

Local Flood Guide

Flood information for the Mitchell River at Bairnsdale.



Macleod St, Old Buttery Factory, Princes Hwy Bridge and Davison Oval, viewing west (DELWP, 29th June 2007).



For flood emergency assistance call VICSES on 132 500









3The Victoria State Emergency Service respectfully acknowledges Aboriginal and Torres Strait Islander people as the Traditional owners of the land throughout Victoria and acknowledges their ancestors and elders, past, present and emerging.

Flood risk for the Mitchell River in Bairnsdale

The Mitchell River flows from the southern slopes of the Great Dividing Range, wrapping around the north and eastern boundaries of Bairnsdale before flowing into Jones Bay (the Gippsland Lakes) via the silt jetties.

Four townships/settlements lie on the eastern side of the Mitchell River: Wy Yung, Lucknow, Eastwood and Bairnsdale East.

Flooding from the Mitchell River occurs regularly in this region (roughly once every few years) and at various levels. When this occurs, there is a risk to public safety from deep waters, road closures, damage to agricultural assets and financial impacts to landowners.

Floodwaters can greatly increase travel times for residents moving through Bairnsdale where main access routes may be cut and become unsafe for travel.

Key features of the Bairnsdale community that sustain impacts during a flood include:

- Princess Highway and Bullumwaal Road (the linkages between settlements)
- Picnic Point farms
- Howitt Park
- Wy Yung Football Oval
- Bairnsdale Riverside Caravan Park
- Bairnsdale Skate Park (Davison Oval).

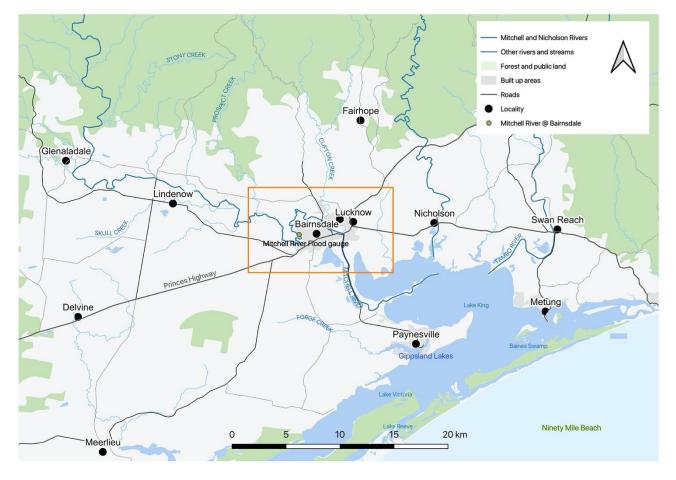


Figure 1: Bairnsdale along the Mitchell River

Are you at risk of flood?

You may be at risk of flood in Bairnsdale if you live or work at a property situated adjacent to the Mitchell River, or you require access through a road/bridge which is located near the river or low-lying floodplain. <u>Get</u> ready, have a plan.

Even areas far from the river may be at risk if the flood event is large enough to cause significant flooding. It pays to familiarise yourself with the following maps and read further to understand key roads and areas which may be impacted. Not every road or property can be listed, and it is important to be aware of your surroundings and understand what a flood watch or a flood warning means to you.

In general, you may have between 5 and 9 hours of warning time for peak flood waters to reach from the Glenaladale gauging station to Bairnsdale.

The Mitchell River bends around Bairnsdale and first breaks its banks at low-lying areas such as the Wy Yung Football oval, along the Mitchell River Walking Track, and at the east-end of Macleod Street.

During moderate to major events, access to the Lind Bridge may be lost along Bullumwaal and Pound Swamp Hill Road.

Major floods measuring more than 6.8 meters on the Bairnsdale gauge may cut access along Paynesville Road, downstream from the Princes Highway bridge.

For even larger and less frequent floods, greater than 8.2 meters on the Bairnsdale gauge, access along the Princes Highway Bridge at Bairnsdale may be lost due to flooding of the roads on approach to the bridge.



Figure 2: Looking up the Mitchell River at Picnic Point in flood.

Did you know?

The land around Bairnsdale has a history of flooding, including in 1990, 1998, 2007, and 2016, and several smaller events in between.

A '*major*' event occurs at or above 6.8 m on the Bairnsdale gauge. In 1998, the flood measured 7.7 m on the Bairnsdale gauge. This flood caused over \$78 million in damages and claimed one life.



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

Every flood is different as many factors influence where the water will travel including general vegetation cover, season, catchment moisture levels, rainfall patterns and duration, tributary impacts, and so on.

Flood maps

The flood class levels (minor, moderate and major) are used by the Bureau of Meteorology to categorise flood events and to broadly describe the impact.

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 risk for the Mitchell River in Bairnsdale, which have been derived from a recent Mitchell River Flood Study developed in 2017.



Figure 6: Bairnsdale streamflow gauge.



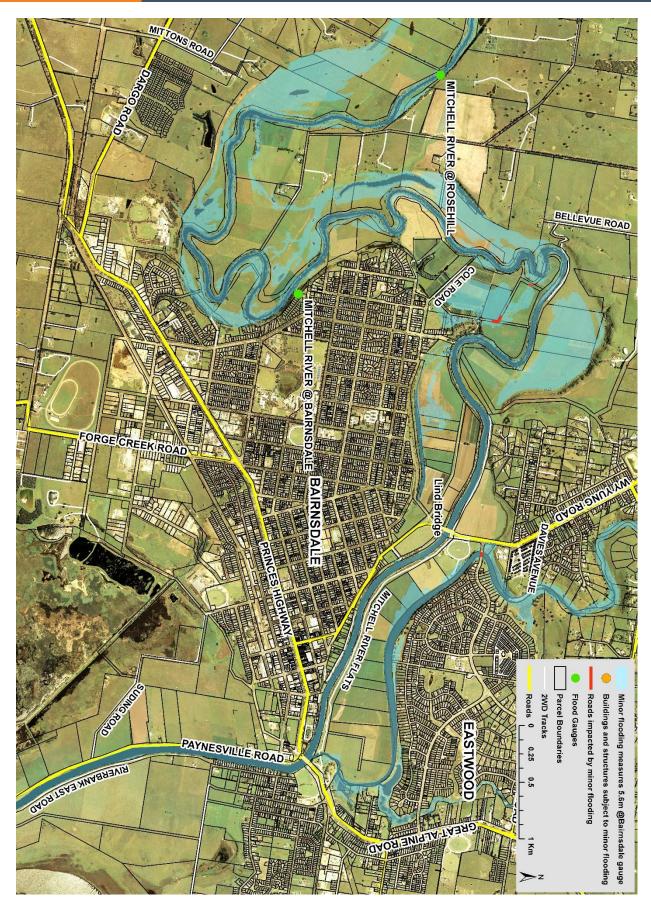


Figure 3a: Minor flooding along the Mitchell River at Bairnsdale - a minor flood measures 3.9 metres on the Michell River flood gauge at Glenaladale and 5.6 on the flood gauge at Bairnsdale.



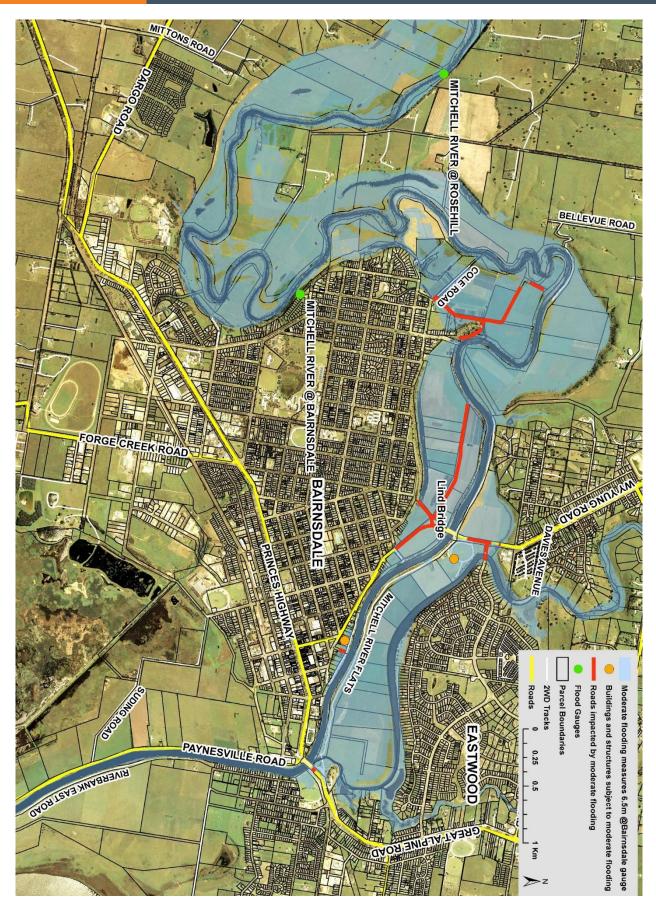


Figure 4a: Moderate flooding along the Mitchell River at Bairnsdale - a moderate flood measures 5.4 metres on the Michell River flood gauge at Glenaladale and 6.5 on the flood gauge at Bairnsdale.



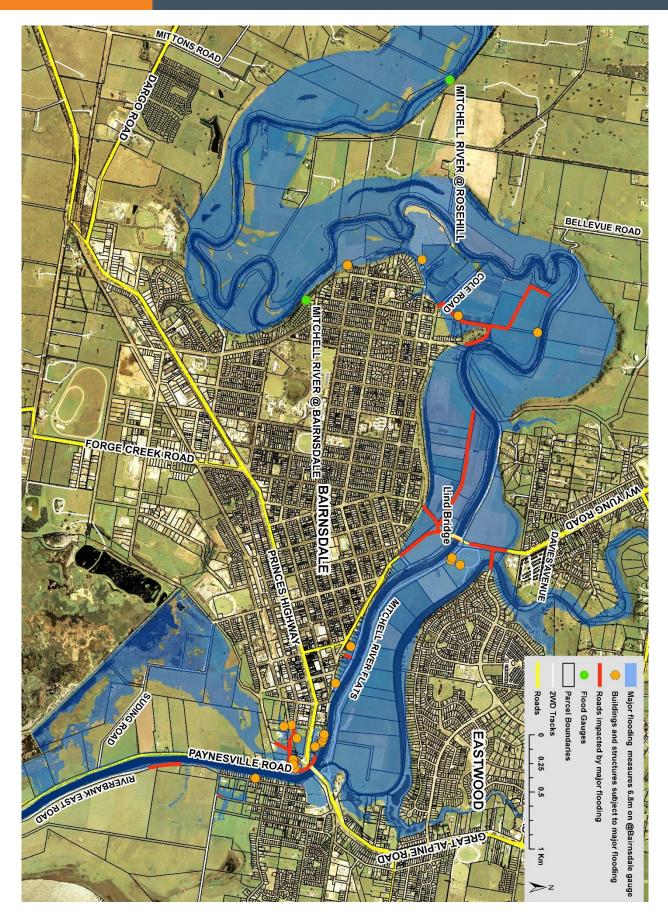


Figure 5a: Major flooding along the Mitchell River at Bairnsdale - a major flood measures 6.4 metres on the Michell River flood gauge at Glenaladale and 6.8 on the flood gauge at Bairnsdale.

Mitchell River flood levels at Glenaladale and Bairnsdale gauges

The Bureau of Meteorology (BoM) provides warnings for Bairnsdale using the Mitchell River Glenaladale and Bairnsdale gauges. The BoM take their information from the catchment rainfall to calculate the predicted height to be reached at this 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 <u>The Bureau</u> and identify 'Mitchell River at Bairnsdale' – select 'plot' for current height information.

While no two floods are the same, 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 Mitchell River gauge heights
The level of a flood event is shown on the left column,	Tonowed by the Mitchen River gauge heights.

Flood	Height (metres)			
Event	Glenaladale	Bairnsdale	Impact/level	
MINOR	3.0	5.6	 Picnic Point farmlands inundated up to 1.5 metres in depths. Clifton Creek banks are overtopped between Gippsland Grammar, Howitt Avenue Bridge and 1 km southeast of the Bullumwaal Road Reserve (football oval) - properties along Howitt Avenue backing onto Clifton Creek may start to see flooding of low-lying backyards. Bullumwaal Road will be closed between Bairnsdale and the bridge to Wy Yung. 	
		6.5	In addition to Minor impacts: Eurther inundation at Picnic Point with road closures likely at 	
	4.5		 Further inundation at Picnic Point with road closures likely at Cole Road, Yeates Street and Bredt Street. 	
MODERATE			 Wy Yung access will be limited by Lind Bridge closure due to flood depths up to 1.5 m covering large portions Bullumwaal Road and Pound Swamp Hill Road southwest of the bridge. 	
			 Several reserves are inundated on the floodplain by one to two metres in depths including at Bullumwaal Road, Mitchell Port Road, Mitchell River Walking Track (Bairnsdale side) and Howitt Park. 	
			 Ponding will be occurring at Davidson Oval (Skate Park) at Bairnsdale. 	
			 Properties backing onto the Mitchell River on Robb St at East Bairnsdale may experience flooding of their backyards. 	
			 Some back flooding from Jones Bay may occur into the backyards of properties along Crooke St, East Bairnsdale. 	
			In addition to Moderate impacts: Road closures likely at Cole Road. Yeates Street and Bredt	
	5.5	6.8	Street and Picnic Point	
			 Riverside Caravan Park at Bairnsdale 40% submerged by 0.2 to 0.5 metres. 	
MAJOR			 The foot-bridge at Howitt Park is submerged Lower Meeleed St and Devraeville Dead is invedeted by 0.5 to 	
			 Lower Macleod St and Paynesville Road is inundated by 0.5 to 1.5 metres at Bairnsdale. Businesses in this area are highly likely to be impacted above floor level. 	
			 Macleod Court is inundated by 0.5 to 0.9 metres – with properties along this court likely to be impacted above floor level and into adjacent backyards. 	

NB. In response to the latest flood study¹, the gauges on the Mitchell River at Glenaladale and at Bairnsdale now have new flood class levels:

The old levels for the Mitchell River at Glenaladale:

- a minor flood was 3.0m, this has increased 0.9 metres to 3.9m
- a moderate flood was 4.5m, this has increased 0.9 metres to 5.4m
- a major flood was 5.5m, this has increased 0.9 metres to 6.4m.
- The old levels for Mitchell River at Bairnsdale:
- a minor flood was 4.0m, this has increased 1.6 metres to 5.6m
- a moderate flood was 5.5m, this has increased 1.0 metres to 6.5m
- a major flood was 6.5m, this has increased 0.3 metres to 6.8m.

Larger flood event

In the event of a flood larger than a major flood, there would be widespread inundation, with a deeper and wider reach of flooding throughout the Bairnsdale floodplain. This includes the Bairnsdale Riverside caravan park and Davison Oval.

Flooding would also occur around the east end of Macleod Street, and south along Paynesville Road and Suding Road. Some houses along Paynesville Road may also be isolated. Robb Street is also at risk of a breakout occurring south of Patricia Street.

Wider breakouts from the Mitchell River to the west over Paynesville Road and to the east toward Jones Bay would also occur with larger floods, with flooding and isolation of residential properties associated with these breakouts.

With larger flooding, the eastern approach to Princes Hwy bridge would be inundated, and flood levels may isolate the eastern areas (Wy Yung, Eastwood and East Bairnsdale) from the centre of Bairnsdale. There would also be additional breakouts across Riverbank East Road, downstream from Bairnsdale, flowing east into Jones Bay.

¹ Summary Report - Review of Flood Class Levels in East Gippsland: A report for the East Gippsland CMA (Water Technology, 2020)

Staying Informed and Further Information				
∎ Keep a	 Current warnings (VicEmergency) <u>emergency.vic.gov.au</u> 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		
1	Emergency Broadcasters	ABC Gippsland 100.7FM or 828AM SKY NEWS Television REGFM 105.5 TRFM 99.9	Life-threatening Emergency 000	
1	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		
1	East Gippsland Catchment Management Authority	egcma.com.au	(03) 5152 0600	
	East Gippsland Shire Council	eastgippsland.vic.gov.au	(03) 5153 9500	
	National Relay Service NRS	relayservice.gov.au		



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 The Bureau.

Severe Weather Warnings

These warnings are issued to the community by The Bureau 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 <u>BoM website</u> and warnings through <u>VicEmergency</u>.
 - 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 our social media channels and emergency broadcasters.

VICSES warnings aim to provide you with as much 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 LEVE	ELS
	EMERGENCY WARNING You are in imminent danger and need to take action now. You will be impacted. A Major flood warning usually fits into this category.
	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. A Minor flood warning or Flood Watch usually fits into this category.

EVACUATION

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



PREPARE TO EVACUATE/ EVACUATE NOW

An evacuation is recommended, or procedures are in place to evacuate.

ADDITIONAL MESSAGES		
0	COMMUNITY INFORMATION A newsletter containing 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. BE WARNED. BE INFORMED.	EMERGENCY ALERT 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.	

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.

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 <u>eastgippsland.vic.gov.au</u>.



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 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 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 <u>https://www.redcross.org.au/prepare.</u>

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 <u>http://www.bom.gov.au</u> and warnings through <u>www.emergency.vic.gov.au</u>.
- □ 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 Recoveryemergency.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 until authorities advise they are safe.
- 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.

