



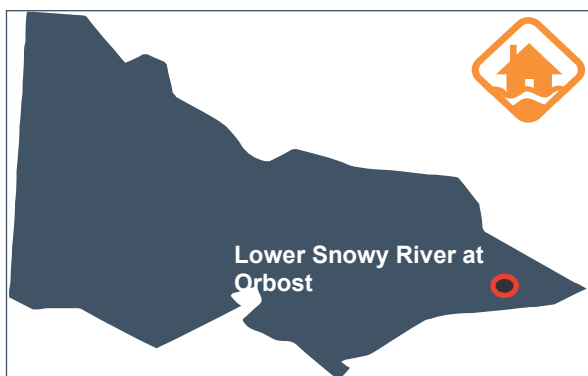
Snowy River Orbost

Local Flood Guide

Flood information for the Lower Snowy River at Orbost



Orbost township and Snowy floodplain (DELWP, March 2012)



For flood emergency assistance call
VICSES on 132 500



Flood risk on the lower Snowy River at Orbost

The Snowy River is one of the largest rivers in East Gippsland, delivering water to many townships and agricultural areas as it flows from the Great Dividing Range. The river originates at Mt Kosciuszko and is fed by snowmelt and high rainfalls in the high country of Victoria and New South Wales.

Most of Orbost's residents are located on elevated ground, away from the direct impact of flood waters, however the surrounding floodplain is highly prone to flooding and includes many farming properties. The largest threat to the community is from damage to agricultural land, farming equipment, livestock, and fencing, as well as the isolation and flooding of properties.

As the Snowy River flows from the Great Dividing Range the steep confined valley widens and gives way to open floodplain between Jarrahmond and Marlo. In the lower reaches, the Snowy River is joined by Brodribb River just north of Marlo, and finally meets the sea southeast of the Marlo township. A semi-permanent sand barrier at the river mouth may close the entrance following periods of low riverine flows, calm coastal conditions, or a combination of the two.

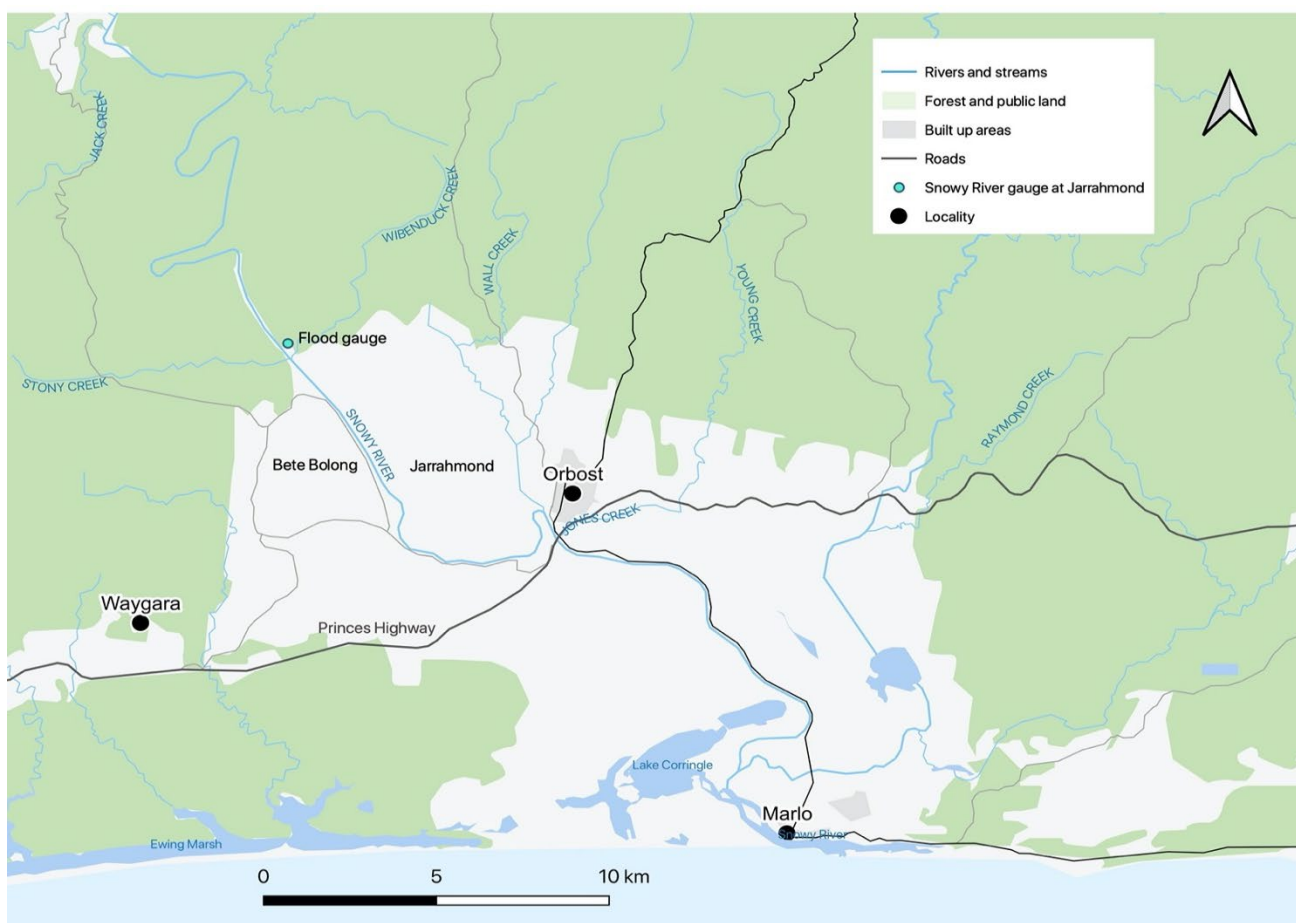


Figure 1: Orbost and the Snowy Floodplain

Are you at risk of flood?



Flooding in this community operates usually in two ways; high flows overtop the Snowy riverbank and travel across the farmland adjacent to the river, or during relatively small floods, back-flooding occurs up the 'B drain'. The southern outskirts of Orbost (below the Princes Highway) are also highly prone to flooding due to the floodplain filling once Gilbert's Gulch is overtopped.

Bete Bolong and Jarrahmond floodplain are highly susceptible to flooding, particularly the area downstream from Lynn's Gulch (a low-point in the Snowy banks), where flows move toward Orbost.

- At historical outflow points, the natural levees along the riverbanks have been artificially armoured with timber and rock to reduce erosion. However, it is important to note that none of these structures weren't built or are maintained to current engineering standards – and therefore have the potential to fail unexpectedly at any time during a flood event.
- Several floodgates exist to drain the floodplain of floodwaters while preventing backflow from the Snowy River, these are in Bete Belong, B Drain, Nixons, Newmerella and Icy Creek. It should be noted however, that these structures are no longer actively maintained, and they are unlikely to be operating effectively during future floods.
- While people local to this system may already be aware, it's important to note the Snowy River is a continuously changing waterway that poses many risk factors. Recreational activities pursued on this waterway should be managed under professional guidance only.
- If you live in the Snowy River catchment area you may be at risk of flooding. Get ready, have a plan. [Get ready, have a plan.](#)



Figure 2: Properties threatened by the Snowy River upstream of Orbost (B Drain), viewing toward north (DELWP, 2007)

Did you know?

The lower Snowy River has a history of flooding, including events in 2007, twice in 2011, three times in 2012, 2016 and multiple times in 2022.

A '*major*' flood event occurs at or above 8.9 m on the Snowy River at Jarrahmond gauge. In 1978, the flood measured 10.8 m. This caused significant damage to the Lynn's Gulch structure, and serious bank erosion throughout the Jarrahmond area.

Larger events have occurred: the two largest floods on record are 1934 (11.9m) and 1971 (12.1m) at the Jarrahmond gauge.

Each flood over the years has been different, flood extent can be influenced by factors such as level of vegetation cover, seasonal impacts, catchment moisture levels, rainfall patterns and duration, tributary impacts, estuary effects.

Other factors:

- High river flows coming down the Brodribb River at the same time as a Snowy River flood, can cause a bottleneck of flows.
- East-coast low pressure systems that can raise storm-tide levels at the entrance to the Snowy River in Marlo. High tides and strong wave energy at the entrance reduces the ability for river flows to escape through the entrance, causing water to back up in the floodplain.
- Releases by NSW Department of Planning, Industry and Environment from the Jindabyne Dam adds additional water to the Snowy River. These releases are included in the flood class level calculations performed by the Bureau of Meteorology and the additional volume accounted for. During a flood event the additional volume added by the Jindabyne dam is negligible and does not result in compounding flow effects.



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.

Flood maps

Flood class levels (minor, moderate and major) are used by the Bureau of Meteorology to categorise flood events and to broadly describe the impact. Most rivers and creeks within Victoria have been allocated Flood Class Levels.

Properties located near rivers and creeks may experience flooding due to heavy rainfall. This rainfall may have occurred upstream, but eventually the runoff enters the river/creek and arrives downstream. The extent of damage depends upon the maximum height that the river/creek peaks at.

You can check what the expected general impacts can be from minor, moderate and major flooding in the table below in the section titled *Flood Warnings and Emergency Checklist*.

The following series of maps show the expected flooding in a minor, moderate and major flood in the Lower Snowy River at Orbost surrounds, which have been derived from a recent major flood study¹ for the Snowy River developed in 2017.



¹ East Gippsland Floodplain Management Strategy Resource Document: Flood Risk Report – Genoa Valley (Water Technology, 2017)



Figures 3: Minor flooding upstream of Orbost - a minor flood measures 5.7 metres on the Jarrahmond flood gauge.

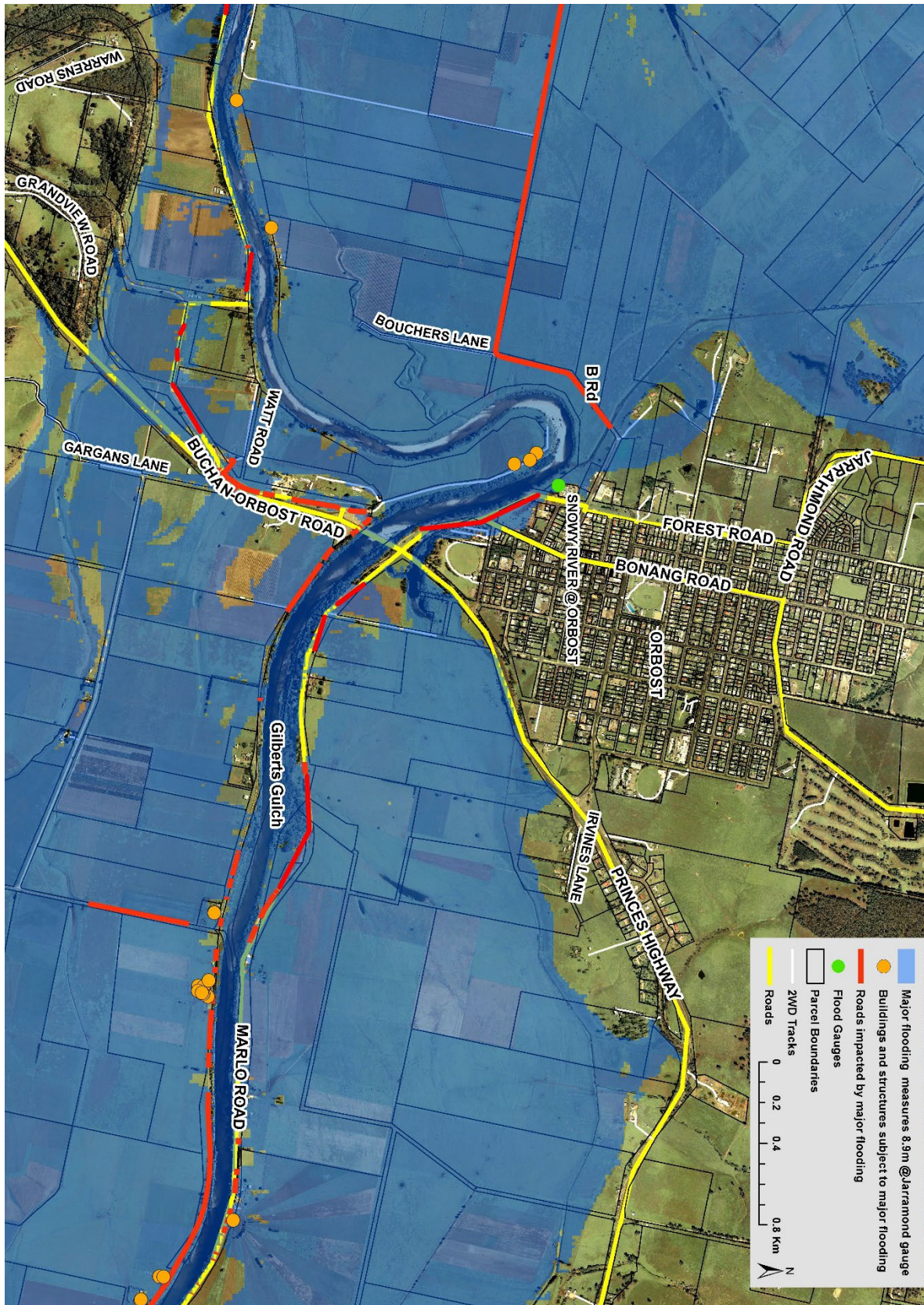




Figures 5: Major flooding downstream of Orbost - a major flood measures 8.9 metres on the Jarrahmond flood gauge.



Figures 6: Moderate flooding at Orbost Township – a moderate flood measures 7.4m metres on the Jarrahmond flood gauge



Figures 7: Major flooding at Orbost Township Orbost - a major flood measures 8.9 metres on the Jarrahmond flood gauge

Disclaimer

These maps are presented by Victoria State Emergency Service for the purpose of disseminating emergency management information. The contents have 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 information is provided by East Gippsland Catchment Management Authority.

Snowy River flood levels at the Jarrahmond gauge

The Bureau of Meteorology (The Bureau) provides warnings for Orbost and the Snowy floodplain using the Jarrahmond gauge, which is located on the Snowy River northwest of Orbost. The BoM take information from the catchment rainfall to calculate the predicted height to be reached at the Jarrahmond gauge. It is very important to keep an eye on rain gauges for your own circumstances during a significant rain event.

You can go online to check local gauges to guide your response to potential flooding. Just go to [The Bureau - East Gippsland River Systems](#) and identify 'Snowy R at Jarrahmond' – select 'plot' for current height information.

The table below can give you an indication of what you could expect in your area when water levels reach certain flood heights, including when your access may be cut off and when your property may be affected.

The level of a flood event is shown on the left column, followed by the Jarrahmond gauge heights.

Flood event	Height (metres)	Impact/level
MINOR	5.7	<ul style="list-style-type: none"> Widespread inundation across the floodplain with depths ranging between 0.5 to 2 metres Gilberts and Lynn Gulches nearing topping point (less than 0.5 metres before it breaches and enters surrounding farmland in Bete Belong and Orbost). The majority of the property impacted is agricultural land, with the closure of minor local roads likely (i.e. farm access routes) The B Road is inundated between Jarrahmond and Orbost Small sections of Buchan-Orbost Road may also be inundated to greater than 0.3 m (e.g. around the road culvert at house no. 453 on the Buchan-Orbost Road Lochend Road is impacted at two points (in less than 100 m stretches) with water just spilling to 0.1 metres (100mm) depths.
MODERATE	7.4	<ul style="list-style-type: none"> Widespread flooding of agricultural land, with the removal of stock and assets required in the floodplain south of the B Road (southwest from Orbost). Flood depths exceeding 3.0 metres in several locations across lowlands Approximately 380 metres of the B Road is inundated to depths greater than 3.0 metres with closure likely Two buildings along left bank of Snowy River (at Marlo Road) are subject to inundation greater than 0.1 metre (100mm) Nine buildings along right bank of Snowy (Lochend Road) are subject to inundation greater than 0.1 of a metre (100mm).
MAJOR	8.9	<ul style="list-style-type: none"> Flood extent significantly increased with depths exceeding 3.0 metres in several locations across low lying agricultural land Large sections (140 metres) of the Buchan-Orbost Road may be inundated (around the road culvert at No. 453 Buchan-Orbost Road Approximately 1,800 m of Buchan-Orbost Road may be inundated (between 0.3–0.7 metres), northeast from Bete Bolong, resulting in road closure Buchan Orbost road is subject to flooding greater than 0.3 m on approach to the Snowy River bridge at Orbost

Flood event	Height (metres)	Impact/level
		<ul style="list-style-type: none"> ▪ Griebenows Road flooding up to 1.0 metre depths between Gargans Lane and Lochend Road ▪ Several discontinuous sections of Lochend Road and Marlo Road are subject to flooding under 0.3 of a metre (300mm) between Orbost and Marlo (Marlo isolated access from Orbost via Marlo Road; egress only via Marlo-Conran Road); ▪ Two buildings and one shed are impacted above 0.1 metre (100mm) depths from Orbost to Bete Belong ▪ Three sheds are impacted above 0.1 metre (100mm) depths (up to 1 metre) across the bend and right-bank southeast of Orbost ▪ Six houses, five sheds, one farm and 14 unconfirmed structures are impacted by flood depths of above 0.1 of a metre (100mm) from agricultural land at the south of Orbost through to Marlo.

Larger flood event

In the event of a flood larger than a major flood (the largest flood on record reached 12.3 m at the Jarrahmond gauge), between 17 and 172 buildings may be flooded above floor level as floodwaters push to the furthest extents of the floodplain.

Inundation across roads already impacted will be widening and deepening, leading to extremely hazardous conditions for vehicles. Entire stretches of main roads would be flooded including Buchan-Orbost Road, Marlo Road and Lochend Road.

The last remaining isolated areas in the floodplain will now be inundated, from Bete Bolong through to Orbost and Newmeralla on the west/southwestern side of the river. The Jarrahmond/Orbost floodplain would be almost entirely under water, with only one isolated dry area around the hill on B Road.

The Orbost township would remain largely free of impact, however properties and buildings on the southern fringes of town may see flood waters throughout Lochiel Street Reserve, the caravan park, and around B Road / McLeod Street junction.

Staying Informed and Further Information




■ Current warnings (VicEmergency)	emergency.vic.gov.au	1800 226 226
Keep a watch on emergencies near you by tapping the 'Create watch zone' blue box and follow instructions.		
■ Bureau of Meteorology (BoM)	bom.gov.au/vic/warnings	1300 659 217
■ VicRoads Traffic	traffic.vicroads.vic.gov.au	
■ Emergency Broadcasters	ABC Gippsland 100.7FM or 828AM SKY NEWS Television REGFM 105.5 TRFM 99.9	Life-threatening Emergency 000
■ VICSES Social Media	facebook.com/vicses twitter.com/vicsesnews	
■ Preparing for Flood Emergencies	ses.vic.gov.au/get-ready	
■ Creating an Emergency Plan	redcross.org.au/prepare	
■ East Gippsland Catchment Management Authority	egcma.com.au	(03) 5152 0600
■ East Gippsland Shire	eastgippsland.vic.gov.au	(03) 5153 9500



Flood warnings and emergency checklist

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](#).




- 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.**

VICSES Warnings

VICSES utilises the VicEmergency app, website, and hotline to distribute flood warnings and emergency information in Victoria. Communities can also access this information through VICSES 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 that the emergency could impact on the community.

WARNING LEVELS



	<p>EMERGENCY WARNING</p> <p>You are in imminent danger and need to take action now. You will be impacted. A Major flood warning usually fits into this category.</p>
	<p>WATCH AND ACT</p> <p>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.</p>
	<p>ADVICE</p> <p>An incident is occurring or has occurred in the area. Access information and monitor conditions. A Minor flood warning or Flood Watch usually fits into this category.</p>

EVACUATION

If an evacuation is recommended, you will be guided to do so in the action statement in the warning.

	<p>PREPARE TO EVACUATE/EVACUATE IMMEDIATELY</p> <p>An evacuation is recommended or procedures are in place to evacuate.</p>
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ADDITIONAL MESSAGES

	<p>COMMUNITY INFORMATION</p> <p>Can also be used as a notification that an incident has occurred but there is no threat to community; or to issue a newsletter containing updates for communities affected by an emergency.</p>
	<p>EMERGENCY ALERT</p> <p>During some emergencies, we may alert communities by sounding a local siren, or by sending an SMS to mobile phones or a voice message to landlines.</p>

Your emergency plan

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

East Gippsland Shire Council has worked with many communities to develop Local Incident Management Plans which are activated by the community in emergency events.

For further information go to eastgippsland.vic.gov.au.

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

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



Emergency Kit

Visit [Emergency Toolkit](#) for more information



Every home and business should have a basic emergency kit with supplies for 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 and people with a disability)

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 <https://www.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 the <http://www.bom.gov.au> and warnings through www.emergency.vic.gov.au
- If safe to do so, communicate with your neighbours.
- 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.