



Local Flood Guide Creswick



Flood information for Creswick Creek at Creswick



Photo courtesy Alan Hives



NORTH CENTRAL
Catchment Management Authority
Connecting Rivers, Landscapes, People



 FLOOD STORM
EMERGENCY **132 500**

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

The Creswick local area

Creswick is located in central Victoria, north of Ballarat in the Hepburn Shire. The main waterway through Creswick is the Creswick Creek, which flows from Dean to the east of Creswick.

Creswick Creek flows through the town and past Calembeen Park towards Clunes. Minor waterways around Creswick include Slaty Creek, Sawpit Gully (otherwise known as Spring Gully) and Nuggetty Gully. These minor waterways all flow into the Creswick Creek and contribute to the rapid onset of flash flooding in Creswick. There are two water storages located upstream of Creswick; St Georges Lake and Cosgrave Reservoir. If these storages are full, they are unable to reduce the extent of flooding in town. Even if they are not full, they only have a limited ability to reduce the extent of flooding.

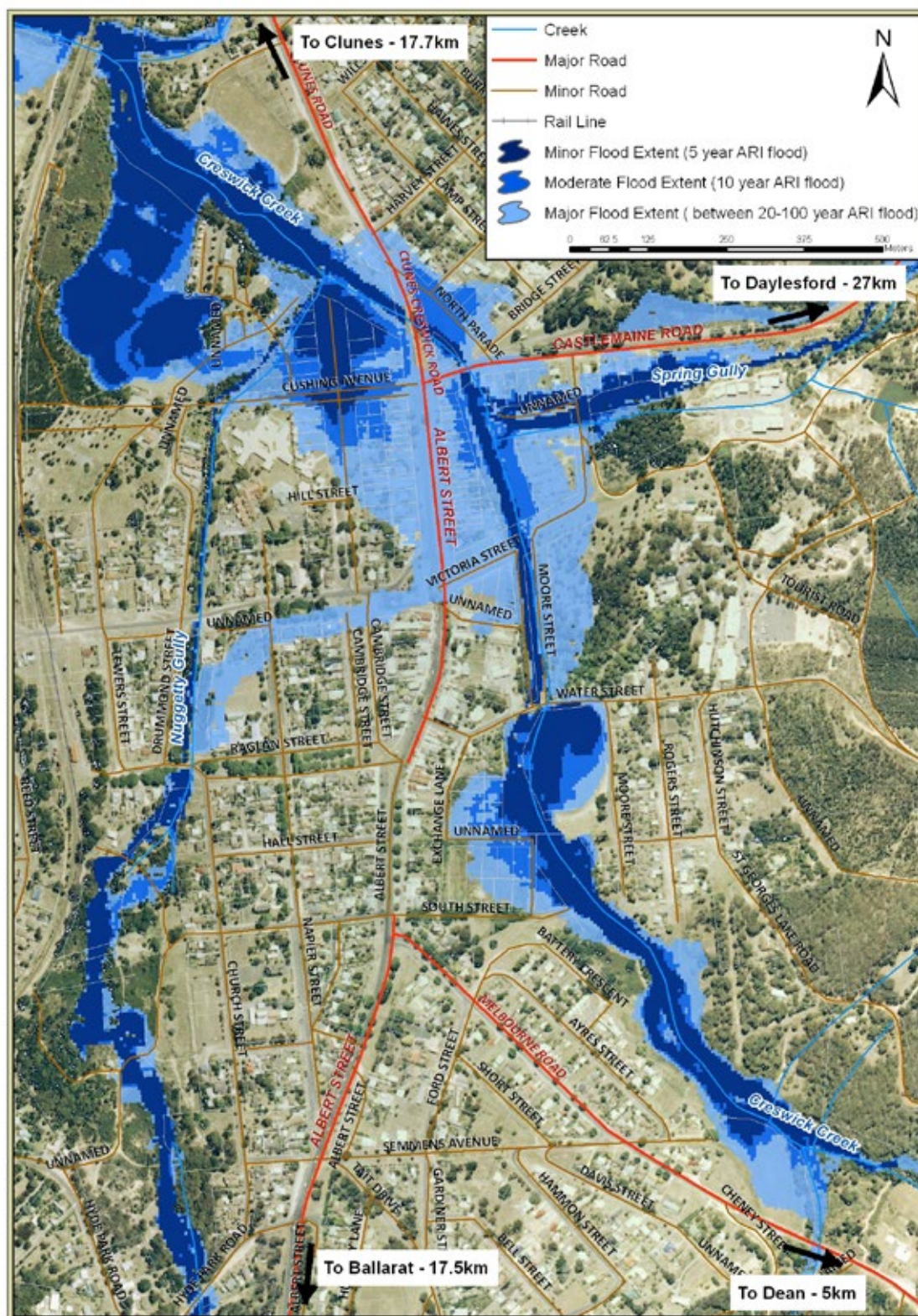
The map below shows the Creswick Creek and other tributaries at minor, moderate and major flood levels in Creswick. The September 2010 and January 2011 flood events were both classed as major flood events.

Your local emergency broadcasters are:

- ABC Radio 774 AM
- ABC Radio 107.9 FM
- Voice FM 99.9 FM
- 3BA Radio 102.3 FM
- Power FM 103.1 FM
- SKY NEWS Television

Hepburn Shire Contact details:

Phone: (03) 5348 1633
 Email: shire@hepburn.vic.gov.au
 Web: www.hepburn.vic.gov.au



Disclaimer

This publication is presented by the Victoria State Emergency Service for the purpose of disseminating emergency management information. The State Emergency Service disclaims any liability (including for negligence) to any person in respect of anything and the consequences of anything, done, or not done of any kind including damages, costs, interest, loss of profits or special loss or damage, arising from any error, inaccuracy, incompleteness or other defect in this information by any such person in whole or partial reliance upon the whole or part of the information in this map publication. Flood information is provided by North Central Catchment Management Authority.

Your Local Flood Information

Know your risk

Are you at risk of flooding?

Creswick is prone to flash flooding. Flash flooding occurs because rain falls faster than the ground has the ability to absorb, causing water run-off into low-lying areas and local drainage systems. Local drainage systems are unable to cope with the volume of water causing the water to rise rapidly, flowing powerfully and quickly.

Flash flooding in Creswick has been frequent throughout the 1800s and 1900s, with significant floods reported mostly following a period of drought.

Flash flooding occurs so quickly due to heavy rainfall that you may not receive an official warning.

It is important to be aware that no two flood events are the same and it is difficult to predict exactly the nature and extent of any future flood events. As a result, it can be difficult to predict when and where the next flood will be.

Creswick Creek flood levels

The following table gives you an indication of how Creswick will be impacted by minor, moderate and major floods. These flood class levels are based on the Average Recurrence Interval (ARI) which is a way of expressing the probability of a flood of that size or larger occurring in any given year, i.e. a 100 year ARI flood has a 1% chance of occurring in any year and a 20 year ARI flood has a 5% chance of occurring in any year:

50 year ARI	At the 50 year ARI level, similar effects to the January 2011 event are observed but water is slightly deeper and at a greater extent.
35 year ARI	January 2011 event (35 year ARI) Slightly deeper water than September 2010 flood event, same areas impacted as per September 2010 listed below; 90 homes and businesses flooded.
25 year ARI	September 2010 event (25 year ARI) At this level, 90 homes and businesses are flooded including six units in Semmens Village, a motel, football oval and clubrooms, dental surgery, bowling club, part of a caravan park and primary school. Water overtops the Castlemaine Road Bridge, restricting access to and from town via Midland Highway.
20 year ARI	MAJOR FLOOD LEVEL At major flood level (20 year ARI), there are slightly less effects than the September 2010 flood. Floodwater overtops Albert Street inundating a significant number of properties including units on the south west corner of Semmens Village.
10 year ARI	MODERATE FLOOD LEVEL At moderate flood level (10 year ARI) Creswick Creek overtops its banks between Clunes Road and Castlemaine Road inundating North Parade. Floodwater begins to inundate a few properties on the east side of Albert Street, while Creswick Creek backflows up Nuggetty Gully, flooding Cushing Avenue and a few properties south of Cushing Avenue.
5 year ARI	MINOR FLOOD LEVEL At minor flood level (5 year ARI) Creswick Creek backflows Nuggetty Gully and water begins to pool in the open space north of Cushing Avenue, extending up to the Cushing Avenue – Cambridge Street intersection. Creswick Creek overflows, though floodwater is very shallow and no properties are affected.

Did you know?

The worst recorded floods in Creswick's recent history are the September 2010 and January 2011 flood events, both classified as major flood events. These flood events occurred following heavy rainfall upstream of Creswick. In contrast the February 2011 event resulted from heavy, localised rainfall, particularly across Sawpit Gully. The January 2011 event caused:

- Flooding of 90 homes and businesses.
- Flooding of the Castlemaine Road Bridge, restricting access to and from town via the Midland Highway.
- Flooding of the football oval and clubrooms, dental surgery, bowling club, part of a caravan park and the primary school.

While no two floods are the same, floods like this, or worse, could occur again. If you live close to the creek or in a low-lying area of Creswick you may be at risk of flooding.

Creswick flood mitigation

In order to better protect Creswick from future flooding events, local, state and federal governments have jointly funded the Creswick Flood Mitigation and Urban Drainage Plan, released in early 2012. Flood mitigation works, costing \$1.4 million have been initiated and are being funded by the local, state and federal governments. Mitigation work includes:

- Minor creek deepening and widening between Water Street and Castlemaine Road Bridge and between Clunes Road Bridge and Nuggetty Gully.
- Levee systems to protect low-lying areas between Water Street and Nuggetty Gully, Semmens Village, North Parade and the primary school.
- Additional two culverts under the Clunes Road and Castlemaine Road Bridges.
- Installation of one way valves on major drains.
- Update of Hepburn Planning Scheme with flood mapping.

River level gauge

Creswick will soon have a river level gauge along Creswick Creek. The gauge has been funded by the North Central Catchment Management Authority in partnership with the SES. The gauge will be located at the Water Street Bridge.

This gauge helps you to observe how quickly water is rising or falling in future floods. The gauge should be monitored for the peak of the flood event to record a flood history of Creswick.



River level gauge at Quambatook, which is similar to what will be installed in Creswick.

About Flood Warnings

What warnings mean

Flood Watches and **Weather 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.

The Victoria 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 Creswick is prone to flash flooding, Severe Weather 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 the BoM.

Severe Weather Warnings

These warnings are issued to the community by the 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.

Listen to Severe Thunderstorm and Severe Weather warnings for your area. If you hear a warning check with the BoM and SES for information and advice.

Flash flooding results in water rising rapidly and flowing powerfully and quickly. Creswick residents should listen out for warnings with flash flooding and remember that flash flooding:

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

Know your local environment

If you live in the Creswick area, keep an eye on the weather, especially heavy rainfall or sustained rainfall over a number of days. In Creswick, rainfall of 50mm on wet land can cause flash flooding. If 50mm or more is predicted for the Central weather district, Creswick residents should plan for flash flooding.

It may take anywhere from two to five hours from the peak of rainfall to when flash flooding starts in Creswick.

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 Creswick community through the Emergency Alert telephone warning system. All Emergency Services 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 e.g. a second storey.

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

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



Football clubrooms, January 2011 flood. Courtesy Alan Hives.

NOW - before a flood

- Check if your home or business is subject to flooding. For more information, contact Hepburn Shire Council.
- 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.

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.

Your Emergency Plan

Emergencies can happen at any time, with little warning. People who have planned and prepared for emergencies have reduced the impact and recovered 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.

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 services, your insurance company, friends and family.



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

Evacuation

During a flood, Police, SES and other emergency services 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.

Emergency Kit

Every home and business should have a basic emergency kit:

Copy of your Emergency Plan



Radio



Torch



Spare batteries



Copy of documents & records



Long life food



3 days supply

First aid kit



Safe drinking water



3 days supply

EMERGENCY KIT

Gloves



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:

Mobile phone and charger



Prescriptions & medicines



3 days supply

Pet needs



Strong shoes



Clothes for your family



3 days supply

I need to add:

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

☐ Special needs

☐ Photos

☐ Family Keepsakes

☐ Valuables

☐ Documents

☐ Other

During and After a Flood

Never
Drive, Ride or Walk
Through Floodwater

During a flood

When flooding has begun:

- **Never drive, ride, swim or walk through floodwater.**
- **Floodwater can be deep and damage roads and bridges.**
- **Do not 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 000 (triple zero).
- **For emergency help from the SES in floods and storms call 132 500.**
- Stay away from all waterways including drains and culverts.
- Stay away from fallen power lines – electricity travels easily through water.
- Be aware that animals, snakes, rats, spiders and other pests may be on the move during a flood - they 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.
- 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.
- When entering the building, use a torch to light your way - never use matches, cigarette lighters or any other flame as there may be gas inside.
- Keep the electricity and gas off until checked and tested by a professional.
- Take photographs of all damage for insurance.
- Clean your home straight away to stay healthy.

How SES helps the community

The SES is a volunteer based emergency service. Although our 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 www.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 www.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 emergency assistance, call 132 500 for SES.
- ☐ 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, water can flow quickly and have strong currents.
- ☐ Stay well clear of fallen trees, power lines and damaged buildings.
- ☐ If you are trapped inside a building, stay inside and shelter in the highest place. Call 000 in a life-threatening emergency.

After the flood: recovery

- ☐ If your property has been flooded, check with Hepburn Shire Council for information and advice.
- ☐ Have all electrical and gas equipment professionally tested before use.

For more information visit:

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

Emergency Contacts

Life threatening Emergency
Police fire ambulance

000 Triple Zero
TTY106

Victoria State Emergency Service (SES)

For flood / storm emergency calls

132 500

SES Information Line

Operates during major floods or storms

1300 842 737
1300 VIC SES

www.ses.vic.gov.au

Bureau of Meteorology (BoM)

Weather Information, forecasts, warnings

1300 659 217

www.bom.gov.au

National Relay Service (NRS)

www.relayservice.com.au

The deaf, hearing or speech impaired can call SES or 000 using NRS:

	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

www.vicroads.vic.gov.au

Hepburn Shire Council Contact Details

Phone: **(03) 5348 1633**
Email: shire@hepburn.vic.gov.au
Web: www.hepburn.vic.gov.au

Weather District: Central

Catchment Management Authority: North Central
www.nccma.vic.gov.au

Emergency Broadcasters

Emergency broadcasters include ABC Local Radio, designated commercial radio stations across Victoria and SKY NEWS Television.

- ABC Radio 774 AM
- ABC Radio 107.9 FM
- Voice FM 99.9 FM
- SKY NEWS Television
- More page 2

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: _____