

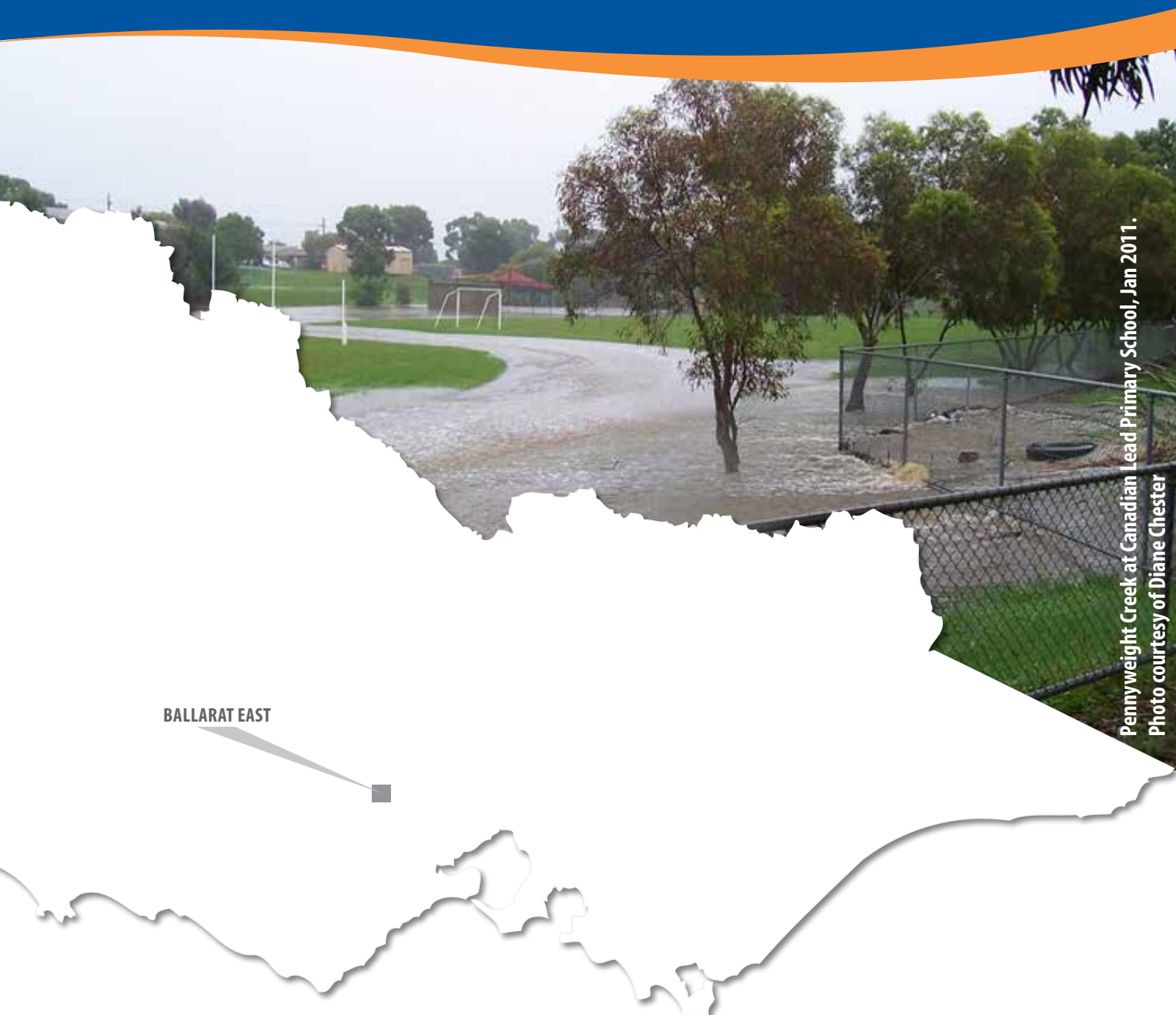


Local Flood Guide Canadian Creek



FloodSafe

Flood information for Ballarat East, Canadian and Eureka



BALLARAT EAST

Pennyweight Creek at Canadian Lead Primary School, Jan 2011.
Photo courtesy of Diane Chester

CITY OF
BALLARAT 


CORANGAMITE CMA

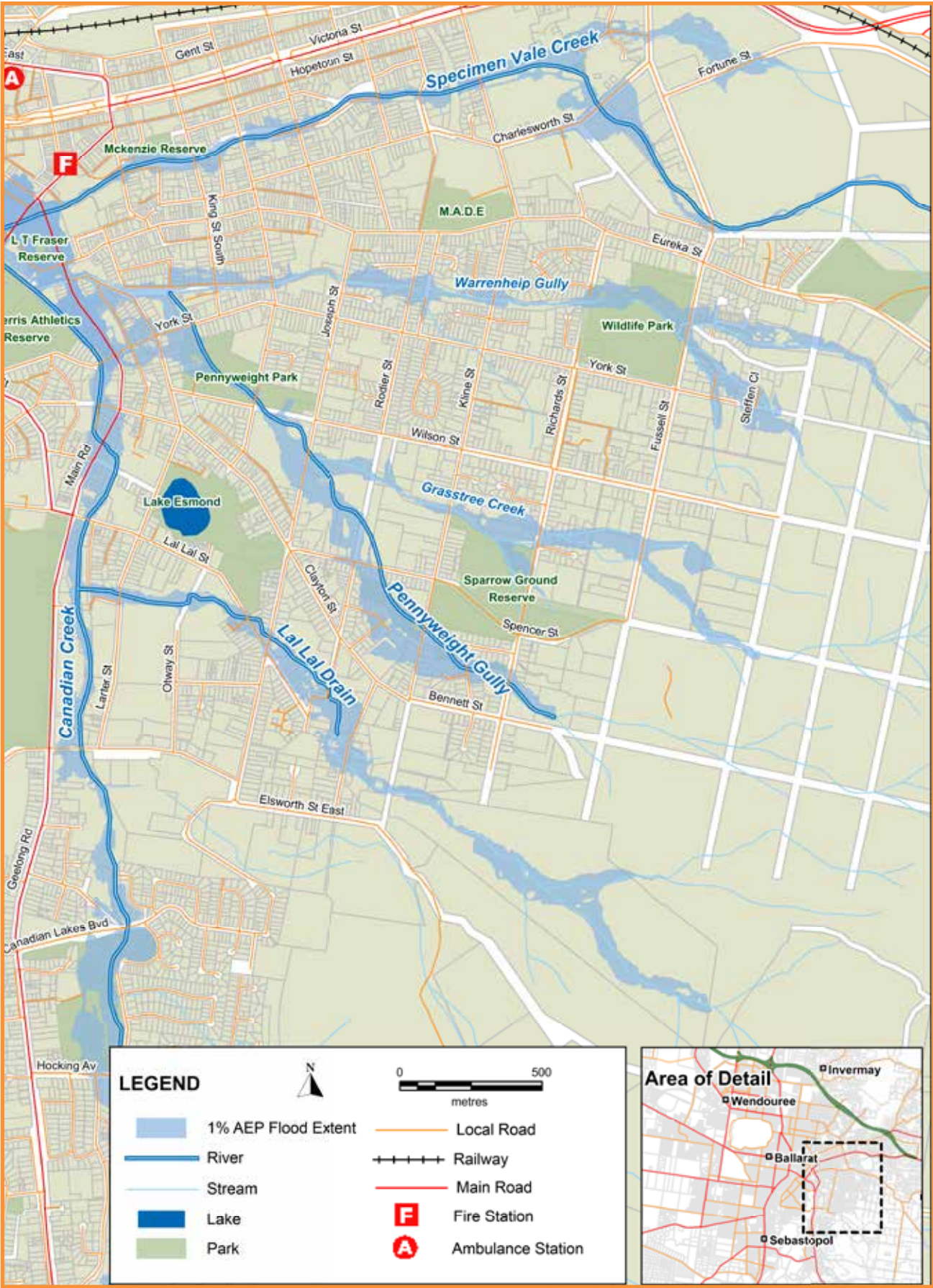
State Government
Victoria

 FLOOD STORM
EMERGENCY **132 500**

 For more information visit
www.ses.vic.gov.au

Your Local Flood Information

Know your risk



Disclaimer
This map publication is presented by the Victoria State Emergency Service for the purpose of disseminating emergency management information. The contents of the information have not been independently verified by the 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 Corangamite Catchment Management Authority

Your Local Flood Information

Know your risk

The Canadian Creek area

This guide covers the urban areas of Eureka, Ballarat East and Canadian. This area is undergoing increased urbanisation, with significant development in the urban and industrial areas of the Canadian Creek system, which encompasses the main creek and several smaller waterways.

Canadian Creek is the major waterway in the area, flowing from Mt Helen in the south to the CBD in the north where it joins the Yarrowee River. Canadian Creek has four significant tributaries which arise in the Canadian Forest; Specimen Vale Creek, Warrenheip Gully, Pennyweight Gully and the Lal Lal Drain. In places these waterways flow through lined channels, such as Warrenheip Gully from Otway Street South to where it joins with the Canadian Creek.

The map to the left shows the potential flooding in a 1% Annual Exceedance Probability (AEP) flood. A 1% flood means there is a 1% chance of a flood this size occurring in any year.

Are you at risk of flooding?

Low-lying areas bordering the creeks are at risk of flash flooding after heavy storms or during prolonged rainfall events. Flash flooding occurs when Canadian Creek, Specimen Vale Creek, Warrenheip Gully, Pennyweight Gully and Lal Lal Drain overflow following heavy rainfall which overwhelms their capacity.

Records of the 1991 and 2011 floods show that low-lying areas in and around Fussell Street, York Street, King Street, Joseph Street, Queen Street, Chamberlain Street and Richards Street were inundated, causing temporary road closures. Properties are also flooded in Main Road and Callow Street.

The earthen embankment along Charlesworth Street acts to hold back water during flash flooding, causing the road to close. In a 1% AEP flood, as shown on the map on page 2, this water may cause flooding in the retirement village immediately downstream.

Floods in and around Ballarat East, Canadian and Eureka rise and fall quickly and move quickly, so you may not receive a warning. Flash flooding quickly floods roads and cuts access as well as being extremely dangerous.

Key contacts

Your local emergency broadcasters are:

- ABC Radio 107.9 FM
- 3BA Radio 102.3 FM
- Power FM 103.1 FM
- ABC Radio 774 AM
- SKY NEWS Television

City of Ballarat contact details:

Phone: (03) 5320 5500
Web: www.ballarat.vic.gov.au
Email: ballcity@ballarat.vic.gov.au

Did you know?

Canadian Creek and its tributaries have a history of flooding, with significant floods recorded in 1869, 1909, 1933, 1988, 1990, 1991 and 2011.

The December 1991 flood has been reported as one of the most severe flood events in the area in living memory and it was estimated to be a 1 in 20 year flood. This flood occurred after a burst of intense rainfall hit Ballarat, with 76 millimetres of rain falling in less than 2 hours in central Ballarat. This flood caused flooding of Callow Street, McDonald Streets and Queen Streets

A flood of this severity could affect more than 400 properties in the area covered by this guide and 50 properties are likely to have flooding in their houses.

The January 2011 flood occurred after 200 millimetres of rain fell over 5 days which included 80 -100 millimetres over 26 hours. Houses were inundated in Main Road and Little Dodds Street. In 2011 significant flash flooding occurred including flooding over roads in Joseph Fussell, Spencer and Callow Streets and Stawell Street South, with Main Road closed between Barkly and York Streets.

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

If you live or work close to a creek, river or low-lying area you may be at risk from floods. If you are not directly affected, you may still have to detour around flooded areas.

It is important for families, business and locals to be aware of the risks, be prepared and have their emergency plans ready when flooding occurs.



Richards Street, Canadian, 14th January 2011, looking east on Grasstree Creek, which flows into Pennyweight Gully. Photo courtesy of Diane Chester

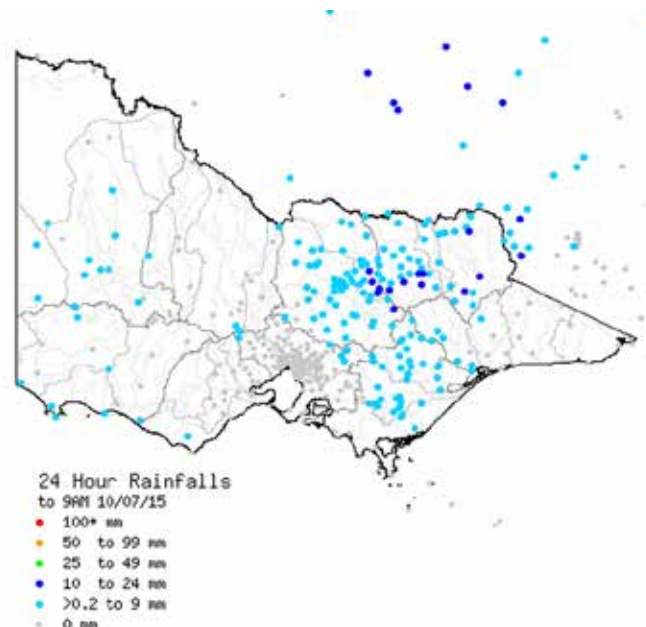
Your Local Flood Information

Know your risk

Canadian Creek, Specimen Vale Creek, Warrenheip Gully, Pennyweight Creek and Lal Lal Drain flood information

The following table indicates the likely impacts of flooding in Ballarat East, Canadian and Eureka for differing rainfall events. Remember that the effects of rainfall are greater when the land is already saturated by previous rain, and that the rainfall over this area may be greater than the reported rainfall at the Ballarat Airport rain gauge.

Rainfall level	Expected impacts
49 mm in 6 hrs - 62 mm in 12 hrs	Water levels will rise in all waterways, flooding roads and causing minor flooding of properties along the Canadian Creek tributaries.
56 mm in 6 hrs - 71 mm in 12 hrs	Increased likelihood of road closures across all tributaries. Canadian Creek: Significant breakouts around L.T. Fraser Reserve and water across Main Road between Bradshaw and Eureka Street. Specimen Vale Creek: Flooding of several properties on Gordon, King and Stawell Street South, possible road closures of Specimen Vale, Queen, Chamberlain and Charlesworth Streets. Warrenheip Gully: Several properties on Rodier and Callow Streets, Henfield and Steffan Close and Catalina Court flooded. Pennyweight Gully: Flooding of properties in Canadian Springs Drive, Deep Lead Close, Kline and Spencer Streets, Clayton Park Drive and Richards, Jenola and Cherry Courts. Joseph and Fussell Streets flooded. Lal Lal Drain: Inundation of properties on Butt, Larter and Linaker Streets. Water across Lal Lal and Joseph Streets.
67 mm in 6 hrs - 84 mm in 12 hrs	Canadian Creek: Additional properties near Barkly Street between Main Road and Steinfeld Street North flooded and minor inundation of Olympic Avenue. Specimen Vale Creek: Inundation of several properties on Balmoral Drive. Warrenheip Gully: Flooding of some properties on Carboni Court, Kline, Fussell and Little Dodd Streets. Pennyweight Gully: Inundation of properties on York Street and possible road closure of Otway Street. Lal Lal Drain: Additional properties on Butt, Later and Linaker Streets flooded
82 mm in 6 hrs - 103 mm in 12 hrs	Canadian Creek: Flooding across Elsworth Street. Properties on Eastwood Street and Steinfeld Street North impacted. Specimen Vale Creek: Additional properties on Balmoral Drive inundated. Embankment along Charlesworth Street may overtop with water flooding the retirement village downstream. Warrenheip Gully: Callow Street up to half a metre deep Pennyweight Gully: Overflow of creek near York Street, affecting roads and properties around York, Little Dodd and Larter Streets and Main Road. Lal Lal Drain: Water across the road in Butt Street.
94 mm in 6 hrs - 118 mm in 12 hrs	Further properties may be affected in all previously mentioned areas. Minor inundation over Canadian Lakes Boulevard, Recreation Road and Bradby Avenue.



You can view current rainfall conditions in Victoria at <http://www.bom.gov.au/vic/flood/>



The Bureau's radar provides real time information about rainfall. You can use this to see if heavy rainfall is approaching at <http://www.bom.gov.au/vic/>

About Flood Warnings

What warnings mean

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

A **Flood Watch** means there is a developing weather pattern that might cause floods in one or two days.

The Victorian State Emergency Service (SES) will give information about how the floodwater might affect people and properties. This includes safety messages to remind you what to do.

As the Candian Creek System is prone to flash flooding, Severe Weather Warnings and Severe Thunderstorm Warnings are your earliest triggers to activate your Home Emergency Plan.

Severe Thunderstorm Warnings

Thunderstorms are classified as severe, due to their 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 results in water rising rapidly and flowing powerfully and quickly. Residents in the Ballarat area should listen out for warnings with flash flooding and remember that flash flooding:

- Occurs so fast that it is difficult to provide a detailed warning. Often it arrives without any warning.
- Usually results from heavy rainfall falling during short severe storms.

Listen to Severe Thunderstorm Warnings and Severe Weather Warnings for your area. If you hear a warning, check the BoM and SES websites for information and advice. You can monitor river and rainfall conditions on the BoM website at bom.gov.au

Know your local environment

If you live in the Ballarat area, keep an eye on the weather, especially heavy rainfall or sustained rainfall over a number of days.

Knowing your local area and making your own observations are a great way to help you prepare for future floods.

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 Alert

SES may provide alerts to the Candian Creek area through the Emergency Alert telephone warning system. All emergency service providers can use an Emergency Alert to warn communities about dangerous situations by voice message to landline telephones or text message to mobile phones.

If you receive a warning, make sure that all family members, people at work and your neighbours are aware of the situation.

If you receive an Emergency Alert you should pay attention and act. It could mean life or death.

If you need help to understand a warning, ask a friend, neighbour or family member.

During flash flooding

When flash flooding is likely, if you decide to leave, do so **well before** flooding occurs. Leaving early before flooding occurs is always the safest option. You may decide to shelter with neighbours, family or friends in a safer area.

Evacuating through floodwater is very dangerous and you may be swept away. NEVER drive, ride or walk through floodwater.

If you do not leave early enough and become trapped by rising floodwater inside your home or business, stay inside your building and seek the highest part such as a second storey.

Stay there and call Triple Zero (000) if your emergency is life-threatening.

If you are staying in a caravan or temporary dwelling, move to higher ground **before** flooding begins.

Safety in flash flooding

Driving through floodwater is the number one cause of adult deaths during floods. Never walk, ride, swim or drive through floodwater.

Playing in floodwater is the number one cause of death during floods for children and teenagers. Floodwater is filled with unseen dangers, harbouring hidden debris such as broken glass, shattered timbers and twisted metals as well as sewage, putrid food waste and toxic chemicals. Never allow your children to play or swim in floodwater.



Intersection of Callow Street and McDonald Street at Warrenheip Gully, 9th February 1990. Photo courtesy City of Ballarat.

Preparing for Floods

Prepare a plan

NOW – before a flood

- Check if your home or business is subject to flooding. For more information, contact the City of Ballarat.
- Develop an emergency plan.
- Check if you could be cut off by floodwater.
- Know the safest way to go if you decide to leave your property and plan an alternative route.
- Check your insurance policies to ensure your equipment, property and business are covered for flood damage.
- Keep a list of emergency numbers near the telephone.
- Put together an emergency kit.
- Stay alert for weather warnings and heavy rainfall.

Your emergency kit

Every home and business should have a basic emergency kit. A basic emergency kit includes:



When a warning is issued, place extra items into your Emergency Kit, including:

- Mobile phone and charger
- Mementoes and valuables
- Prescriptions and medications
- Requirements for pets
- Strong shoes
- Clothing for at least three days.

Your emergency plan

Emergencies can happen at any time, with little warning. People who have planned and prepared for emergencies will reduce the impact and recover faster.

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.

Your emergency plan should identify:

- The types of emergencies that might affect you.
- How those emergencies might affect you.
- What you will do before, during and after an emergency.
- Where to get more information.
- Where you will go if you evacuate and the best way to go in different circumstances.
- A list of phone numbers you will need, including emergency service providers, your insurance company, friends and family.



Visit ses.vic.gov.au to obtain a copy of your Home Emergency Plan workbook

Evacuation

During a flood, police, SES, and other emergency service providers may advise you to evacuate to keep you safe. It is important that you follow this advice.

There are two types of evacuation notices that may be issued via your emergency broadcaster during a flood:

- Prepare to evacuate** – means you should act quickly and take immediate action to protect your life and property. Be ready to leave your property.
- Evacuate immediately** – you must leave immediately as there is a risk to lives. You may only have minutes to evacuate in a flash flooding situation.

Do not return to your home until you are sure it is safe to do so. You do not need to wait to be told to evacuate.

During and After a Flood

Never
Drive, Ride or Walk
Through Floodwater

When a flood is likely

- Take action. Follow your emergency plan.
- Listen to your radio for information and advice.
- Check your neighbours are safe and know about the flood.
- Stack possessions on benches and tables with electrical goods in the highest places.
- Anchor objects that are likely to float and cause damage.
- Move rubbish bins, chemicals and poisons to the highest place.
- Put important papers, valuables, photos and other special personal items into your emergency kit.
- Business owners should raise stock, business records and equipment onto benches and tables.
- Rural property owners should move livestock, pumps and machinery to higher ground.
- If you are likely to be isolated, have enough food, drinking water, medicine, fuel and other needs to last at least three days.
- Do not forget pet food and stock feed.

During a flood

When flooding has begun:

- **Never drive, ride, swim or walk through floodwater.**
- Remember that floodwater can be deeper than you think and can hide damaged roads and bridges.
- Never let your children play or swim in floodwater. It is dirty, dangerous and deadly.
- Tune in to your emergency broadcasters: ABC Local Radio, Commercial Radio, designated Community Radio Stations and SKY NEWS Television.
- In life-threatening emergencies, call Triple Zero (000).
- For SES emergency assistance during floods and storms call 132 500.
- Stay away from all waterways including drains and culverts.
- Stay away from fallen powerlines as electricity travels easily through water.
- Be aware that animals such as snakes, rats, spiders and other pests may be on the move during a flood. These animals can come into houses and other buildings or hide around sandbags.
- Keep in contact with neighbours.
- Be prepared to act quickly.

After a flood

Flood dangers do not end when the water begins to fall. To make sure you stay safe:

- Keep listening to local emergency broadcasters.
- Do not return home until you are sure that it is safe.

Once you return to your home:

- Investigate the structural safety of your building.
- Keep the electricity and gas off until checked and tested by a professional.
- When entering a building, use a torch to light your way. Never use matches or cigarette lighters as there may be gas inside.
- Take photographs of all damage for insurance.
- Drink bottled water or boil all drinking water until advised that the water supply is safe.
- Throw away any food or medicines that may have been in contact with floodwater or affected by power outages.
- Clean your home straight away to prevent disease.

How SES helps the community

The Victoria State Emergency Service (SES) is a volunteer based emergency service. Although SES volunteers attempt to reach everyone prior to or during an emergency, at times this is not possible, especially during flash flooding which occurs so quickly. Therefore it is advisable for you to be prepared for emergencies so that you can share responsibility for your own wellbeing during those times. In a flood, SES assistance may include:

- Giving flood advice
- Protecting essential services
- Helping to protect infrastructure
- Rescuing people from floodwater
- Advising of an evacuation

To assist your preparation, it is recommended that you obtain a copy of the SES Home Emergency Plan by visiting ses.vic.gov.au.



Emergency Checklist

NOW: Flood preparation

- ☐ Check if your insurance policies cover flooding.
- ☐ Keep this list of emergency numbers near the telephone.
- ☐ Put together an emergency kit and prepare a home or business emergency plan, see **ses.vic.gov.au**.

When you hear a Flood Watch or weather warning

- ☐ Listen to Severe Weather Warnings for flash flood.
- ☐ Listen to radio and check the SES website for more 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.
- ☐ Leave early if you intend to evacuate.

When flooding may happen soon (heavy rainfall)

- ☐ 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. Don't forget to take pets and your medicine with you.
- ☐ Put household valuables and electrical items as high as possible.
- ☐ Turn off water, gas and electricity at the mains.
- ☐ Secure objects likely to float and cause damage.
- ☐ If you are staying in a caravan or temporary dwelling, move to higher ground BEFORE flooding begins.

During the flood

- ☐ For SES emergency assistance, call 132 500.
- ☐ DO NOT drive, ride, swim or walk through floodwater. This is the main cause of death during floods.
- ☐ NEVER allow children to play in floodwater. This is the main cause of death during floods for children and young people.
- ☐ Stay away from drains, culverts and waterways as water can flow quickly and have strong currents.
- ☐ Stay well clear of fallen trees, powerlines and damaged buildings.
- ☐ If you are trapped inside a building, stay inside and shelter in the highest place. Call Triple Zero (000) in a life-threatening emergency.

After the flood: recovery

- ☐ Have all electrical and gas equipment professionally tested before use.
- ☐ If your property has been flooded, check with the City of Ballarat for information and advice.

For more information visit:

-  **ses.vic.gov.au**
-  **facebook.com/vicses**
-  **twitter.com/vicseswarnings**

Emergency Contacts

Life-threatening emergency Police Fire Ambulance	000	Triple Zero TTY106
Victoria State Emergency Service (SES) For SES emergency assistance	132 500	ses.vic.gov.au
SES information line Operates during major floods or storms	1300 842 737 1300 VIC SES	
VicEmergency Victorian emergency warnings		emergency.vic.gov.au
Bureau of Meteorology (BoM) Weather information, forecasts, warnings	1300 659 217	bom.gov.au
National Relay Service (NRS) The deaf, hearing or speech impaired can call SES or Triple Zero (000) using NRS:		relayservice.gov.au
	DIAL	THEN ASK FOR
■ Speak and Listen (SSR) users phone	1300 555 727	132 500
■ TTY / Voice users phone	13 36 77	132 500
Internet Relay users log into		www.iprelay.com.au/call/ then enter: 132 500 or 000
VicRoads Road closures and hazard reporting service	13 11 70	vicroads.vic.gov.au

City of Ballarat Contact Details	
Phone:	(03) 5320 5500
Web:	www.ballarat.vic.gov.au
Email:	ballcity@ballarat.vic.gov.au
Weather District:	Central
Catchment Management Authority:	Corangamite
Emergency Broadcasters Emergency broadcasters include ABC Local Radio, designated commercial radio stations across Victoria and SKY NEWS Television.	<ul style="list-style-type: none">ABC Radio 107.9 FM3BA Radio 102.3 FMPower FM 103.1 FMABC Radio 774 AMSKY NEWS Television

Complete the following and keep this information handy close to the phone:

Your electricity supplier: _____

Your gas supplier: _____

Doctor: _____

Vet: _____

Insurance

Policy Number: _____

Phone Number: _____