



Benalla

Local Flood Guide

Riverine flood information for the Broken River, Holland River and Blind Creek at Benalla



For flood emergency assistance call
VICSES on **132 500**



**GOULBURN
BROKEN**
CATCHMENT
MANAGEMENT
AUTHORITY





Benalla

During floods, knowing what to do and when to do it can save lives and reduce damage. This guide provides advice to residents, businesses and visitors about what to do before, during and after floods, where to find flood warnings, important safety information and which areas of Benalla township are likely to be at risk. NOTE: This flood guide now updates and replaces any previous “FloodSmart” information.

The township of Benalla is located in North East Victoria and is the hub for the Benalla Rural City Council area. Benalla and the surrounding district are prone to flooding due to their location on the floodplain of the Broken River and other nearby waterways such as Holland and Blind Creeks.

The Broken River flows through the centre of Benalla, splitting the town into east and west. During big floods, even the Monash Bridge that connects both sides of town can be underwater. Hollands Creek joins the Broken River near Jaycee Island and Blind Creek flows into Hollands Creek just upstream of Big Casey Island.



The 1917 flood in Benalla looking east from the Royal Hotel towards the Rose Gardens.



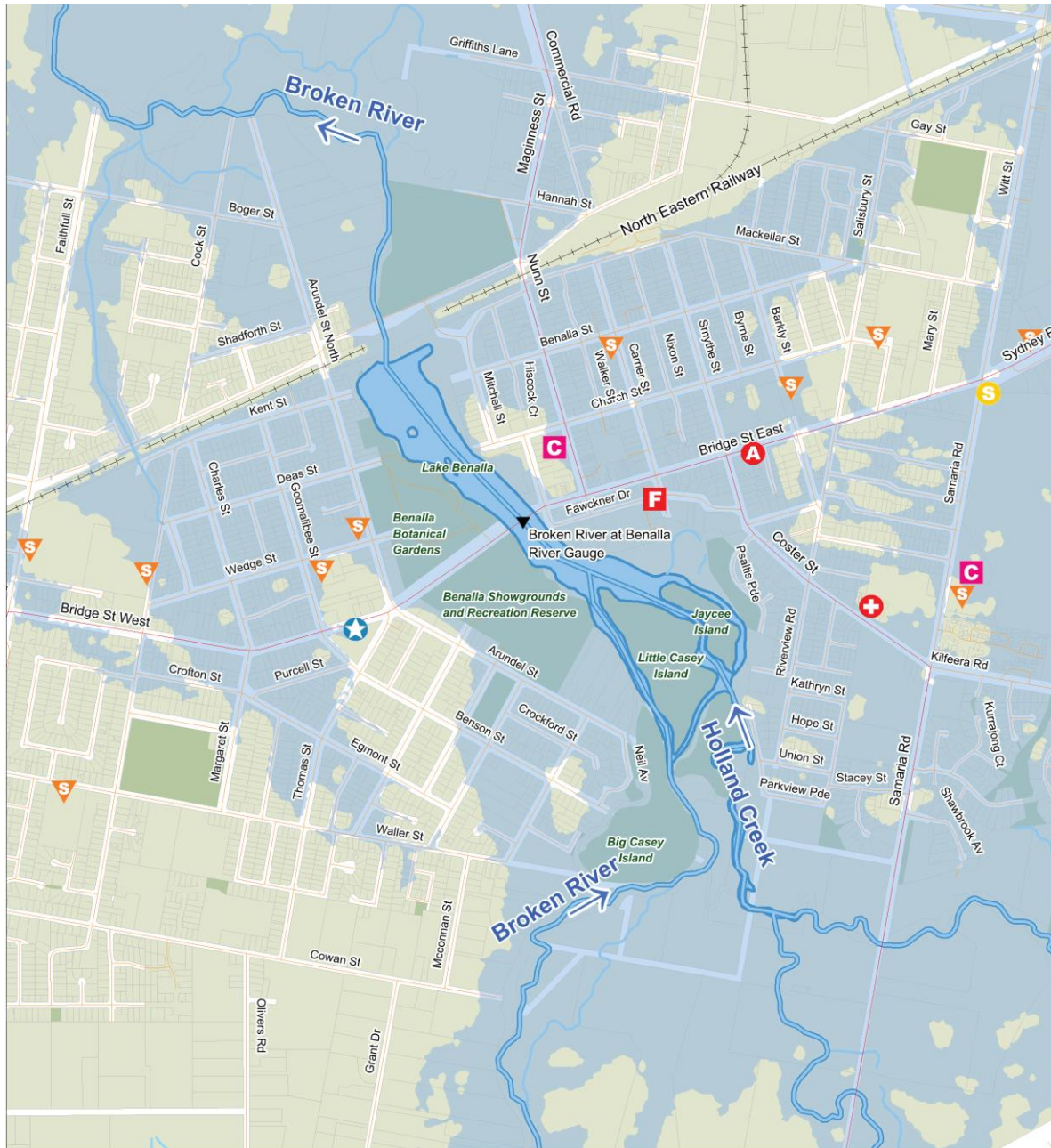
The 1917 flood at Monash Bridge looking towards Benalla East.



The 1917 flood, Bridge Street, Benalla

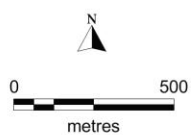


The following map shows the expected flooding in a 1% flood in Benalla. A 1% flood means there is a 1% chance of this type of flooding happening every year and measures 5.50 metres on the Broken River gauge at Benalla.



LEGEND

- 1% AEP Flood Extent
- Main road
- River
- Stream
- River gauge
- Local road
- ★ Police Station
- + Hospital
- F Fire station
- A Ambulance Station
- S SES Unit
- S School or College
- C Community Centre



Disclaimer

This map publication is presented by Victoria State Emergency Service for the purpose of disseminating emergency management information. The contents of the information has not been independently verified by Victoria State Emergency Service. No liability is accepted for any damage, loss or injury caused by errors or omissions in this information or for any action taken by any person in reliance upon it. Flood risk information is provided by Goulburn Broken Catchment Management Authority.



Are you at risk of flood?

Benalla has a history of flooding that has impacted people, homes, businesses, farms, and livestock since European settlement in the late 1800's- well before official flood records began.



Big floods have affected the area in 1870, 1916, 1917, 1918, 1921, 1924, 1933, 1954, 1966, 1974, 1975, 1981, 1993 and 2010. The "Big Flood of 1993" caused significant damage to homes and businesses as well as important community buildings and infrastructure. The total damage is estimated to be about \$38 million in 1993 dollars.

Benalla township lies close to where the Broken River and Holland Creek join. Either waterway can bring flooding into the town from the hills in the upper catchments. The Broken River catchment collects rainfall from as far away as Swanpool and Lake Nillahcootie to the Mansfield area. Holland Creek's catchment collects rainfall from Molyullah and Ryan's Creek to the Tolmie side of the Alpine National Park. So take notice if heavy rain falls in these areas. Information can be found on the Bureau of Meteorology website under Rainfall and River conditions.

Floods in Benalla vary depending on where and how much rain has fallen, which waterway is flooding, if they are flooding at the same time and if more than one peak (highest water level) arrives in Benalla at the same time. Regardless of where the rain falls, flooding can follow within hours, giving residents no or limited time to act.

Did you know?

The 1993 flood measured 5.5 metres (m) on the Broken River gauge at Benalla, which is the largest flood since records began.

It caused extensive damage and disruption across most of the North East, especially in the Benalla, Baddaginnie and surrounding rural areas.

Region-wide impacts included:

- over 2,000 homes experienced above floor level flooding or were damaged by floodwater,
- 208 commercial and manufacturing businesses flooded above floor level,
- 180 cars written off due to flood damage,
- about \$4 million worth of business stock lost,
- 400 kilometres of fencing damaged or washed away,
- extensive livestock loses: 244 cattle, 4,200 sheep and 199 poultry,
- severe damage to local crops and pastures,
- about \$2 million damage to public infrastructure:
 - five bridges, most roads, footpaths, kerbs and car parks damaged,
 - damage to drinking water supply, drains, sewerage systems and communication networks,
 - damage sustained to childcare and other community facilities such as the art gallery, town hall, government buildings, sporting facilities and recreation reserves.



No two floods are the same, floods like this or worse could occur again.

If you live in a low-lying area you may be at risk of flooding or need to detour around flooded areas.

Knowing what to do can save your life and help protect your property.

The dollar values expressed here are in 1993 dollars. Values in today's money would be much higher.



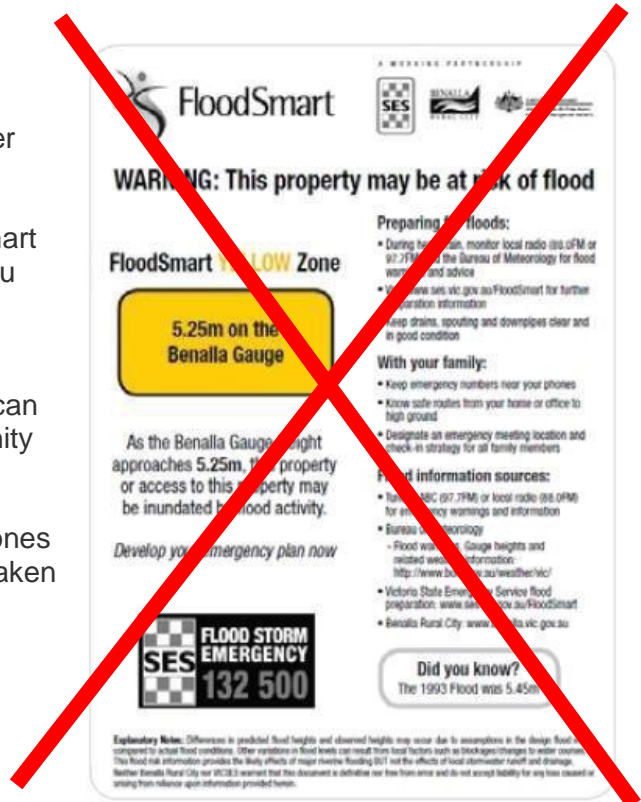
Flood Smart Meter Box Stickers

FloodSmart METER BOX STICKERS are no longer being used.

This flood guide updates and replaces the FloodSmart information distributed in 2007 to houses at risk. You can now remove and throw away the FloodSmart stickers from your electricity meterbox or pantry.

In their place, property specific information reports can be downloaded from the Goulburn Broken Community Flood Intelligence Portal (see next page).

The old FloodSmart meter box stickers, coloured zones and mapping now no longer apply and need to be taken down and disposed of.



This iconic photo of the floods in 1993 was taken by Ray Sizer of the Shepparton News. Although this appears harmless, Floodwater contains dangerous currents, waste, chemicals and raw sewage, hides culverts and drains, can rise quickly and may cause death. Never enter floodwater.



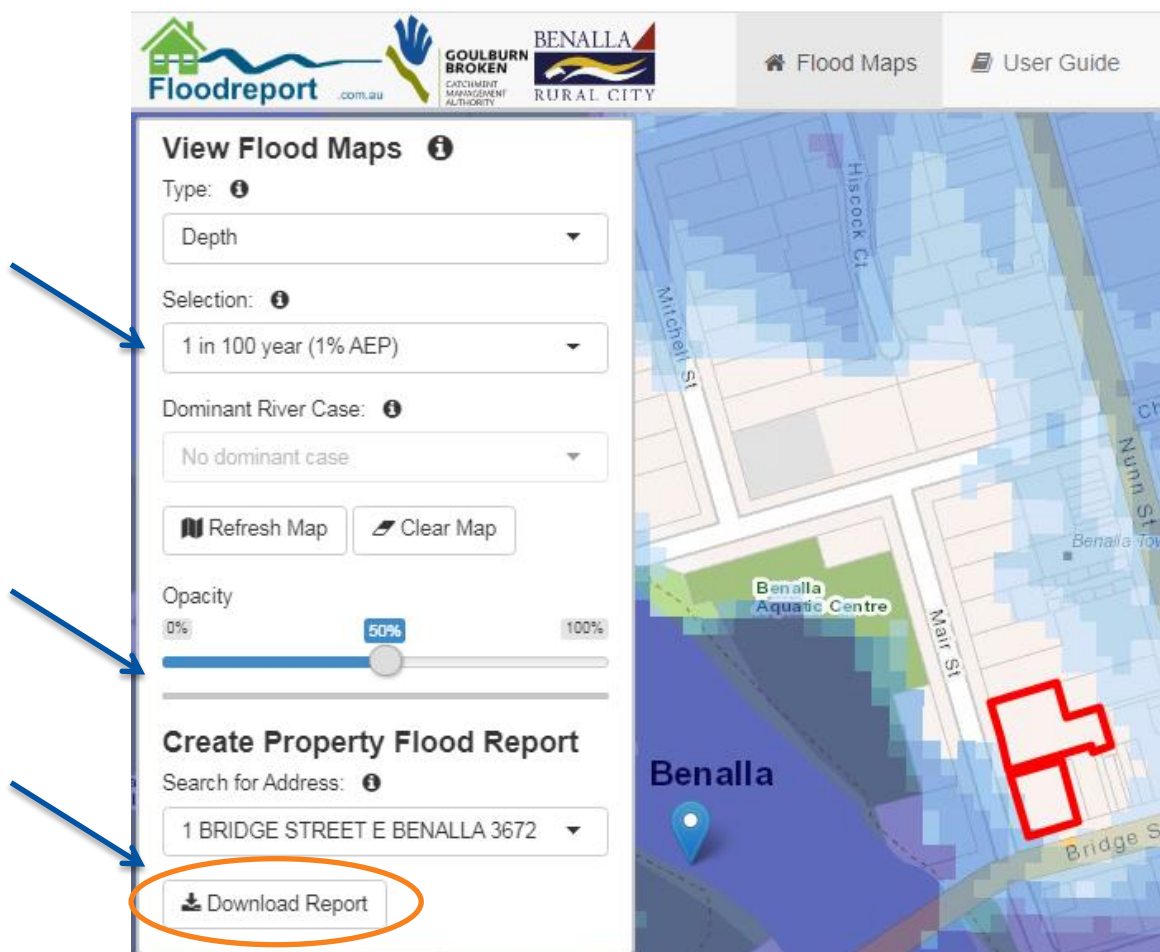
Goulburn Broken Community Flood Intelligence Portal

A key role of the **Goulburn Broken Catchment Management Authority (GBCMA)** is to find out how far floodwater is likely to extend and how high floodwater might rise. Councils also have a responsibility to consider any land subject to flooding in their planning, zoning and development approvals.

Sharing flood risk information with communities is key to improving flood resilience. To help do this the GBCMA and several Councils (Greater Shepparton City, Benalla Rural City, Moira Shire, Strathbogie Shire) have co-funded the development of this Community Flood Intelligence Portal.

Access the Goulburn Broken Community Flood Intelligence Portal at my.floodreport.com.au/gbcma for:

- **Riverine Flood Maps:**
 - Historical Floods,
 - Relative to flood gauges (useful with Bureau of Meteorology predictions in flood warnings) and;
 - Design floods, including the 1% flood. A 1% flood means there is a 1 in 100 chance (or greater) of this type of flooding happening every year.
- **Search for a property of interest by entering a street address.**
- **Download Property Flood Reports with information to help you manage your flood risk.**



This information does not replace the need for planning permits under the Municipal Planning Schemes, nor written advice from Catchment Management Authorities. Use of this web portal is subject to terms and conditions, which can be read and downloaded in the portal. By using this web portal, you are agreeing with these terms and conditions.



Broken River flood levels at the Benalla gauge

When the Bureau of Meteorology (BoM) issues Flood Warnings they include a prediction of the flood height at the Broken River gauge at Benalla. While no two floods are the same, the following table can give you an indication of what you could expect at certain heights, including when your access may be cut off and when your property may be affected.

Knowing what happened in past floods can help you plan and be better prepared for what is likely to happen in future floods. The flood information table below can help you work out how floods of different heights might affect you.



Manual River flood gauge under the Art Gallery, Benalla

Height (metres)	Impact/level
5.69m	1916 flood level. Pre Benalla Weir construction. The water flow rate was about 1/3 less than the 1993 flood.
5.50m	October 1993 flood level and 1% flood level (height shown on map pg 2). There is a 1% chance of a flood this size occurring in any year. 1993 was the largest flood since records began. Most of Benalla, Baddaginnie and rural farm areas were significantly affected. Many people were evacuated from their homes. Many areas experienced floodwater travelling backwards through the stormwater drains, unexpectedly affecting many homes and properties, eg. in the Thomas St area. If a flood of this height happened today, over 870 homes and 210 businesses are likely to experience above floor flooding.
5.07m	About 361 homes and 138 businesses are likely to be affected by above floor flooding.
4.97m	June 1917 Flood level. Before Lake Benalla and Benalla Weir's construction.
4.70m	Floodwater likely to start entering properties and businesses in Carrier St, Walker St and Smythe St.
4.65m	Floodwater likely to start entering additional properties in Arundel St and Nunn St.
4.57m	December 1966 and December 1954 Flood levels.
4.50m	Major flood level
4.48m	Floodwater likely to start entering properties in Neil Ave, Arundel St and businesses in Bridge St East CBD. About 36 homes and 21 businesses are likely to be affected by above floor flooding.
4.40m	Floodwater likely to start flowing into the lower areas of the CBD, including the bottle shop (old Arnott's Motors), Crockford St and Market St.
4.36m	September 1933 flood level.
4.30m	Floodwater likely to start entering properties in Psaltis Pde.
4.28m	May 1974 flood level.
4.26m	September 2010 flood level.
4.00m	July 1981 (approx flood level) About 8 homes and 4 businesses likely to be affected by above floor flooding.
3.70m	Moderate flood level
3.68m	1996 flood level. Floodwater likely to start covering Bridge St near the Rose Gardens.
3.60m	Floodwater likely to surround the Art Gallery, spread through the Rose Gardens, ovals and enters the cricket and hardcourt tennis clubrooms.
3.50m	Floodwater likely to enter the Benalla Basketball Pavilion and CFA Fire Station.
3.45m	Floodwater likely to enter the Rose Gardens pavilion and over roads in Arundel St South, Market St and Benson St.
3.05m	Floodwater likely to enter area below the Benalla Dunlop Library, nearby carparks and skate park.
2.74m	Floodwater likely to flow into the Benalla Aquatic Centre outdoor pool and under the Art Gallery.
2.50m	Floodwater likely to start covering roads and paths in the Rose Gardens.
2.20m	Minor flood level. Access to Ackerly Ave (Stock Bridge) is cut at both ends. Boardwalks and pedestrian tracks around Lake Benalla become impassable.



Aerial photograph during the 1993 floods directly above the show grounds and botanical gardens looking east.



Aerial photograph of the 1993 floods looking West with the round about at Smythe Street and Bridge Street near the centre



Squires Sports and Mowers store (now Sharp outdoor Power Equipment), Nunn Street Benalla, during the 1993 Floods.



Church Street, Benalla , October 1993, facing east at the intersection of Smythe Street showing the impacts on residential housing during a major flood where residents can become isolated due to flood water and where an emergency kit is vital.

Staying Informed and Further Information

- Current warnings (VicEmergency)
- Bureau of Meteorology (BoM)
- VicRoads Traffic
- Emergency Broadcasters

- VICSES Social Media

- Preparing for Flood Emergencies
- Creating an Emergency Plan
- Catchment Management Authority
- Benalla Rural City Council

emergency.vic.gov.au

1800 226 226

bom.gov.au/vic/warnings

1300 659 217

traffic.vicroads.vic.gov.au

ABC 97.7FM
TRIPLE M 95.3 FM
HIT FM 96.9 FM
SKY NEWS Television

**Life-threatening
Emergency
000**

facebook.com/vices

twitter.com/vicesnews

ses.vic.gov.au/get-ready

redcross.org.au/prepare

gbcma.vic.gov.au

(03) 5822 7700

benalla.vic.gov.au

(03) 5760 2600






Flood warnings and emergency checklist

Bureau of Meteorology Warnings

Warnings are issued by the Bureau of Meteorology (BoM) to tell people about possible flooding.

A **Flood Watch** means there is a developing weather pattern that might cause floods in one or two days. This service covers the whole state.

A **Flood Warning** means flooding is about to happen or is already happening. There are minor, moderate and major flood warnings. This service is only available where flood warning systems are in place.

 A Minor Flood Warning means floodwater can:	 A Moderate Flood Warning means floodwater can:	 A Major Flood Warning means floodwater can:
Spill over river banks and cover nearby low lying areas.	Spill over river banks and cover larger areas of land.	Cause widespread flooding.
Come up through drains in nearby streets.	Reach above floor levels in some houses and buildings.	Many houses and businesses are inundated above floor level.
Require the removal of stock in some cases.	Require evacuation in some areas.	Cause properties and whole areas to be isolated by water.
Cover riverside camping areas and affect some low-lying caravan parks.	Affect traffic routes.	Closes major roads and rail routes.
Cover minor roads paths, tracks and low level bridges.	Require the removal of stock in rural areas.	Require many evacuations.
Affect backyards and buildings below floor level.		Affect utility services (power, water, sewage etc).

Severe Thunderstorm Warnings

Thunderstorms are classified as severe when there is potential to cause significant localised damage through wind gusts, large hail, tornadoes or flash flooding. Severe Thunderstorm Warnings are issued to the community by BoM.

Severe Weather Warnings

These warnings are issued to the community by BoM when severe weather is expected that is not directly related to severe thunderstorms or bushfires. Examples of severe weather include damaging winds and flash flooding.

Flash Flooding

- Flash Flooding can occur quickly due to heavy rainfall. You may not receive an official warning.
- Stay informed- monitor weather warnings, forecasts and river levels at the [BoM website](#) and warnings through [VicEmergency](#).



VICSES Warnings

VICSES utilises the VicEmergency app, website and hotline to distribute flood warnings and emergency information in Victoria. You can also access this information through our social media channels and emergency broadcasters.

VICSES warnings aim to provide you with information to help you make good decisions to protect yourself and your family.

The warning level is based on severity, conditions and the likelihood of community impact.

WARNING LEVELS

	EMERGENCY WARNING You are in imminent danger and need to take action immediately. You will be impacted. A Major flood warning usually fits into this category.
	WARNING (WATCH AND ACT) An emergency is developing nearby. You need to take action now to protect yourself and others. A Moderate flood warning usually fits into this category.
	ADVICE An incident is occurring or has occurred in the area. Access information and monitor conditions. Can also be used as a notification that activity in the area has subsided and is no longer a danger to you. A Minor flood warning or Flood Watch usually fits into this category.

ADDITIONAL MESSAGES

	PREPARE TO EVACUATE/ EVACUATE NOW An evacuation is recommended or procedures are in place to evacuate.
	COMMUNITY INFORMATION Updates for communities affected by an emergency. Can also be used as a notification that an incident has occurred but there is no threat to community.
	EMERGENCY ALERT During some emergencies, communities may be alerted by the sounding of a local siren, or by sending an SMS to mobile phones or a voice message to landlines.

Your emergency plan

Emergencies can happen at any time, with little warning. People who plan and prepare for emergencies reduce the impact and recover faster.

Taking the time to think about emergencies and make your own plan helps you think clearly and have more control to make better decisions when an emergency occurs.

Visit redcross.org.au/prepare start creating your plan.



- Remember, you may not receive any official warning.
- Emergency assistance may not be immediately available. Be aware of what is happening around you to stay safe.
- Never wait for a warning to act.



Emergency Kit

Visit [Emergency Toolkit](#) for more information



Every home and business should have a basic emergency kit with a supply of 3 days:



Check your kit often. Make sure things work. Replace out of date items.

When a warning is issued, have ready for use or pack into your kit:

I need to add:

Write your list here. Tick items as you pack them into your kit

- | Special needs (eg, babies, Elderly)
- | Photos
- | Family keepsakes
- | Valuables
- | Other



Emergency Checklist

- Check if your insurance policy covers flooding.
- Keep this list of emergency numbers in your mobile phone
- Download the Vic Emergency app on your mobile phone.
- Put together an emergency kit and prepare a home or business emergency plan, see redcross.org.au/prepare

Before Flooding

- Leaving early before flooding occurs is always the safest option. Evacuating through floodwater is very dangerous and you may be swept away.**
- Stay informed- monitor weather warnings, forecasts and river levels at bom.vic.gov.au and warnings through emergency.vic.gov.au.
- Secure objects likely to float and cause damage.
- Listen to the radio and check the VICSES website for information and advice.
- Go over your emergency plan. Pack clothing and other extra items into your emergency kit and take this with you if you evacuate.
- If you are staying in a caravan, move to higher ground before flooding begins.

During Flooding

- Make sure your family members and neighbours are aware of what is happening.
- Conditions change rapidly; roads and escape routes can be covered or blocked.
- Put household valuables and electrical items as high as possible.
- Turn off water, gas and electricity at the mains.
- Seek shelter indoors, away from floodwater.
- If floodwater comes inside, move to a higher point such as a kitchen bench or second storey.
- Stay away from trees, drains, low-lying areas, creeks, canals, culverts and floodwater.

Evacuating in Flooding

- Flood water is dangerous. Stay safe by never entering flood water. It can take just 15cm of water to float a car.**
- Find alternative travel routes if roads or underpasses are flooded.
- Be aware of driving hazards, such as mud, debris, damaged roads and fallen trees. If driving conditions are dangerous, safely pull over away from trees, drains and floodwater.

After Flooding

- For recovery information, contact your local council, go to the VicEmergency Relief and Recovery- emergency.vic.gov.au/Relief page or call the VicEmergency Hotline (1800 226 226).
- Have all electrical and gas equipment professionally tested before use.
- Stay away from damaged and flooded buildings, fallen trees and powerlines, and damaged roads. Drive slowly, obey all road signs and never drive through floodwater.
- When cleaning, protect your health and safety. Wear strong boots, gloves and protective clothing.

For VICSES emergency assistance, call 132 500, or Triple Zero (000) in life threatening emergencies.