely to experience stress or depression than the rest of the population



Keeping workers safe

Pre-disaster planning:

Employees are a company's greatest asset. To prioritize their safety during natural disaster recovery, it's important to plan ahead.

Start by reviewing the most up-to-date information from the government and private cleanup agencies. This preparation will help keep workers safe and protect your company's assets.

Disaster recovery may require additional expertise beyond your employees' capabilities. Identify and establish relationships with reputable contractors and salvage specialists to call on.

It's also important to include hazardous waste-removal professionals on your list. Ensure they follow the same safety guidelines as your employees.





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Informing the relevant authority that a flood has occurred

After each flood event, whether it's inside or outside of your property or area, it is important to report it to the appropriate risk management authority.

This helps make a case for taking action to manage or reduce the flood risk. If you don't report it, the authority won't know and won't be able to do anything.

In Australia, flood risk management is shared across several agencies and levels of government. These organisations are responsible for maintaining infrastructure, planning flood mitigation, and responding to emergencies.

Key Authorities to Contact:

- State Emergency Service (SES) 132 500 (for flood and storm assistance)
- Local Council for drainage, infrastructure, and community support
- State Government Departments:
- VIC: Department of Energy, Environment and Climate Action (DEECA)
- NSW: Department of Planning and Environment
- QLD: Queensland Reconstruction Authority
- Water Authorities e.g., Melbourne Water, Sydney Water
- Road and Transport Agencies for flood impacts on roads and highways
- Catchment Management Authorities for river and waterway management

Owning or Bordering a Watercourse – Legal Responsibilities in Australia

If a watercourse runs through or along your property, you are generally responsible for:

- Maintaining the section of the watercourse within your land.
- Keeping it clear of debris to prevent blockages and flooding.
- Managing erosion, vegetation, and access responsibly.

This applies even if the creek is fenced off or partially shared with a neighbour. Exceptions may exist if there is a legal easement or agreement with a local authority

Watercourse Responsibilities by State Victoria (VIC)

Landholders may be responsible for maintaining watercourses under the *Water Act 1989*. This includes managing erosion, preventing blockages, and complying with rules for Crown land or licensed frontages. Activities like camping or fishing are regulated to protect environmental and cultural values.

Queensland (QLD)

Watercourses are state-owned, but riparian landholders must manage erosion, maintain vegetation, and prevent sediment runoff. Works like excavation or clearing require a *Riverine Protection Permit*. Additional approvals may be needed from councils or state departments depending on environmental impact.

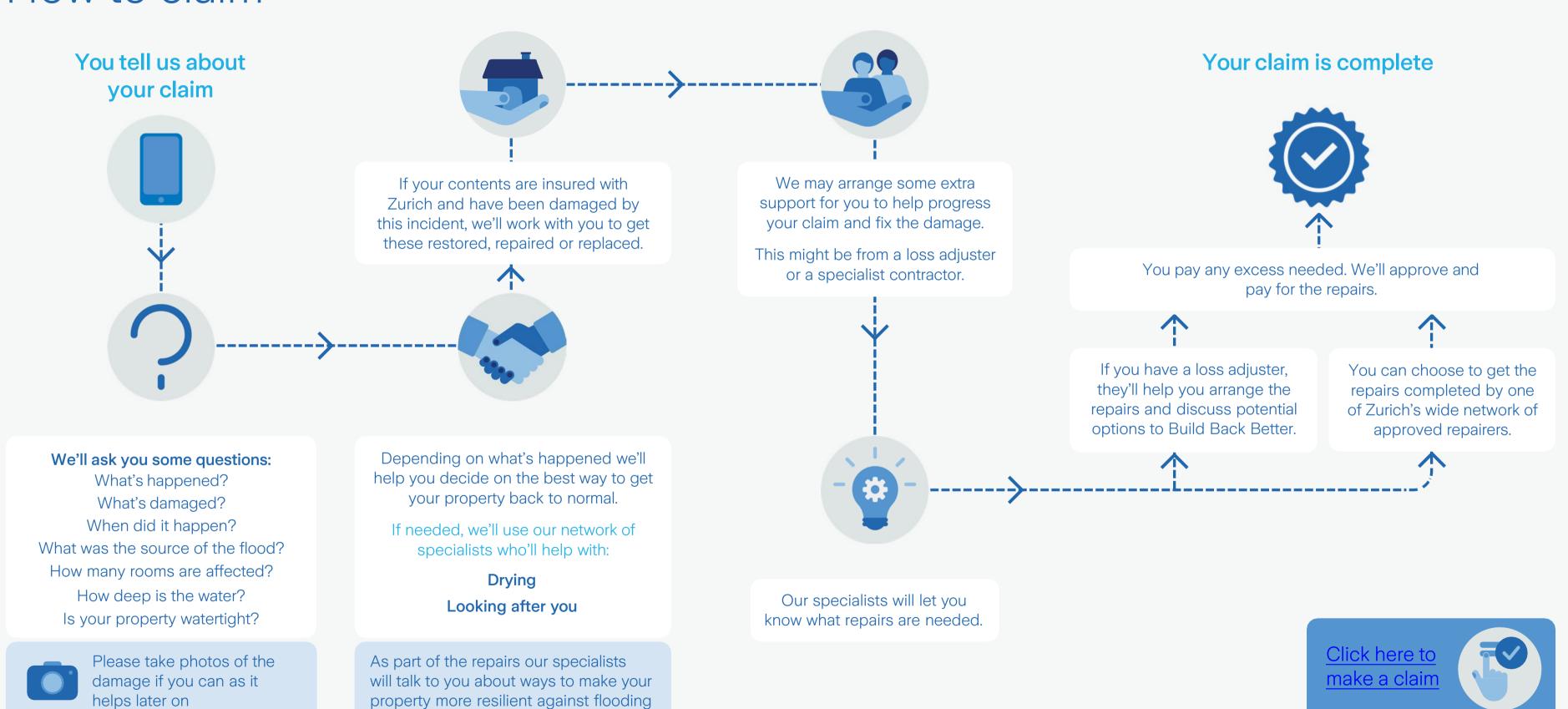
New South Wales (NSW)

Landholders bordering watercourses must manage erosion and may need a *Controlled Activity Approval* for works near waterways. Guidance and approvals are provided by *Local Land Services* and the *Department of Planning and Environment*.





How to claim



<u>1 02 03 04 05 06</u>

Rethinking sustainable construction and development

In Australia, sustainable construction has traditionally focused on reducing the carbon footprint of buildings—especially in the residential sector. This includes improving energy efficiency, using low-emission materials, and meeting net zero construction goals. These efforts are vital, as the built environment contributes significantly to national emissions.

However, true sustainability goes beyond energy performance. Buildings must also be resilient, adaptable, durable, and safe—especially in the face of increasing climate risks such as floods, bushfires, and heatwaves. The National Climate Resilience and Adaptation Strategy 2021–2025 highlights the need to integrate resilience into the built environment, ensuring structures can withstand and recover from extreme events.

Flood resilience is a key part of this. According to the Australian Government Guidelines for Flood-Proof Housing, sustainable homes should be designed to:

- Elevate structures above known flood levels.
- Use flood-resistant materials like concrete, masonry, and treated timber.
- Install electrical systems and appliances above expected flood heights.
- Include wet-proofing strategies for lower levels to allow safe water entry and exit.
- Use flood vents, backflow valves, and sealed walls to reduce damage,

These measures not only protect property and lives but also reduce long-term costs. A recent study found that flood-resilient homes in high-risk areas have payback periods of just 1 to 12 years, with benefit-cost ratios as high as 19.6 2.

Importantly, sustainable construction in Australia must consider the entire lifecycle of a building—from design and materials to maintenance, repair, and eventual decommissioning. This includes the ability to survive and recover from floods, minimising disruption and economic loss.

For more detailed guidance, refer to:

National Climate Resilience and Adaptation Strategy

Australian Government Guidelines for Flood-Proof Housing

Planning Permissions

In Australia, flood risk must be considered in land use planning and development applications to ensure safety, sustainability, and resilience. Each state has its own frameworks, but the principles are consistent nationwide.

Key Considerations for Developers and Planners:

- Identify flood-prone land using local council flood maps or state databases.
- Conduct a Flood Impact and Risk Assessment early in the planning process.
- Design developments to minimise flood exposure and allow safe evacuation.
- Consult with local councils, state planning departments, and emergency services.

New South Wales (NSW)

The **NSW Planning Portal** provides comprehensive guidance on flood risk management NSW Flood Risk Guidance

National Guidance

The National Emergency Management Agency (NEMA) offers planning resources for flood-prone areas, including:

- Risk banding tools for residential development.
- Strategies for flood-aware land use and subdivision design.
- Guidance applicable beyond the Hawkesbury-Nepean region

Managing Flood Risk Through Planning – NEMA





Want to find out more?

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Zurich Resilience Solutions help customers prevent losses and build resilience for the future.

With a range of services our Climate Resilience team can help you to identify and understand your future climate risks, prioritise your assets and provide recommendations to enable you to adapt to flood and any other climate-related risks. More importantly, we enable you to reduce property damage and business interruption while safeguarding users.

If you would like to discuss any of this guide in more detail, please get in touch

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