



COMMUNITY COASTAL FLOOD EMERGENCY PLAN – GOOLWA AND MUNDOO CHANNELS

Workshop 2 – Thursday 29 February 2024



Welcome and introductions





Acknowledgments

The development of the Community Coastal Flood Emergency Plan is jointly funded by the Coast Protection Board and Alexandrina Council.



**Government
of South Australia**

Coast Protection Board



What we heard in Workshop 1

Key features of the community and settlements

- peaceful and close to nature
- few permanent residents
- older demographic
- some houses raised but many are not
- some houses are “run down”
- low lying
- isolated
- poor mobile reception and power interruptions
- one road in



Your experiences with flood

- Lack of access when road was flooded
- Mundoo (1980's) encircled house
- Goolwa Channel Road totally submerged in 70's
- Jetty covered with water in storm surge
- Mundoo Channel sheds inundated
- Quick exiting of surge waters

Feelings about flooding

- Felt excited, it fertilised wetlands. We embraced it
- Intrigued
- Interested
- Wet
- 'No big deal' drove down road – turn around and go back
- Let down by authorities with no communication
- Anxious
- We were not here! Felt helpless
- Violated



Emergency management planning

Have these conversations now about what you plan to do

Stress can make it difficult to make good decisions



Tonight's workshop

Learning more about

- The role of the SES
- The conditions that lead to flooding
- The risks that could happen if it floods
- What we can do as individuals and a community before, during and after floods



SES involvement in community coastal emergency management

29 February 2024

Stefanie Zakrzewski

Christina Retsas

About the SES

Part 1

- SA Emergency Management Arrangements
- Operations and our Volunteers
- Scaled Warnings
- Flood Response

Part 2

- Before, during and after the flood event



Background

- SES is the control agency for flood and coordinates flood response activities in South Australia
- DEW is Flood Hazard Risk Reduction Leader and coordinates flood management activities in South Australia
- Flood Management is a **shared responsibility** across State and local government, business and community



SA Emergency Management Arrangements

- Emergency Management Act 2004
- State Emergency Management Plan 2022
- Fire and Emergency Services Act 2005

Version: 1.1.2024

South Australia

Fire and Emergency Services Act 2005

An Act to establish the South Australian Fire and Emergency Services Commission and to provide for the Commission's role in the governance, strategic and policy aspects of the emergency services sector; to provide for the continuation of a metropolitan fire and emergency service, a country fire and emergency service, and a State emergency service; to provide for the prevention, control and suppression of fires and for the handling of certain emergency situations; and for other purposes.

Contents

Part 1—Preliminary

- 1 Short title
- 3 Interpretation
- 4 Establishment of areas for fire and emergency services
- 4A Areas of urban bushfire risk
- 5 Application of Act

Part 2—South Australian Fire and Emergency Services Commission

Division 1—Establishment of Commission

- 6 Establishment of Commission
- 7 Ministerial control

Division 2—Functions and powers of Commission

- 8 Functions and powers
- 9 Directions

Division 3—Constitution of board

- 10 Establishment of Board
- 11 Constitution of Board
- 12 Terms and conditions of membership
- 13 Vacancies or defects in appointment of members
- 14 Proceedings
- 15 Conflict of interest under Public Sector (Honesty and Accountability) Act

Division 4—Chief Executive and staff

- 16 Chief Executive
- 17 Staff
- 17A Workforce plans

South Australia

Emergency Management Act 2004

An Act to establish strategies and systems for the management of emergencies in the State; and for other purposes.

Contents

Part 1—Preliminary

- 1 Short title
- 2 Objects and guiding principles
- 3 Interpretation
- 4 Application of Act
- 5 Interaction with other Acts

Part 1A—State Emergency Management Plan

5A State Emergency Management Plan

Part 2—State Emergency Management Committee

- 6 Establishment of State Emergency Management Committee
- 7 Application of Public Sector (Honesty and Accountability) Act
- 8 Vacancies or defects in appointment of members
- 9 Functions and powers of SEMC
- 10 Proceedings of SEMC
- 11 Establishment of advisory groups by SEMC
- 12 Delegation
- 13 Annual report by SEMC

Part 3—The State Co-ordinator

- 14 Appointment of State Co-ordinator
- 15 Functions and powers of State Co-ordinator
- 16 Assistant State Co-ordinators
- 17 Authorised officers
- 18 Delegation

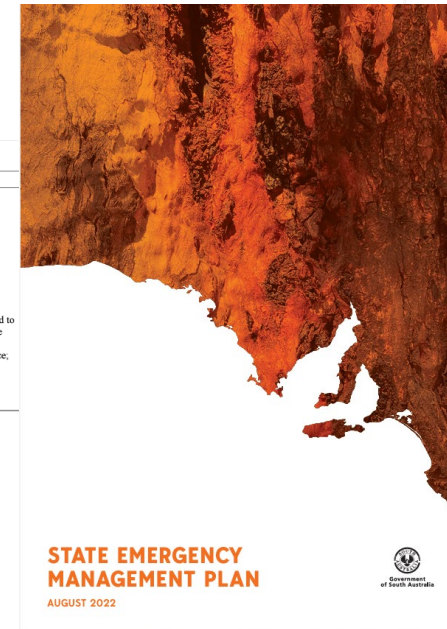
Part 4—The management of emergencies

Division 1—Co-ordinating agency

- 19 Co-ordinating agency

Division 2—Control agency

- 20 Control agency



SA Flood Management Arrangements



Responsibilities of a Control Agency

1. take control of the response to the emergency (including the appointment of an incident controller and incident management structure)
2. ensure a safe working environment and safe systems of work
3. ensure effective liaison, communication and cooperation with all involved
4. continually assess the situation, identify risks and share information with all involved
5. develop and share plans and strategies that meet the requirements of all agencies responding to the emergency (an incident action plan)
6. implement and monitor the incident action plan
7. ensure the effective allocation and use of available resources
8. *ensure the public is adequately informed and warned so as to enhance community safety*
9. facilitate the investigation of the emergency and review of response activities
10. ensure transition from response to recovery, including the coordinated handover to the State recovery arrangements.

SA Flood Management Arrangements

Hazards and Hazard Risk Reduction Leaders

Hazard	Hazard Risk Reduction Leader
Animal and plant biosecurity	Department of Primary Industries and Regions
Black system event	South Australia Police
Cyber Crisis	Department of the Premier and Cabinet
Earthquake	Department for Infrastructure and Transport
Extreme weather	South Australian State Emergency Service
Flood	Department for Environment and Water
Hazardous materials (including marine oil spills)	SafeWork SA
Human disease	Department for Health and Wellbeing (SA Health)
Rural fire	South Australian Country Fire Service
Terrorism	South Australia Police
Urban fire	South Australian Metropolitan Fire Service

Key roles of the Flood Hazard Risk Reduction Leader – DEW

- Leadership role for the planning of emergency management activities.
- Prepare, review and maintain a Hazard Risk Reduction Plan

Operations and our Volunteers

- SASES currently consists of 66 Units around South Australia (13 metropolitan and 53 country), has approximately 1,700 registered volunteers and is supported by 70 employed staff. SASES also operates 14 marine response Units (6 coastal and 8 inland waters).
- SASES provides support for the Volunteer Marine Rescue (VMR) associations which operate 14 flotillas and have approximately 580 operational marine rescue volunteers located along the South Australian coastline.



Operations and our Volunteers

- Respond to:
 - Trees Down, Flooding, Road Crash Rescue, Searches (land & marine), Severe Weather impacts
- Volunteers are the front line, and are supported by Operational Staff
- SASES works closely with other emergency services such as CFS, MFS and SAAS
- Close working relationships with Councils, the BOM, Department of Environment and Water to understand forecasts, impacts and actions



Scaled Warnings – Issued by SASES

Advice Message	
Watch and Act Message (WAM)	
Emergency Warning Message (EWM)	
Reduced Threat Message	

Never drive, ride, play in or walk through floodwater

Advice Message - example



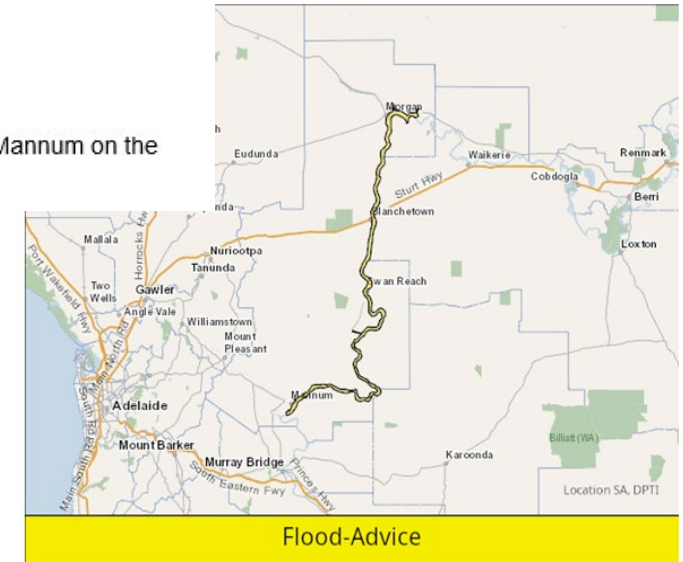
Calls to action

- Prepare now
- Stay informed
- Monitor conditions
- Stay informed/thread is reduced
- Avoid the area
- Return with caution



FLOOD ADVICE

This **Flood Advice** message is issued for shack areas between Cadell and Mannum on the River Murray



Watch and Act Message - example



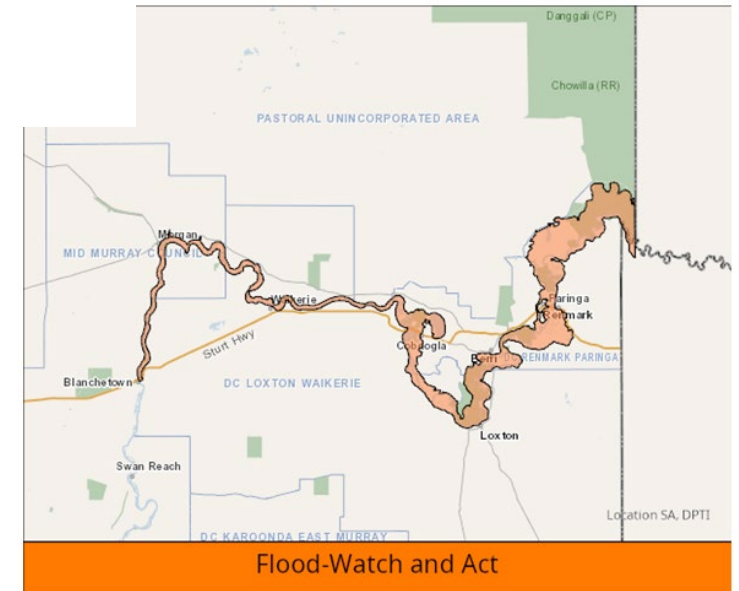
Calls to Action

- Prepare to leave/evacuate
- Monitor conditions as they are changing
- Move to higher ground (away from creeks/rivers/coast)
- Prepare for isolation
- Not safe to return
- Avoid the area



FLOOD WATCH AND ACT

This **Flood Watch and Act** message is issued for Upper River Murray



Emergency Warning Message - example



Calls to action

- Leave/evacuate (immediately, by particular time)
- Seek/take shelter now
- Too late/dangerous to leave



FLOOD EMERGENCY WARNING

This **Flood Emergency Warning** message is issued for River Murray



Community readiness - example



SES COMMUNITY READINESS ALERT

This Community Readiness alert is issued for Flinders District

With the forecast of heavy rain in the next few days the State Emergency Service recommends you take action now to make sure that you and your family stay safe. There is a potential for flash flooding in the Flinders District due to localised heavy rain falls. This might lead to flash flooding within the creek systems and roads may quickly become impassable. Do not camp in creek beds. Drive to the conditions and do not drive through flood water.

What you should do:

- Make sure you have enough food, water, medications and pet food for a week so you will not need to go out in a storm.
- Be prepared for the possibility of power outages. Keep your mobile phone charged and make sure you have a torch and a battery-powered radio for emergency information.
- Consider the safety of your pets and animals and make sure they will have protection and water.
- If it is safe for you to do so, you should ensure drains and gutters are clear.
- Ensure any garden furniture, play equipment or other loose items around your home are put away or securely fastened down.
- Check weather forecasts regularly and listen to local radio for updates.
- For SES assistance phone 132 500. If the matter is life-threatening call 000 (triple zero).

This message was issued by the State Emergency Service.

Impacts in your area:

- You may be in danger from flying debris, falling trees, and downed power lines.
- Minor structural damage is possible.
- Be aware that floodwaters may rise rapidly and are likely to be fast moving.
- Never allow children to play in or near floodwater.
- You should never walk, ride or drive through floodwater.

Stay informed:

- Check the SES website at www.ses.sa.gov.au
- Monitor local conditions and tune in to your local ABC on a battery-powered radio for updates
- Call the SA Emergency infoline on 1800 362 361
- People who are deaf, or have a hearing or speech impairment, can contact the SA Emergency infoline via the [National Relay Service](#) on 1800 555 727 (TTY users 1800 555 677)
- Follow the SES on [Twitter](#) (@SA_SES) or [Facebook](#) (SA State Emergency Service)
- For weather warnings and forecasts visit www.bom.gov.au

Message Name: Flinders_2022_10_12
This message is valid from: 12/10/2022 13:00:00
This message is valid until 14/10/2022 10:00:00

DocumentID: 549 / 1



Community Update – example



Community Update

Naracoorte Flooding

State Emergency Service (SES) and Country Fire Service (CFS) volunteers responded to over 80 requests for assistance in Naracoorte following a thunderstorm that impacted the area late yesterday afternoon. Heavy rain, with locally intense falls over 100mm caused significant flooding, trees to fall and power outages. Roads have also been impacted by floodwater and debris.

Although weather conditions have now improved and waters are receding, risks are still present, and you should take care if you are in the area.

SES and CFS crews, together with local council staff, are continuing to work in the town to assist residents. Naracoorte Lucindale Council have organised cleanup crews to address sweeping of roads and clearing of fallen trees.

SA Power Networks have had crews working in the area to restore power.

The general public are asked not to enter the area for the safety of community members and emergency services personnel, as vehicles and machinery are operating in difficult conditions.

Some local impacts have been recorded as follows:

- The Naracoorte Health Service facility has sustained some damage, but the Accident and Emergency department is still functioning as normal.
- The Longridge Aged Care facility also sustained minor damage but is functioning as normal.
- The Naracoorte Public Library and Town Hall have also been impacted by flooding but will open as normal.
- Schools and kindergartens are being assessed for any impacts.
- There are no adverse impacts to drinking water or sewerage systems.

Waste collection:

Further information about waste collection for flood and storm affected residents and businesses will be made available as soon as possible.

What you should do:

- If your property has been flooded do not turn your electricity back on until it has been checked by a qualified electrician.
- Be aware that, if you rely on rainwater or similar source, your household water supply may not be safe.
- Mud, tree branches and other debris may still be on roads and road surface and verges may have been damaged.
- Be aware that floodwaters may rise rapidly and are likely to be fast moving.
- Never allow children to play in or near floodwater and drains.
- Never walk, ride or drive through floodwater.

Anyone still needing assistance with storm damage is encouraged to phone the SES on 132 500 as soon as possible. If the matter is life threatening call 000 (triple zero).

Farming properties requiring assistance with agricultural impacts as a result of the flooding can contact PIRSA on 1800 255 556 (24hour hotline).

Experiencing an emergency event can be tough and it can take a toll on your mental wellbeing. If you or someone you care about needs some extra support, you can reach out to Beyond Blue on 1300 224 636 or Lifeline on 13 11 14.

Stay informed:

- Check the SES website at www.ses.sa.gov.au
- Monitor local conditions and tune in to your local ABC on a battery-powered radio for updates
- Call the SA Emergency infoline on 1800 362 381
- People who are deaf, or have a hearing or speech impairment, can contact the SA Emergency infoline via the [National Relay Service](http://www.nrs.gov.au) on 1800 555 727 (TTY users 1800 555 677)
- Follow the SES on [Twitter](https://twitter.com/SA_SES) (@SA_SES) or [Facebook](https://www.facebook.com/SAStateEmergencyService) (SA State Emergency Service)
- For weather warnings and forecasts visit www.bom.gov.au
- For SES assistance phone 132 500. If the matter is life-threatening call 000 (triple zero).

Flood Response

There are different types of flooding:

- Riverine, Flash flooding, Storm Surge, Dam Failure

Where risks are identified, we work to help the community understand that risk and what actions they may be able to take to prepare, and when to call the SES.

The SASES may attend to assist:

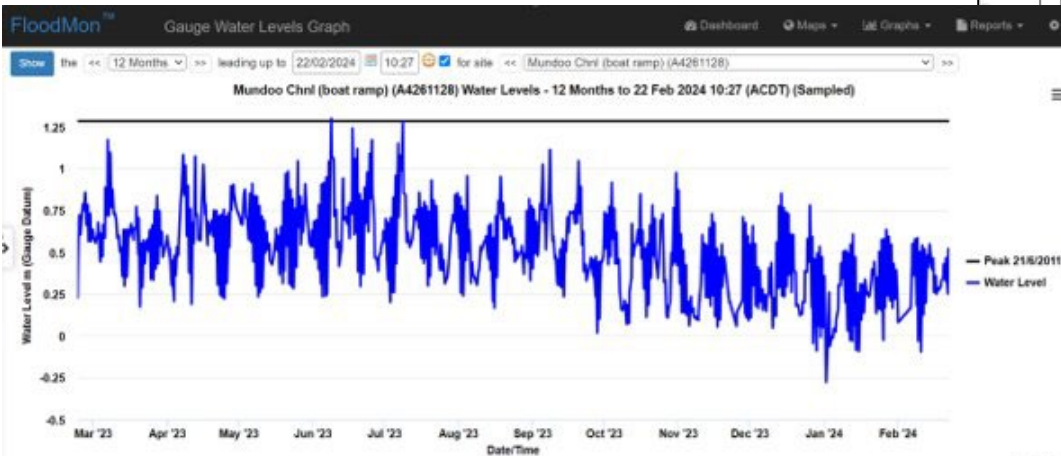
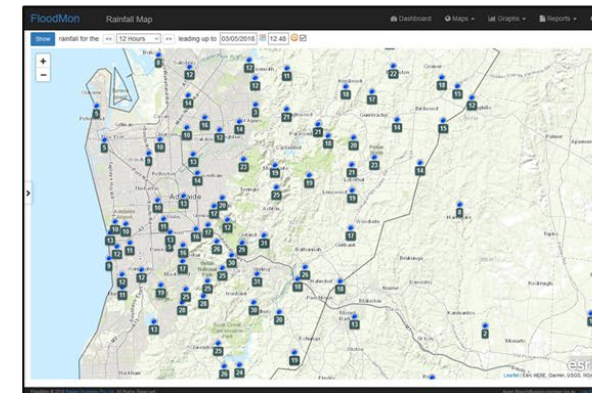
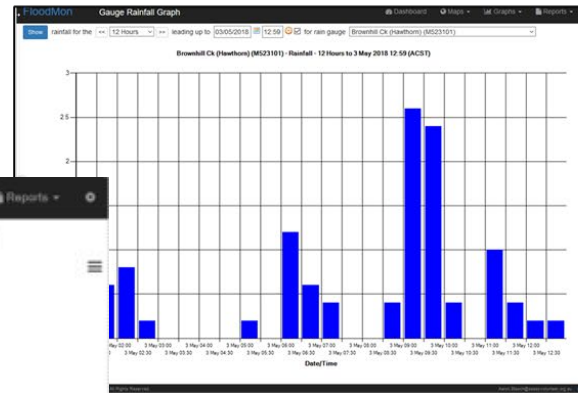
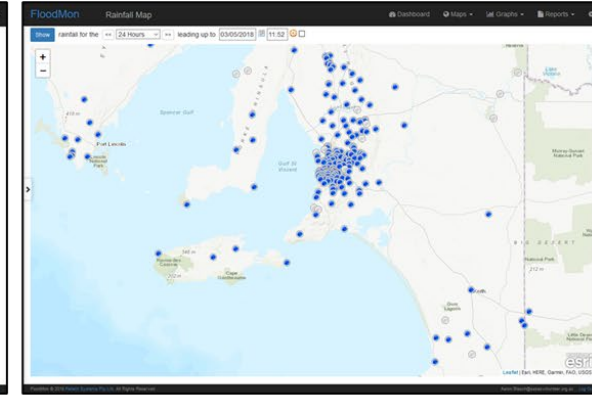
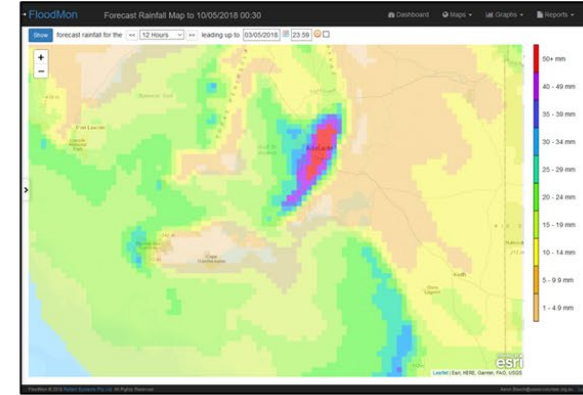
- Sandbagging, pumping, sharing of information, emergency repairs



The SASES uses:

- Uses Forecasting and real time data
- Determines Levels of Preparedness
- Creates and actions Response Plans
- Regional and Local Actions

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Questions



Email: emergencymanagement@eso.sa.gov.au



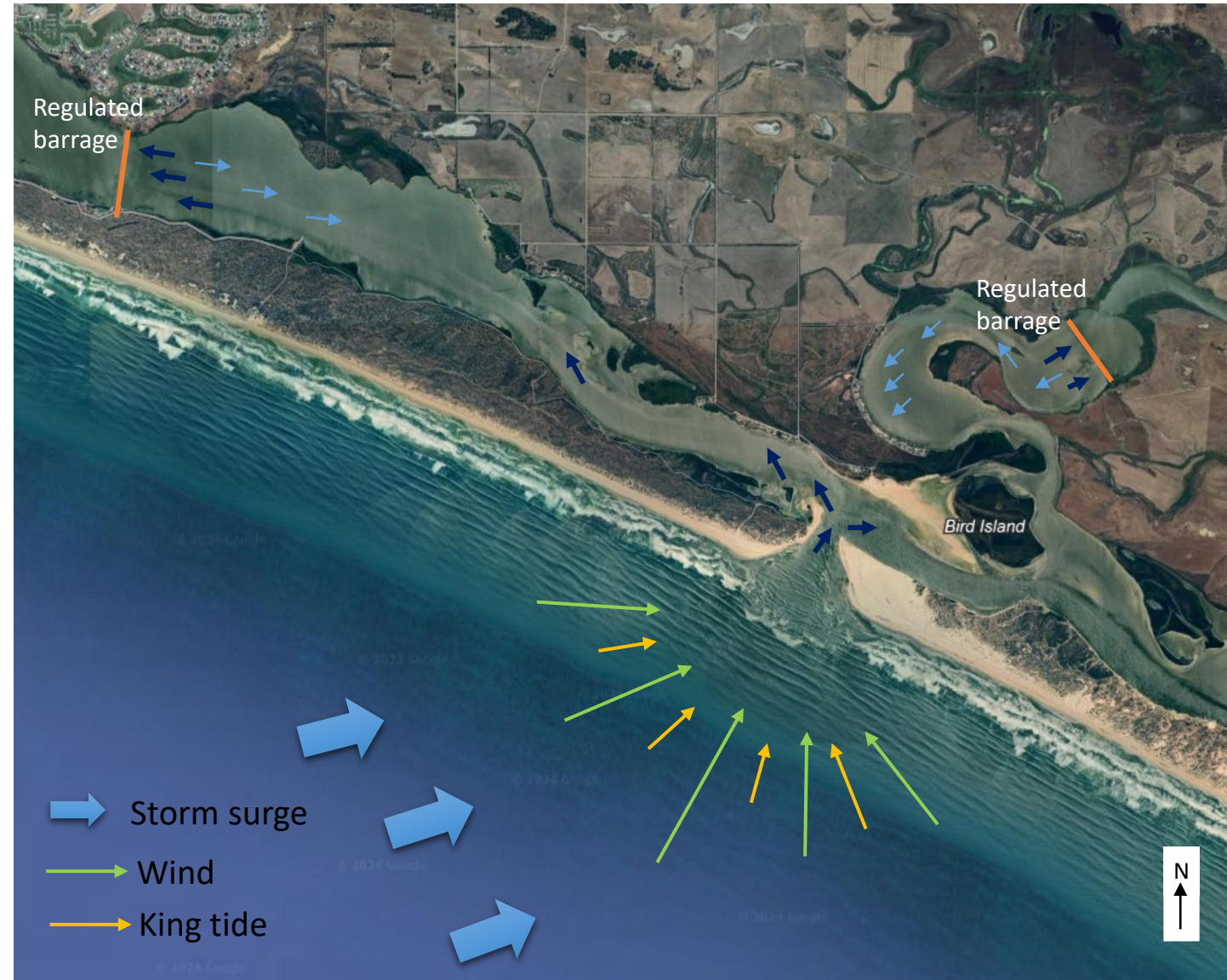
What can lead to flooding?

What can lead to flooding?

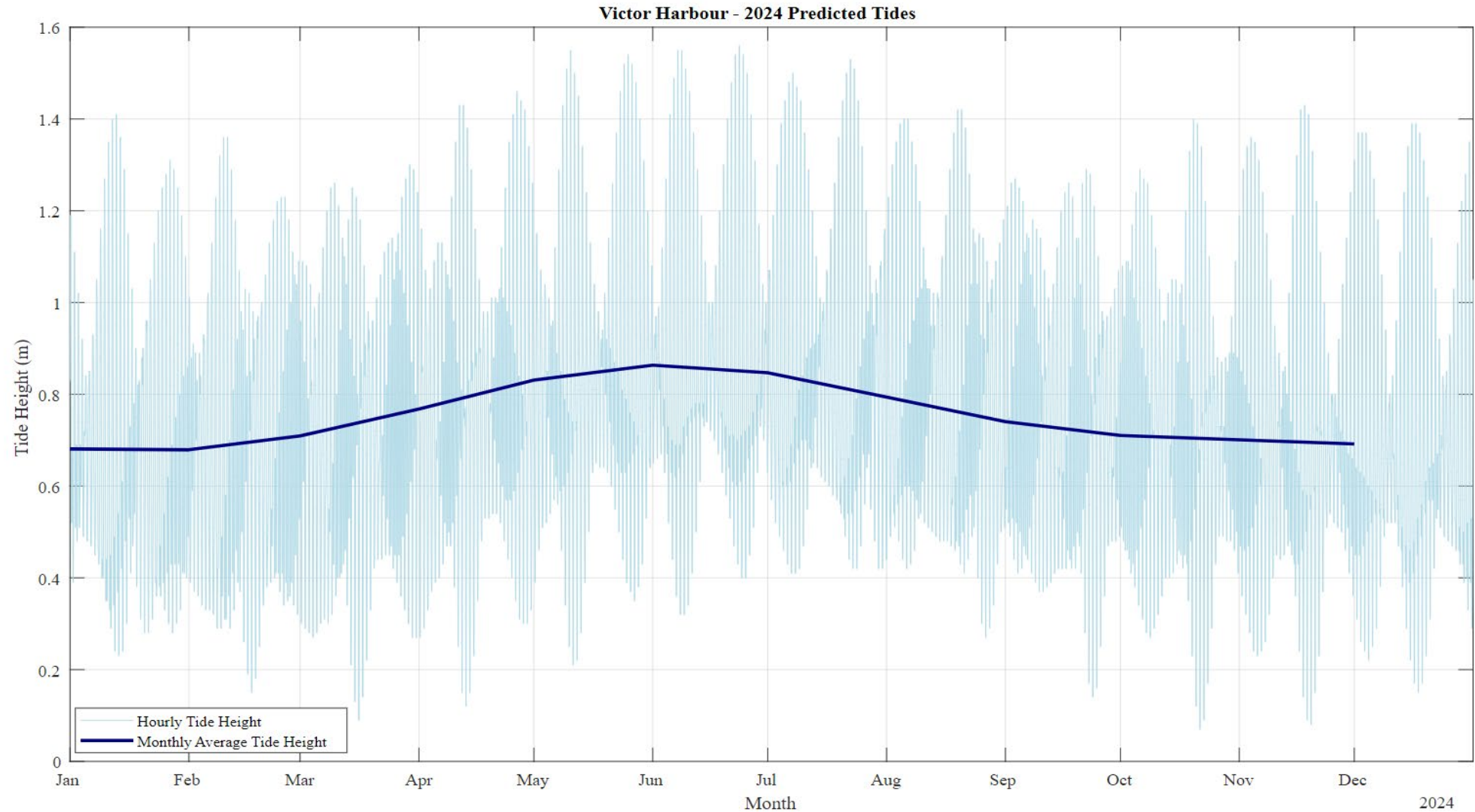


Most typical scenario:

- Regulated barrages (closed)
- Passing low pressure system creates nearshore storm surge event
- Coincides with high tide (winter months)
- Significant wind speeds and durations
- Elevated water level pushes against barrage create reverse flows

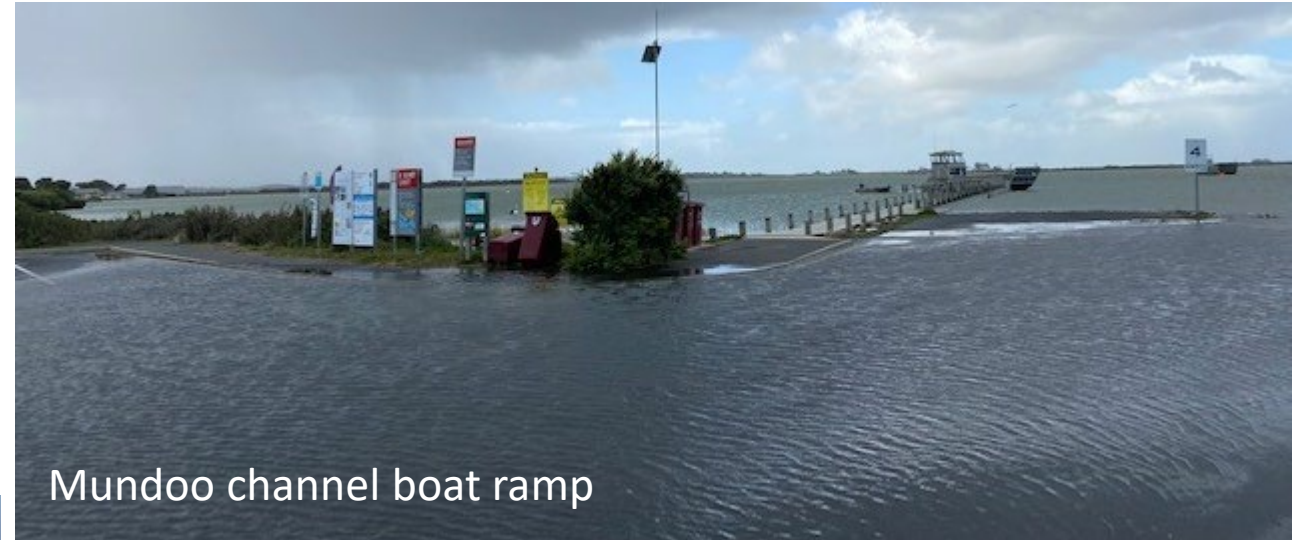


Tide recordings



Example 12th April 2023

- Moderate swell offshore
- High tide event
- Moderate SSW winds
- Goolwa Barrage recorded 1.1m



Mundoo Channel Dve - 12th April 2023

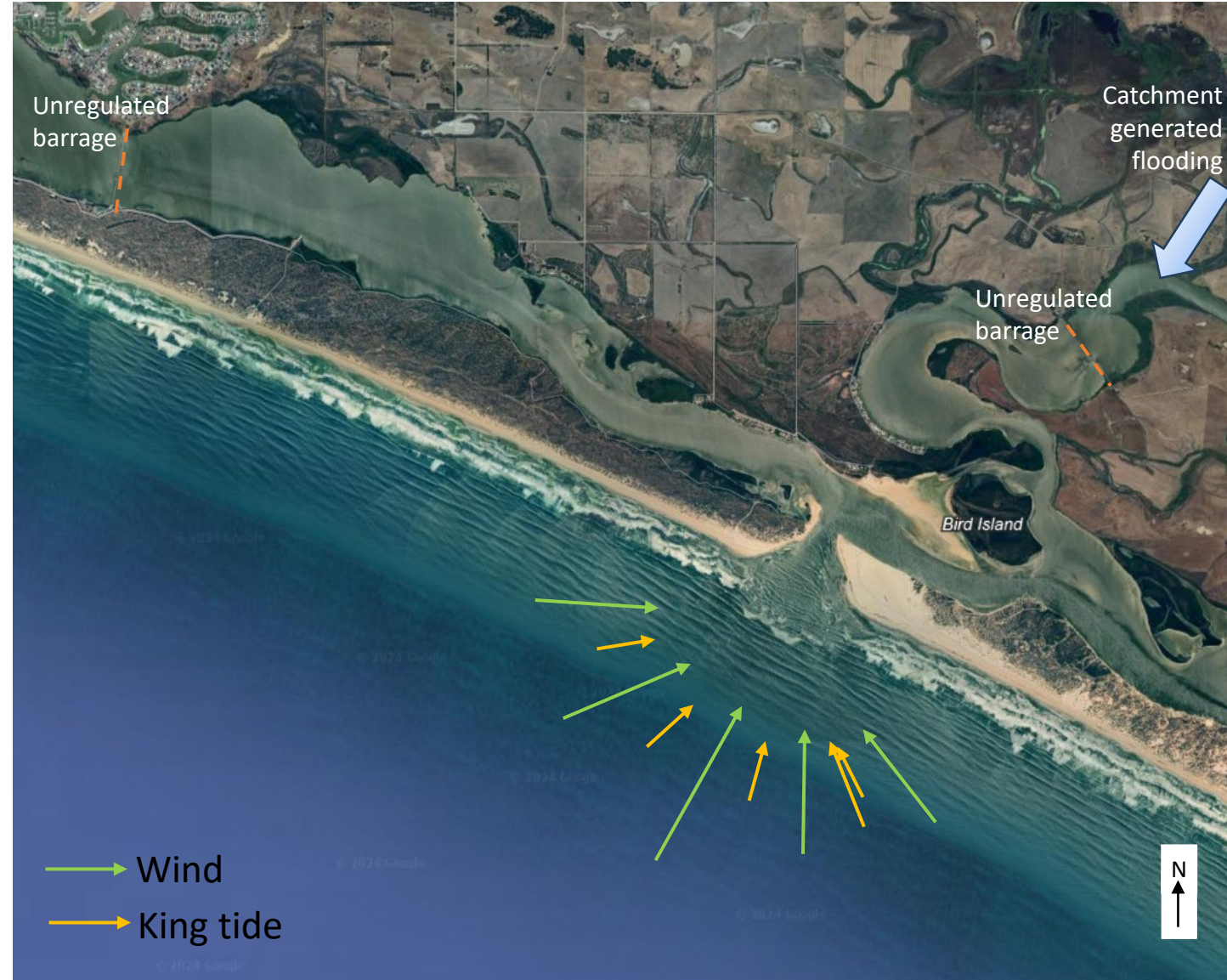


What can lead to flooding?



Less typical scenario:

- Unregulated barrages (during summer)
- High flows down the Murray River (catchment generated flooding)
- Coincides with high tide events
- Significant wind speeds and durations



Things to consider

- **Autumn – Winter months (May, June, July)**
 - Typically, increased swell offshore
 - Typically, higher tide events
- **Moderate to high winds WNW - SSE winds**
- **Typically recedes within the tidal cycle (<12hours)**
 - Width of the Murray mouth
 - Duration of conditions



Activity 1

Consequences of flooding on the community, buildings and infrastructure or the environment





What can you do before, during and after a flood?

Before, during and after the flood



Government of South Australia
SES RESCUE

GET READY
FLOOD



Emergency assistance call
132 500

Life threatening emergency call
000

For more information call
1800 362 361

Emergency kit

My emergency kit has:

- ☐ Battery-powered radio with spare batteries
- ☐ Torch with spare batteries
- ☐ First aid kit
- ☐ Candles and waterproof matches
- ☐ Important papers including emergency contact numbers
- ☐ A copy of my home emergency plan
- ☐ Waterproof bag for valuables

When you decide to leave add these items:

- ☐ Mobile phone and charger
- ☐ Prescriptions, medications, toiletries
- ☐ Clothing and strong shoes
- ☐ Non-perishable food and drinking water
- ☐ Anything special you need for other family members

If you have pets don't forget leads, food and bowls

- Keep your emergency kit in a waterproof storage container
- Regularly check and restock items in your emergency kit (e.g. use-by dates on batteries)
- Keep a list of emergency contact numbers in or near your phone
- Check your gutters are clear

Actions to take before a flood

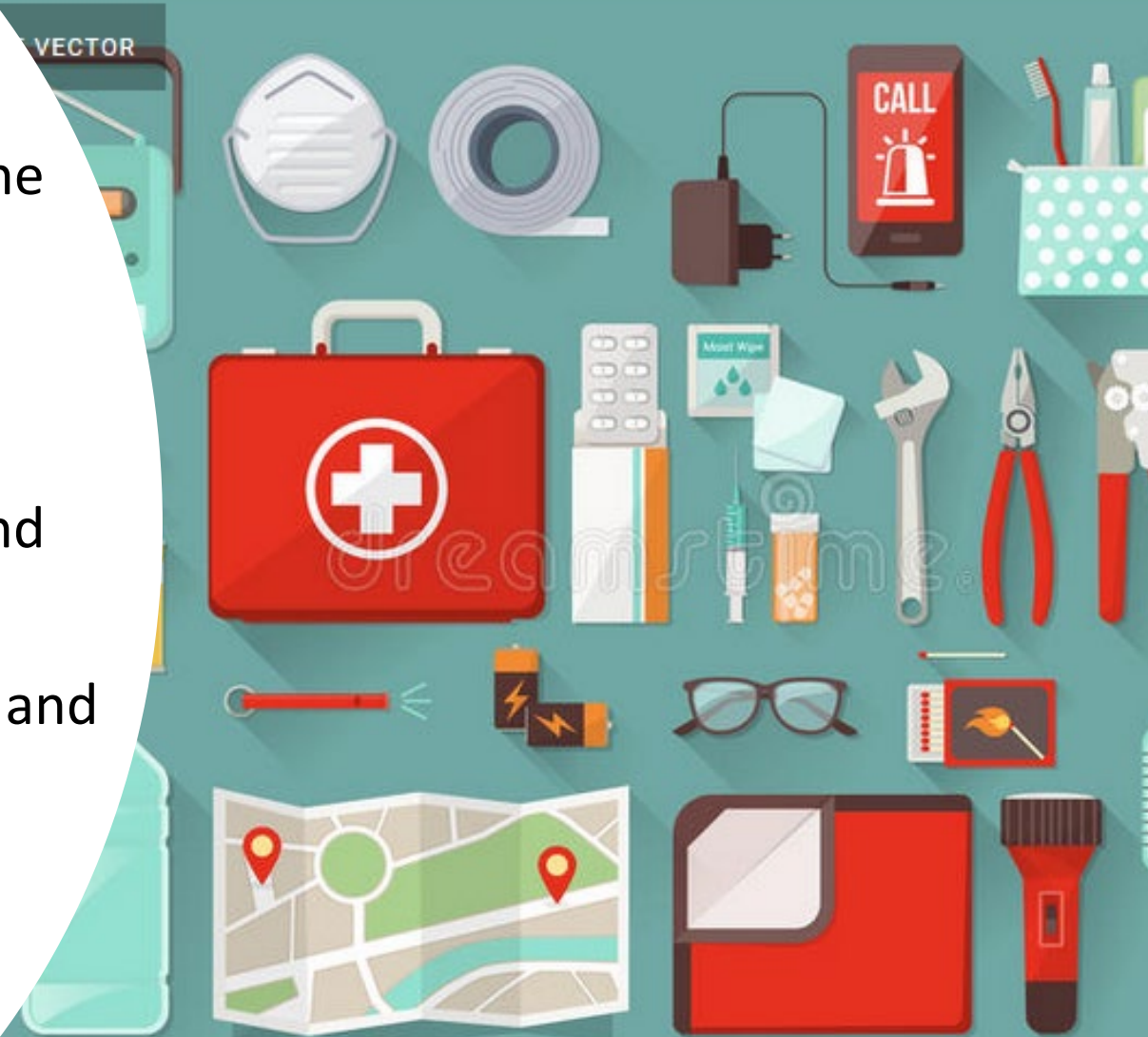
Get ready around your house & property

- clean gutters and downpipes
- move bins and chemicals as high as possible
- clear moveable items around and under your house
- pre-fill sandbags and know where you will lay them
- Put together an emergency kit



Put together a survival kit

- Get a copy of the survival kit checklist from the SES website, your local SES unit or your local library
- Add a few things each week to the kit
- Make copies of your important documents and photos that cannot be replaced
- Make sure you have a battery powered radio and a torch with spare batteries
- keep a list of emergency numbers near your phone



Actions to take before a flood

Preparing to leave

If you are leaving plan to leave early before the flood starts

- Discuss your plan with your family, friends and close neighbors
- Find alternative routes
- Where will you stay if you cannot return home?
- Think of everyone including your pets
- Decide on your plan B?



Actions to take during the flood

Do not drive, ride or walk through floodwater

- Put your plan B into place
- Move to higher ground if safe to do so
- Lay pre-filled sandbags across entryways and around the house
- Keep children close and animals contained
- Check the SES Website and listen to ABC radio for updates



Actions to take after the flood

Returning home after a flood

- Electricity & gas will need to be checked for damage before using
- Use a torch to inspect the inside of your home
- Check for damage to windows, walls and the roof
- Drink only bottled water until the normal water supply has been declared safe
- Do not allow children to play in or near floodwaters



Get ready now



Discuss

Discuss with your family what you will do and think of alternative plans

Include

Make sure you include every member of your family including your pets

Check

Check the SES website, your local library or council for flood and storm information

Start

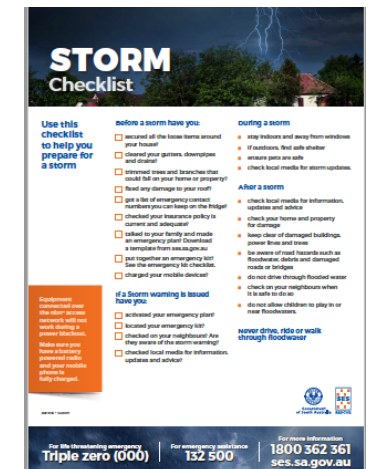
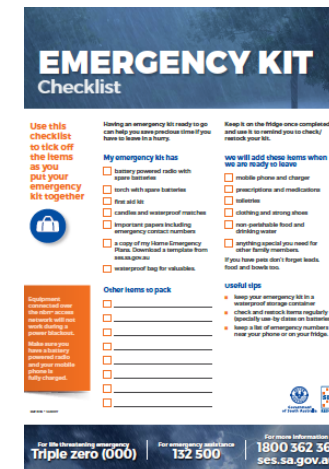
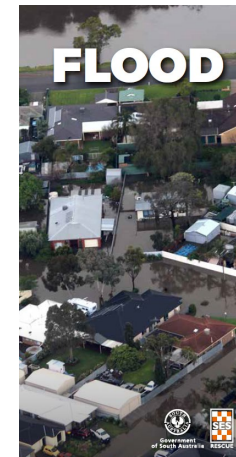
Start a checklist, for flood and for your survival kit, do something every week that will help you get ready

Act

Put together a survival kit

Where to find more information

- SES Website and social media
- sa.gov.au website
- Your local SES unit
- Public Library
- Local council website
- Bureau of Meteorology website
- DEW website
- SA Water website



Distributing warnings and information



Tools available to SES

- Emergency Alert (information by text and voice messaging to landlines and mobiles)
- Media releases through traditional channels (Television and Radio)
- Emergency broadcasters (E.g. ABC 891 radio)
- Doorknocking
- Mobile and fixed public address systems/sirens
- SASES website – www.ses.sa.gov.au
- Social media
- Community meetings



Questions



Email: emergencymanagement@eso.sa.gov.au

How to contact us



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Activity 2



What can we do to be better prepared before, during or after from flood events?



Next steps



- The information gathered tonight will be used by the project team to prepare the draft Emergency Plan
- Workshop 3
 - Present and get feedback on the draft Plan
 - Help you prepare your household emergency plan
 - 11 April 6-8pm Centenary Hall Goolwa